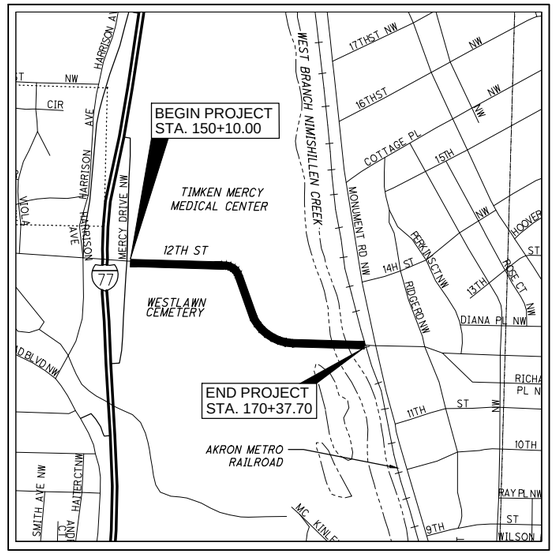


LOCATION MAP

LATITUDE: 40°48'38" N LONGITUDE: 81°23'39" W

SCALE IN FEET

0 500 1,000 1,500 2000

N

PORTION TO BE IMPROVED

RAILROADS

INTERSTATE & DIVIDED HIGHWAY

OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2015)	10,320
DESIGN YEAR ADT (2035)	10,690
DESIGN HOURLY VOLUME (2035)	970
DIRECTIONAL DISTRIBUTION	52/48
TRUCKS (24 HOUR B&C)	4%
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN PRINCIPAL ARTERIAL

DESIGN EXCEPTIONS

HORIZONTAL ALIGNMENT

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 UNDERGROUND
PROTECTION SERVICE CALL: 1-800-925-0988

PLANS PREPARED BY:
DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300 Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

ENGINEERS SEAL:

SIGNED:
DATE:

ENGINEERS SEAL:

SIGNED:
DATE:

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

STA - 12TH STREET IMPROVEMENTS

CITY OF CANTON
G.P. NO. 1160
STARK COUNTY

INDEX OF SHEETS:

TITLE SHEET	1	INTERSECTION DETAILS	89
SCHEMATIC PLAN	2	GRADING PLAN	90-91
TYPICAL SECTIONS	3-6	DRIVE DETAILS	92-96
GENERAL NOTES	7-13	STORM SEWER PROFILES	97-98
MAINTENANCE OF TRAFFIC	14-23	DRAINAGE DETAILS	99-102
GENERAL SUMMARY	24-28	TRAFFIC CONTROL	103-108
SUBSUMMARIES	29-38	STREETSCAPE/BUS STOP DETAILS	109-115
STORM WATER POLLUTION PREVENTION PLAN	39-40	LIGHTING AND LANDSCAPING PLANS	116-133
12TH STREET PLAN & PROFILE	41-45	NIMISHILLEN CREEK BRIDGE	134-163
12TH STREET CROSS SECTIONS	46-64	RACEWAY BRIDGE	164-192
STADIUM PARK DRIVE PLAN & PROFILE	65	PEDESTRIAN BRIDGE	193-198
STADIUM PARK DRIVE CROSS SECTIONS	66-69	RIGHT OF WAY PLANS	199-210
MULTI-PURPOSE TRAIL PLAN & PROFILE	70-72		
MULTI-PURPOSE TRAIL CROSS SECTIONS	73-82	SOIL BORING LOGS	1-20
PEDESTRIAN TRAIL PLAN & PROFILE	83-84	EXISTING STRUCTURAL PLANS (FOR INFORMATION ONLY)	6 SHEETS
PEDESTRIAN TRAIL (A) CROSS SECTIONS	85-87		
SUPERELEVATION TABLES	88		

PROJECT DESCRIPTION

ROADWAY IMPROVEMENTS OF 12TH STREET NW FROM THE MERCY DRIVE/I-77 RAMPS TO MONUMENT DRIVE. A DISTANCE OF 0.38 MILES, INCLUDING NEW PAVEMENT, SIDEWALKS, STORM SEWER, AND STREETSCAPING. THE IMPROVEMENTS WILL ALSO INCLUDE THE REPLACEMENT OF THE BRIDGES OVER NIMISHILLEN CREEK AND CANTON PARKS WATERWORKS RACEWAY, AND IMPROVEMENTS TO THE CANTON PARKS MULTI-PURPOSE AND WALKING TRAILS.

2013 SPECIFICATIONS

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

PROJECT EARTH DISTURBED AREA:	7.57 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	8.57 ACRES

MAINTENANCE OF TRAFFIC ENDORSEMENT

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEETS 22-23, AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON THE PLANS.

STANDARD CONSTRUCTION DRAWINGS												ODOT SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
ODOT										CITY OF CANTON		800	7-15-16	
												804	1-15-16	
AS-1-15	7-17-15	HL-30.21	1-17-14	MT-95.32	7-18-14	TC-52.10	10-18-13	NO. 1	3-12	816	1-20-12			
		HL-30.22	1-17-14	MT-97.10	7-18-14	TC-52.20	7-15-16	NO. 4	3-12	832	1-17-14			
BP-2.2	7-18-08	HL-30.31	1-17-14	MT-99.20	7-19-13	TC-71.10	7-15-16	NO. 10	12-11	836	1-18-13			
BP-3.1	7-18-14	HL-50.21	7-15-16	MT-101.60	7-19-13	TC-82.10	7-17-15	NO. 12	2-14	861	1-16-15			
BP-4.1	7-19-13			MT-101.90	7-17-15			NO. 19	6-10-13					
BP-5.1	7-19-13	HW-2.1	1-15-16	MT-105.10	7-19-13	WQ-1.2	1-18-13	NO. 30	3-12					
BP-7.1	7-18-14	HW-2.2	1-15-16	MT-110.10	7-19-13			NO. 33	6-29-12					
DM-1.1	1-15-16	LA-1.1	10-15-10	RM-1.1	7-18-14									
DM-1.2	1-18-13	LA-1.2	1-16-09											
DM-4.4	1-15-16			TC-41.20	10-18-13									
		MH-1.3	1-18-13	TC-41.40	10-18-13									
HL-20.14	1-16-15			TC-41.50	10-18-13									
HL-30.11	7-15-16	MT-95.31	7-18-14	TC-42.20	10-18-13									

APPROVED _____

DATE _____ KEITH BENNETT, P.E., P.S.
STARK COUNTY ENGINEER
OHIO

APPROVED _____

DATE _____ DAN MOEGLIN, P.E., S.I.
CITY ENGINEER
CITY OF CANTON, OHIO

FEDERAL PROJECT NO. E110661

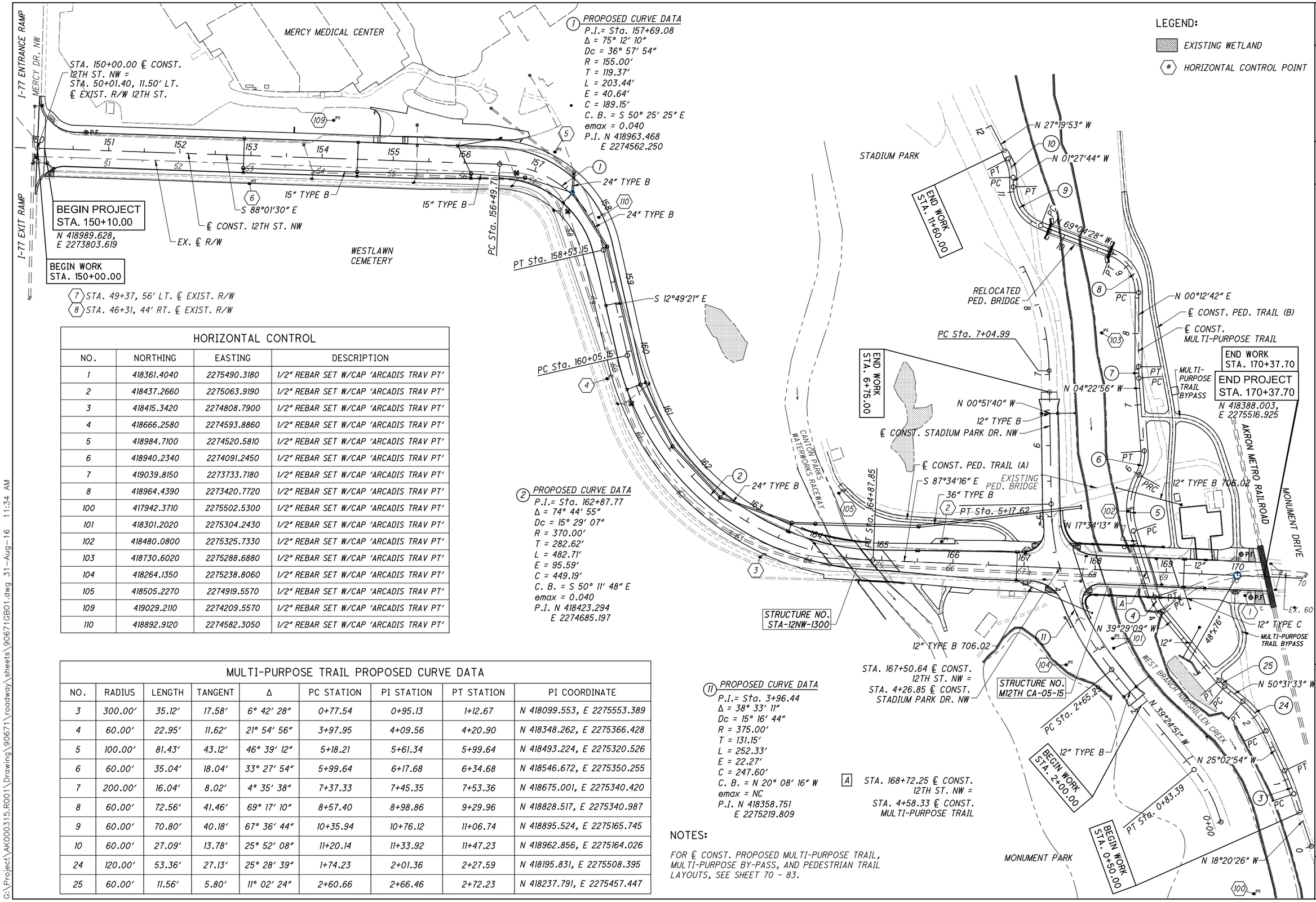
PID NO. 90671

CONSTRUCTION PROJECT NO. <>

RAILROAD INVOLVEMENT AKRON METRO

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GT01.dwg 01-Sep-16 12:26 PM



HORIZONTAL CONTROL

NO.	NORTHING	EASTING	DESCRIPTION
1	418361.4040	2275490.3180	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
2	418437.2660	2275063.9190	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
3	418415.3420	2274808.7900	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
4	418666.2580	2274593.8860	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
5	418984.7100	2274520.5810	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
6	418940.2340	2274091.2450	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
7	419039.8150	2273733.7180	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
8	418964.4390	2273420.7720	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
100	417942.3710	2275502.5300	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
101	418301.2020	2275304.2430	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
102	418480.0800	2275325.7330	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
103	418730.6020	2275288.6880	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
104	418264.1350	2275238.8060	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
105	418505.2270	2274919.5570	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
109	419029.2110	2274209.5570	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'
110	418892.9120	2274582.3050	1/2" REBAR SET W/CAP 'ARCADIS TRAV PT'

MULTI-PURPOSE TRAIL PROPOSED CURVE DATA

NO.	RADIUS	LENGTH	TANGENT	Δ	PC STATION	PI STATION	PT STATION	PI COORDINATE
3	300.00'	35.12'	17.58'	6° 42' 28"	0+77.54	0+95.13	1+12.67	N 418099.553, E 2275553.389
4	60.00'	22.95'	11.62'	21° 54' 56"	3+97.95	4+09.56	4+20.90	N 418348.262, E 2275366.428
5	100.00'	81.43'	43.12'	46° 39' 12"	5+18.21	5+61.34	5+99.64	N 418493.224, E 2275320.526
6	60.00'	35.04'	18.04'	33° 27' 54"	5+99.64	6+17.68	6+34.68	N 418546.672, E 2275350.255
7	200.00'	16.04'	8.02'	4° 35' 38"	7+37.33	7+45.35	7+53.36	N 418675.001, E 2275340.420
8	60.00'	72.56'	41.46'	69° 17' 10"	8+57.40	8+98.86	9+29.96	N 418828.517, E 2275340.987
9	60.00'	70.80'	40.18'	67° 36' 44"	10+35.94	10+76.12	11+06.74	N 418895.524, E 2275165.745
10	60.00'	27.09'	13.78'	25° 52' 08"	11+20.14	11+33.92	11+47.23	N 418962.856, E 2275164.026
24	120.00'	53.36'	27.13'	25° 28' 39"	1+74.23	2+01.36	2+27.59	N 418195.831, E 2275508.395
25	60.00'	11.56'	5.80'	11° 02' 24"	2+60.66	2+66.46	2+72.23	N 418237.791, E 2275457.447

NOTES:

FOR ℄ CONST. PROPOSED MULTI-PURPOSE TRAIL, MULTI-PURPOSE BY-PASS, AND PEDESTRIAN TRAIL LAYOUTS, SEE SHEET 70 - 83.

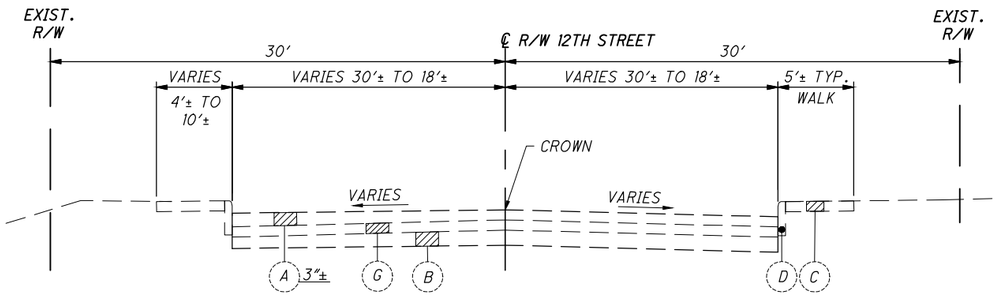
HORIZONTAL SCALE IN FEET: 0, 30, 60, 120

CALCULATED MAL | CHECKED SMG

SCHEMATIC PLAN

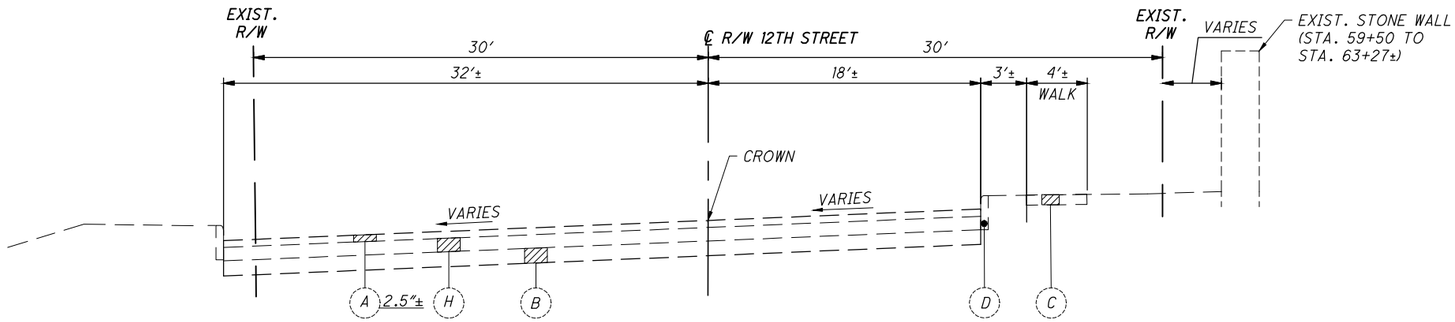
STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GB01.dwg 31-Aug-16 11:34 AM



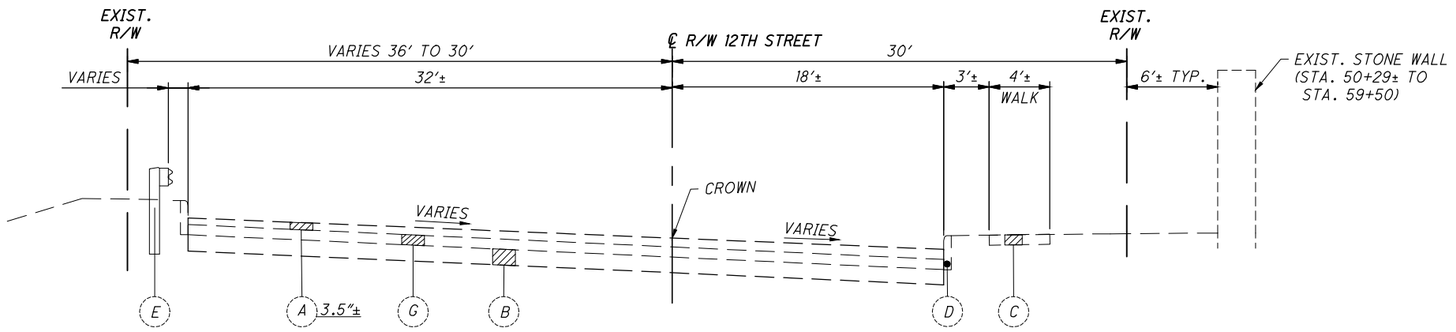
EXISTING TYPICAL SECTION

12TH STREET: STA. 63+00 TO STA. 70+37



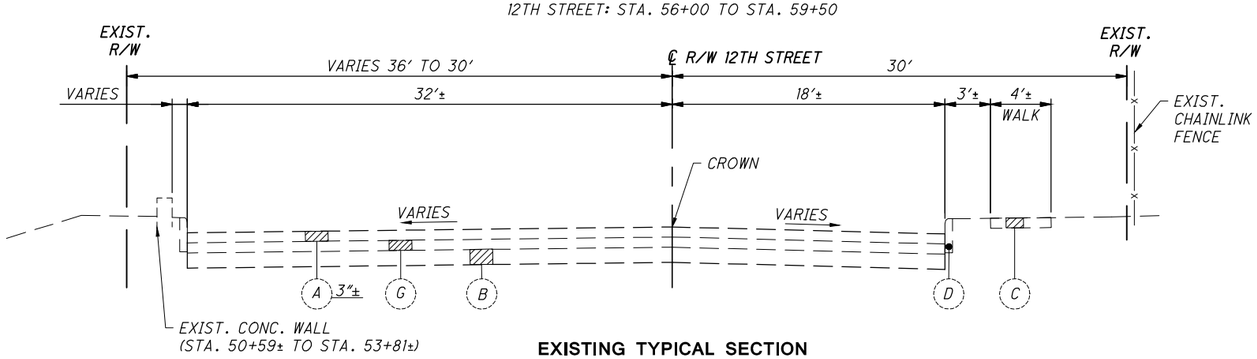
EXISTING TYPICAL SECTION

12TH STREET: STA. 59+50 TO STA. 63+00



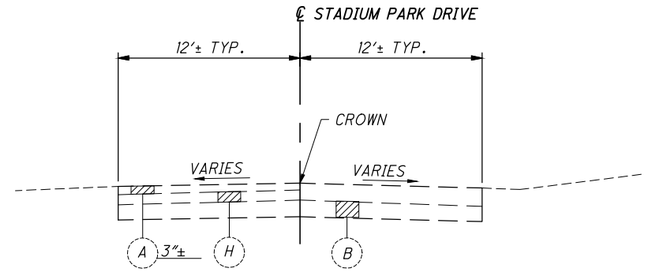
EXISTING TYPICAL SECTION

12TH STREET: STA. 56+00 TO STA. 59+50



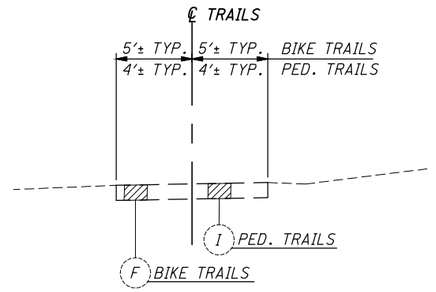
EXISTING TYPICAL SECTION

12TH STREET: STA. 50+00 TO STA. 56+00



EXISTING TYPICAL SECTION

STADIUM PARK DRIVE: STA. 2+00 TO STA. 7+25



EXISTING TYPICAL SECTION

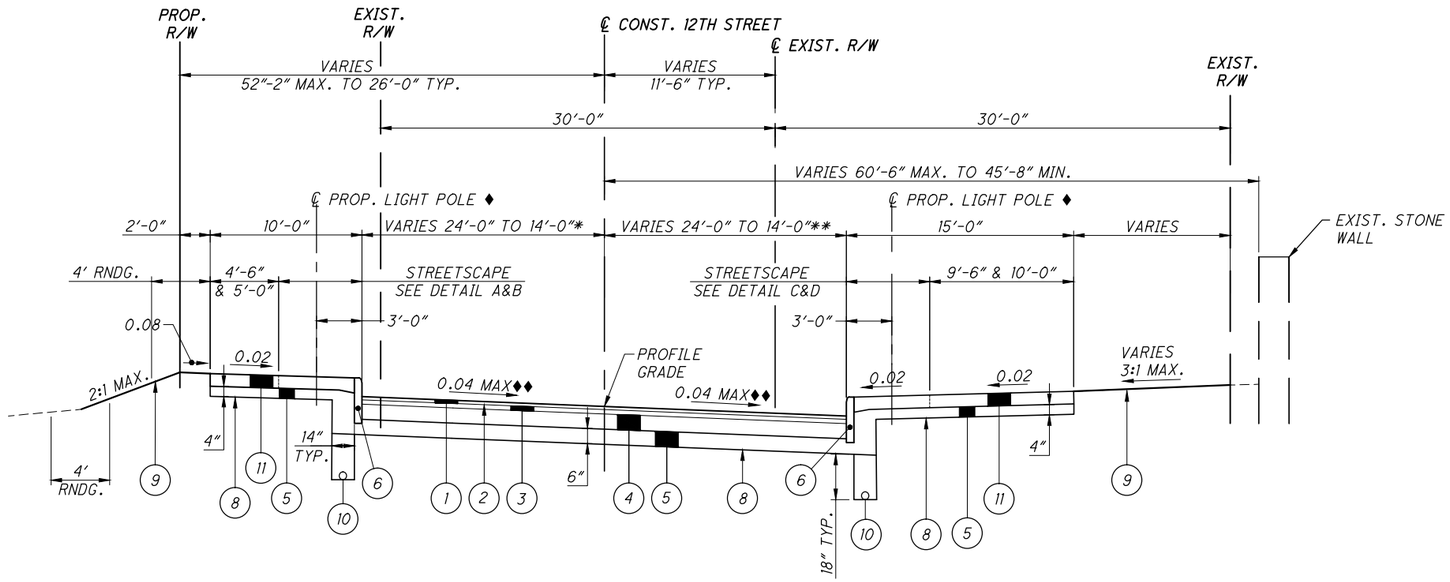
EXISTING LEGEND

- (A) ASPHALT CONCRETE
- (B) SUBBASE
- (C) SIDEWALK
- (D) CONCRETE CURB
- (E) GUARDRAIL
- (F) ASPHALT, 3″±
- (G) BRICK, 4″±
- (H) CONCRETE, 5.75″±
- (I) RUBBERIZED SURFACE, 1″± (W/ASPHALT BASE)

EXISTING TYPICAL SECTIONS

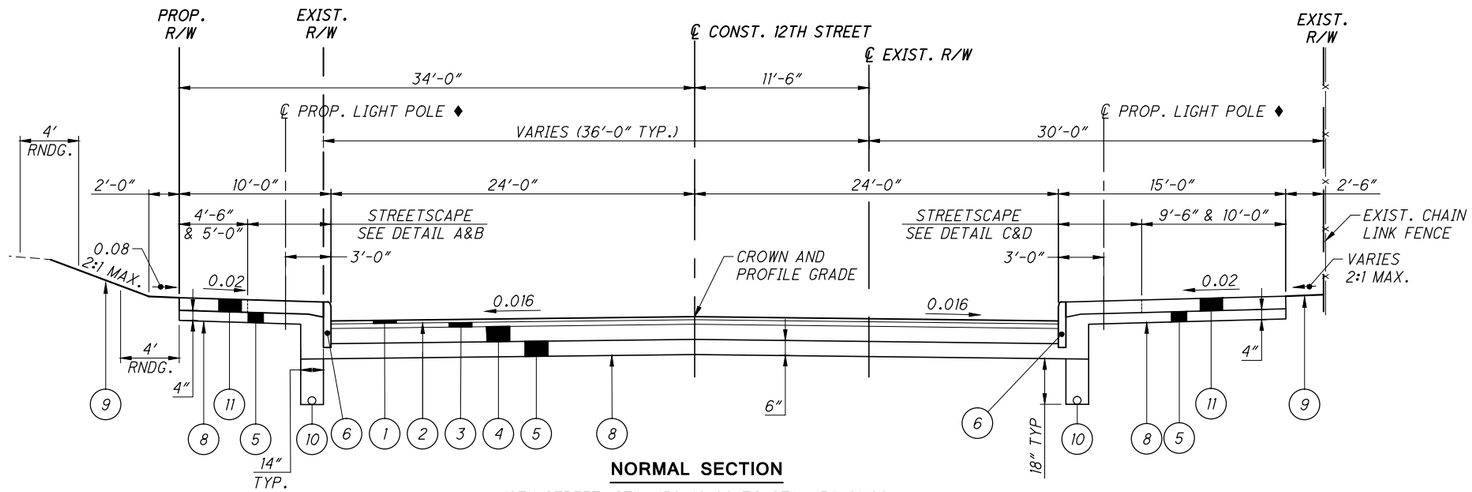
STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GY01.dwg 31-Aug-16 11:35 AM



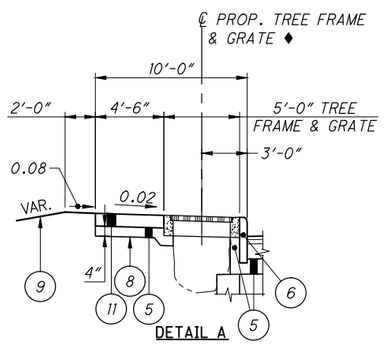
SUPERELEVATED SECTION

12TH STREET: STA. 154+81.00 TO STA. 159+28.00

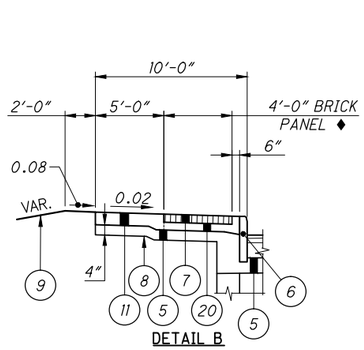


NORMAL SECTION

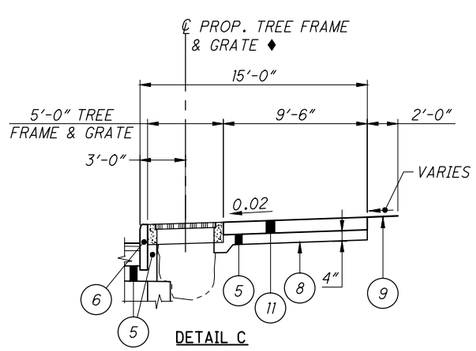
12TH STREET: STA. 150+10.00 TO STA. 154+81.00



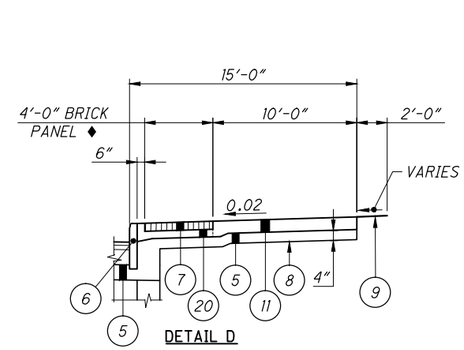
DETAIL A



DETAIL B



DETAIL C



DETAIL D

LEGEND

1. ITEM 424 - 3/4" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL/S.Y.)
3. ITEM 441 - 2 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
4. ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22
5. ITEM 304 - AGGREGATE BASE (DEPTH AS SHOWN)
6. ITEM 609 - CURB, TYPE 6, AS PER PLAN
7. ITEM SPECIAL - BRICK WALKWAY PAVERS
8. ITEM 204 - SUBGRADE COMPACTION
9. ITEM 659 - SEEDING AND MULCHING
10. ITEM 605 - 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP
11. ITEM 608 - 4" CONCRETE WALK, AS PER PLAN
12. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN
13. ITEM 301 - 3" ASPHALT CONCRETE BASE, PG64-22
14. ITEM SPECIAL - RUBBERIZED SURFACE (1" THICK)
15. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (2" MIN.)
16. ITEM 204 - GEOTEXTILE FABRIC
17. ITEM 204 - GRANULAR MATERIAL, TYPE B
18. ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION
19. ITEM 204 - EXCAVATION OF SUBGRADE
20. ITEM 608 - WALKWAY MISC.: CONCRETE BASE
21. ITEM 441 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
22. ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
23. ITEM 609 - CURB, TYPE 6

♦ FOR PLANS OF PROPOSED STREETSCAPE (LIGHTING, BRICK PANELS, AND TREE FRAMES & GRATES), SEE SHEETS 122-126.

♦♦ FOR SUPERELEVATION TABLE, SEE SHEET 88.

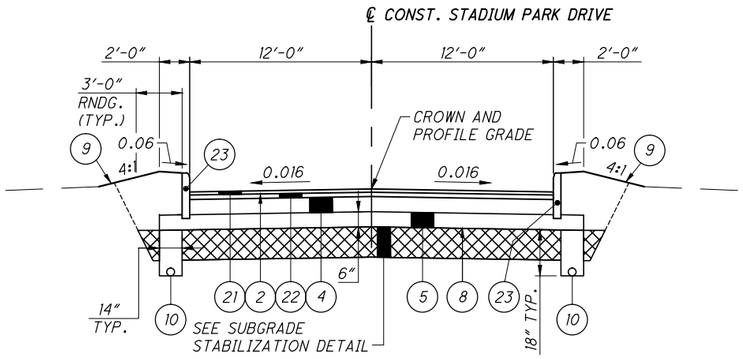
* 24'-0" : STA. 154+81.00 TO STA. 156+43.00
VARIES 24'-0" TO 14'-0" : STA. 156+43.00 TO STA. 158+48.00
14'-0" : STA. 158+48.00 TO STA. 159+51.00

** 24'-0" : STA. 154+81.00 TO STA. 155+43.00
VARIES 24'-0" TO 20'-0" : STA. 155+43.00 TO STA. 156+43.00
VARIES 20'-0" TO 14'-0" : STA. 156+43.00 TO STA. 158+83.00
14'-0" : STA. 158+83.00 TO STA. 159+51.00

TYPICAL SECTIONS

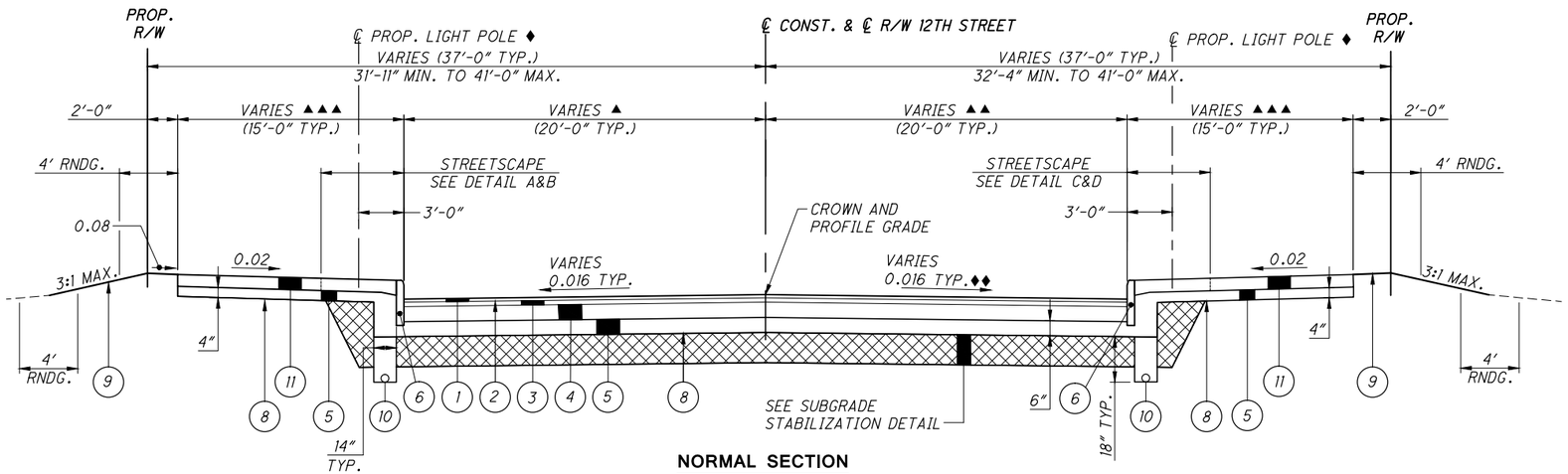
STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GY02.dwg 31-Aug-16 11:35 AM



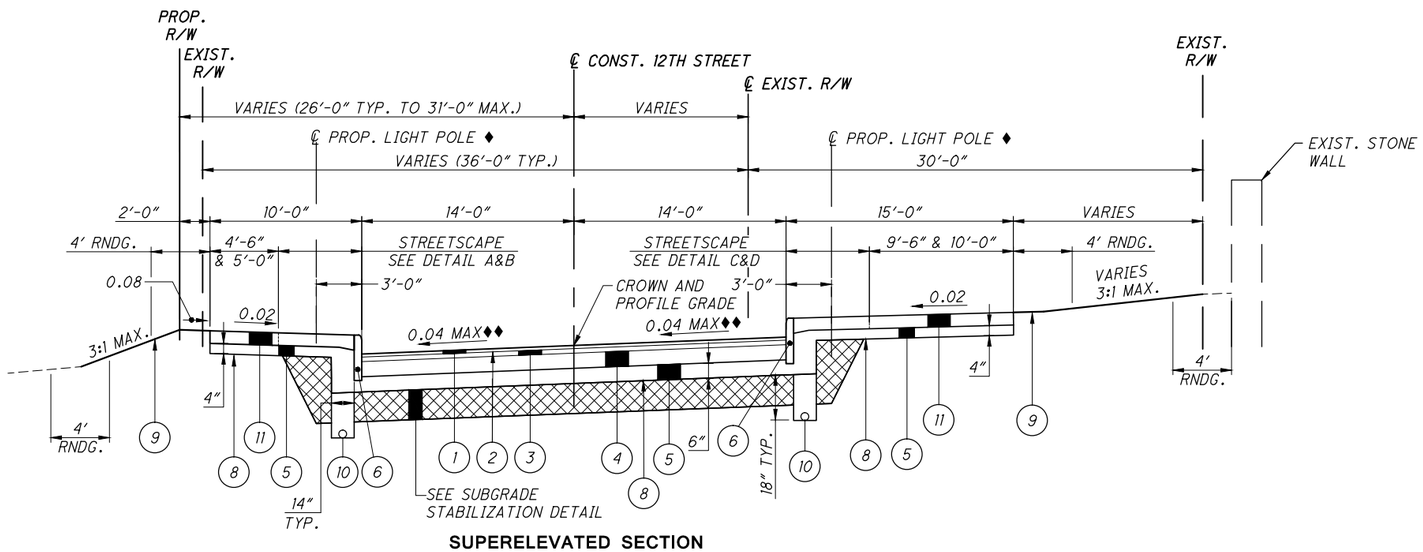
TYPICAL SECTION

STADIUM PARK DR.: STA. 2+10.00 TO STA. 4+05.72
STADIUM PARK DR.: STA. 4+47.61 TO STA. 6+65.00



NORMAL SECTION

12TH STREET: STA. 165+12.94 TO STA. 167+77.83
12TH STREET: STA. 169+11.75 TO 170+37.70



SUPERELEVATED SECTION

12TH STREET: STA. 159+28.00 TO STA. 164+14.58

LEGEND

1. ITEM 424 - 3/4" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL/S.Y.)
3. ITEM 441 - 2 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
4. ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22
5. ITEM 304 - AGGREGATE BASE (DEPTH AS SHOWN)
6. ITEM 609 - CURB, TYPE 6, AS PER PLAN
7. ITEM SPECIAL - BRICK WALKWAY PAVERS
8. ITEM 204 - SUBGRADE COMPACTION
9. ITEM 659 - SEEDING AND MULCHING
10. ITEM 605 - 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP
11. ITEM 608 - 4" CONCRETE WALK, AS PER PLAN
12. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN
13. ITEM 301 - 3" ASPHALT CONCRETE BASE, PG64-22
14. ITEM SPECIAL - RUBBERIZED SURFACE (1" THICK)
15. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (2" MIN.)
16. ITEM 204 - GEOTEXTILE FABRIC
17. ITEM 204 - GRANULAR MATERIAL, TYPE B
18. ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION
19. ITEM 204 - EXCAVATION OF SUBGRADE
20. ITEM 608 - WALKWAY MISC.: CONCRETE BASE
21. ITEM 441 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
22. ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
23. ITEM 609 - CURB, TYPE 6

♦ FOR PLANS OF PROPOSED STREETSCAPE (LIGHTING, BRICK PANELS, AND TREE FRAMES & GRATES), SEE SHEETS 122-126.

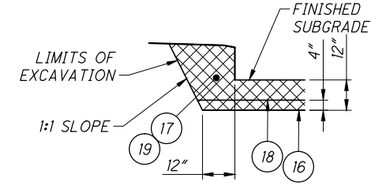
♦♦ FOR SUPERELEVATION TABLE, SEE SHEET 88.

FOR TYPICAL SECTION DETAILS A THRU D, SEE SHEET 4

▲ VARIES 14'-8 1/2" TO 20'-0" : STA. 165+12.94 TO STA. 166+67.00
20'-0" : STA. 166+67.00 TO STA. 167+77.83
20'-0" : STA. 169+11.75 TO STA. 170+37.70

▲▲ VARIES 14'-0 5/8" TO 20'-0" : STA. 165+12.94 TO STA. 166+37.00
20'-0" : STA. 166+37.00 TO STA. 167+77.83
20'-0" : STA. 169+11.75 TO STA. 170+37.70

▲▲▲ 10'-0" : STA. 165+12.94 TO STA. 166+01.49 LT.
15'-0" : STA. 156+12.94 TO STA. 166+67.00 RT.
15'-0" : STA. 166+01.49 TO STA. 166+67.00 LT.
15'-0" : STA. 166+67.00 TO STA. 167+77.83 LT.&RT.
15'-0" : STA. 169+11.75 TO STA. 169+75.00 LT.&RT.
VARIES 15'-0" TO 19'-0" : STA. 169+75.00 TO STA. 169+90.00 LT.&RT.
19'-0" : STA. 169+90.00 TO STA. 170+37.70 LT.&RT.



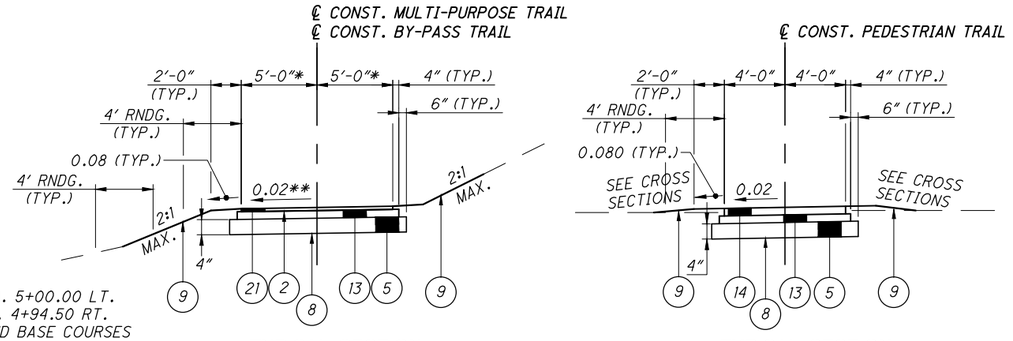
SUBGRADE STABILIZATION DETAIL

APPROX. STATION LIMITS:
12TH STREET, STA. 162+00 TO STA. 170+37.70
STADIUM PARK DRIVE, STA. 2+10 TO STA. 6+65

TYPICAL SECTIONS

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GY02.dwg 31-Aug-16 11:35 AM



* 7'-0" : STA. 4+22.00 TO STA. 5+00.00 LT.
7'-0" : STA. 4+16.50 TO STA. 4+94.50 RT.
(CONSTRUCT ALL ASPHALT AND BASE COURSES TO FACE OF PIER AND ABUTMENT WALLS)

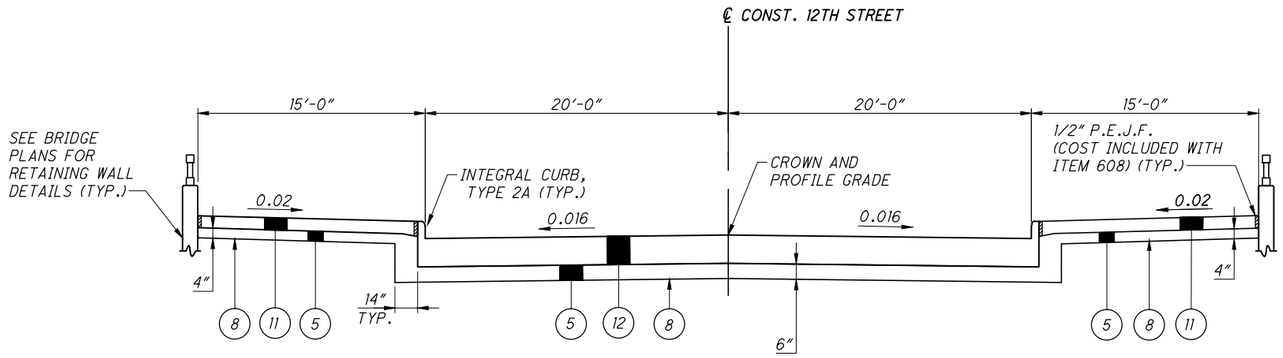
TYPICAL SECTION

MULTI-PURPOSE: STA. 0+50.00 TO STA. 11+60.00
BY-PASS: STA. 20+05.00 TO STA. 21+18.31
BY-PASS: STA. 30+19.00 TO STA. 32+43.54
BY-PASS: STA. 32+51.59 TO STA. 32+85.51

TYPICAL SECTION

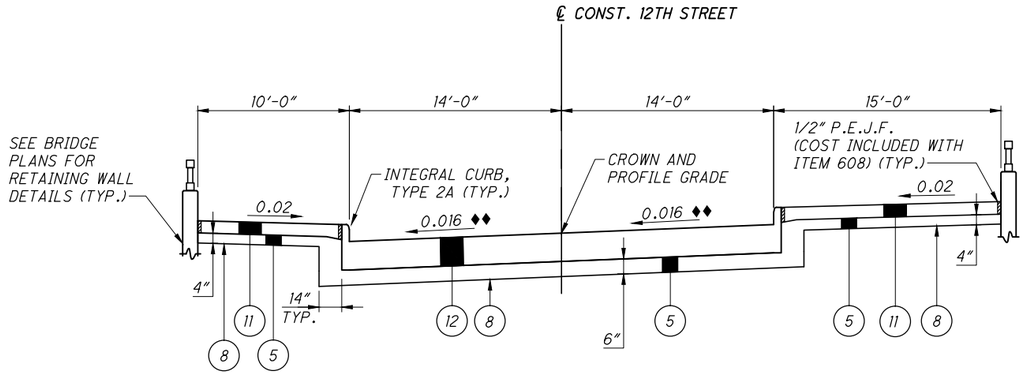
PED. TRAIL (A): STA. 103+00.00 TO STA. 105+67.00
PED. TRAIL (B): STA. 120+00.00 TO STA. 125+10.00

** NORTH OF RELOCATED PEDESTRIAN BRIDGE, TRAIL CROSS-SLOPE WILL BE DOWN TO THE RIGHT. ALL OTHER LOCATIONS AS SHOWN.



APPROACH SLAB SECTION

12TH STREET: STA. 167+77.83 TO STA. 168+07.83
12TH STREET: STA. 168+81.75 TO STA. 169+11.75



APPROACH SLAB SECTION

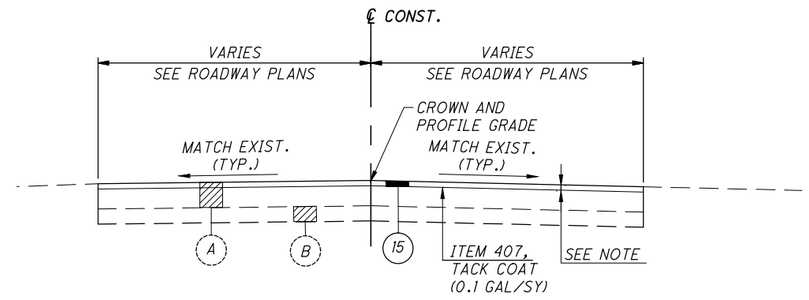
12TH STREET: STA. 164+14.58 TO STA. 164+44.58
12TH STREET: STA. 164+82.94 TO STA. 165+12.94

LEGEND

1. ITEM 424 - 3/4" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL/S.Y.)
3. ITEM 441 - 2 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
4. ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22
5. ITEM 304 - AGGREGATE BASE (DEPTH AS SHOWN)
6. ITEM 609 - CURB, TYPE 6, AS PER PLAN
7. ITEM SPECIAL - BRICK WALKWAY PAVERS
8. ITEM 204 - SUBGRADE COMPACTION
9. ITEM 659 - SEEDING AND MULCHING
10. ITEM 605 - 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP
11. ITEM 608 - 4" CONCRETE WALK, AS PER PLAN
12. ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN
13. ITEM 301 - 3" ASPHALT CONCRETE BASE, PG64-22
14. ITEM SPECIAL - RUBBERIZED SURFACE (1" THICK)
15. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (2" MIN.)
16. ITEM 204 - GEOTEXTILE FABRIC
17. ITEM 204 - GRANULAR MATERIAL, TYPE B
18. ITEM 861 - GEOGRID FOR SUBGRADE STABILIZATION
19. ITEM 204 - EXCAVATION OF SUBGRADE
20. ITEM 608 - WALKWAY MISC.: CONCRETE BASE
21. ITEM 441 - 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22
22. ITEM 441 - 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
23. ITEM 609 - CURB, TYPE 6

(A) ASPHALT CONCRETE
(B) SUBBASE

♦♦ FOR SUPERELEVATION TABLE, SEE SHEET 88.



PAVEMENT PLANING SECTION

12TH STREET: STA. 150+00.00 TO STA. 150+10.00
STADIUM PARK DR.: STA. 2+00.00 TO STA. 2+10.00
STADIUM PARK DR.: STA. 6+50.00 TO STA. 6+60.00

NOTE:
- FOR 12TH STREET USE ITEM 424, FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A (2" MIN.)
- FOR STADIUM PARK USE ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 (2" MIN.)

TYPICAL SECTIONS

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GY02.dwg 31-Aug-16 11:35 AM

I. PRECONSTRUCTION INCIDENTALS

(A) PRECONSTRUCTION INCIDENTALS

ALL WORK REQUIRED TO COMPLETE THIS IMPROVEMENT SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATIONS/REQUIREMENTS OF THE CITY OF CANTON AND THE 2013 EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, EXCEPT AS HEREIN AMENDED. IN THE CASE OF A CONFLICT BETWEEN THE CITY OF CANTON AND THE OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS/REQUIREMENTS, THE CITY OF CANTON REQUIREMENTS WILL TAKE PRECEDENCE, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.

THE CONTRACTOR SHALL COMPLY WITH THE CITY OF CANTON SUPPLEMENTAL SPECIFICATION 01-00 PROJECT DOCUMENTATION AND SUBMITTAL REQUIREMENTS.

(B) ADMINISTRATIVE REQUIREMENTS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY COMPLYING WITH ALL THE ADMINISTRATIVE DUTIES HEREIN CONTAINED.

THE CONTRACTOR SHALL DESIGNATE TO THE CITY AN EMPLOYEE RESPONSIBLE FOR CORRESPONDENCE, NOTIFICATIONS, AND SUBMITTALS PERTINENT TO THE PROJECT.

(C) PRECONSTRUCTION MEETING

A PRECONSTRUCTION MEETING WITH THE CONTRACTOR, REPRESENTATIVES OF ALL UTILITY COMPANIES, THE CITY OF CANTON ENGINEERING DEPARTMENT, THE CITY OF CANTON WATER DEPARTMENT AND THE STARK COUNTY ENGINEER IS REQUIRED FOR THIS PROJECT PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.

FOR CITY GENERAL PROJECTS, THE CITY ENGINEER WILL CONTACT THE CONTRACTOR TO ARRANGE A MEETING DATE. THE CITY ENGINEER WILL CONTACT THE ABOVE AGENCIES TO CONFIRM THE MEETING DATE.

IF THE PROPOSED PROJECT LAND-DISTURBANCE AREA IS ONE (1) OR MORE ACRES, A SEPARATE PRE-CONSTRUCTION MEETING IS ALSO REQUIRED. THIS MEETING SHALL OCCUR ON-SITE BETWEEN THE CONTRACTOR AND THE STARK SOIL & WATER CONSERVATION DISTRICT (SWCD). THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING THIS MEETING. NO LAND-DISTURBANCE ACTIVITIES SHALL START UNTIL SAID MEETING HAS OCCURRED AND APPROVAL HAS BEEN GRANTED BY STARK SWCD.

(D) PROJECT SAFETY

THE CONTRACTOR SHALL MAINTAIN A SAFE WORKING ENVIRONMENT AT THE PROJECT SITE AT ALL TIMES. THE CONTRACTOR SHALL PROPERLY SUPPORT AND/OR MAINTAIN ALL EXCAVATIONS PER APPLICABLE SAFETY REQUIREMENTS AND COMPLY WITH ALL O.S.H.A. REGULATIONS. APPROPRIATE BARRICADES, WARNING LIGHTS, SIGNS, FENCING, ETC. SHALL BE ERECTED AROUND THE CONSTRUCTION AREA DURING ALL NON-WORKING HOURS TO ALERT PERSONS OF THE POTENTIAL DANGER ASSOCIATED WITH THE AREA UNDER CONSTRUCTION AS WELL AS TO PREVENT ACCESS BY UNAUTHORIZED PERSONNEL TO THE CONSTRUCTION SITE/AREA. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE SAFETY OF THE GENERAL PUBLIC AS WELL AS ALL CONSTRUCTION PERSONNEL. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE OF DEBRIS (MUD, STONE, ETC.) AT ALL TIMES. THE CONTRACTOR SHALL ALERT ALL LOCAL EMERGENCY AGENCIES (FIRE, POLICE, AMBULANCE, ETC.) OF THE NATURE OF THE PROPOSED PROJECT PRIOR TO BEGINNING AND CONSTRUCTION ACTIVITY. ACCESS FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.

(E) UNDERGROUND UTILITIES

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED BY FIELD OBSERVATIONS, FROM EXISTING RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE INFORMATION AS SHOWN IS BELIEVED TO BE CORRECT; HOWEVER, THE COMPLETENESS AND ACCURACY OF THIS INFORMATION CANNOT BE GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL THE VARIOUS UTILITY COMPANIES (PUBLIC AND PRIVATE) TO VERIFY THE EXISTENCE, LIMITS AND/OR LOCATION OF ANY UTILITIES WHICH MAY BE ALONG THE ROUTE OR WITHIN THE VICINITY OF THIS IMPROVEMENT.

(F) UTILITY NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING OPERATIONS ON THIS PROJECT, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER, THE REGISTERED UTILITY PROTECTION AGENCY/SERVICE, AND THE OWNERS OF ANY OTHER UTILITIES (PUBLIC AND/OR PRIVATE) THAT MAY HAVE UTILITY LINES OR FACILITIES WITHIN THE VICINITY OF THIS PROJECT BUT WHO ARE NOT MEMBERS OF THE REGISTERED UTILITY PROTECTION SERVICE. THE OWNERS OF ANY UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS AFTER NOTICE IS RECEIVED, EXCLUDING SATURDAYS, SUNDAYS AND OTHER LEGAL HOLIDAYS; STAKE, MARK OR OTHERWISE DESIGNATE THE EXISTENCE AND/OR LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING AND/OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO WORKING DAYS AHEAD OF THE PLANNED CONSTRUCTION.

OHIO UTILITIES PROTECTION SERVICE: 1-800-362-2764 (CONTACT NON-MEMBERS DIRECTLY).

THE PRIMARY UTILITIES WITHIN THE CITY OF CANTON AREA:

TELEPHONE
AT&T
50 WEST BOWERY STREET
AKRON, OHIO 44308
ATTN: RICH WILSON
330-384-2245
CINDY ZUCHEGNO
330-384-3561
EMERGENCY NO. - 24 HRS
1-800-572-4545 OPTION#4

COMMUNICATIONS CABLE
TIME WARNER CABLE
5520 WHIPPLE AVE N.W.
NORTH CANTON, OHIO 44720
330-494-9200
330-555-3003
ATTN: RON FERDINAND
330-906-6096(CELL)

ELECTRIC
AMERICAN ELECTRIC POWER
301 CLEVELAND AVE. S.W.
P.O. BOX 24400
CANTON, OHIO 44701-4400 ext.
330-438-7718
ATTN: RAY ZITNEY
EMERGENCY No.
1-800-672-2017

SANITARY AND STORM SEWER
CITY ENGINEER'S OFFICE
2436-30TH ST. N.E.
CANTON, OHIO 44705
330-489-3381
ATTN: TERRY CONNER

WATER
CANTON WATER DEPARTMENT
2664 HARRISBURG RD. N.E.
CANTON, OHIO 44708
330-489-3310
ATTN: BRENT BURRIER OR
LEWI MILLER

TRAFFIC INTERCONNECT
CITY ENGINEER'S OFFICE
2436-30TH ST. N.E.
CANTON, OHIO 44705
330-489-3381
ATTN: DOUG SERBAN

COMMUNICATIONS CABLE
ONECOMMUNITY
800 W. ST. CLAIR AVENUE
2ND FLOOR
CLEVELAND, OHIO 44113
440-241-5766 (CELL)
ATTN: DAVID CROMER

THE CITY ENGINEER'S OFFICE IS TO BE CONTACTED DIRECTLY FOR SANITARY AND STORM SEWER AND TRAFFIC INTERCONNECT FACILITIES LOCATION: 330-489-3381.

(G) EXPLORATORY BORINGS

EXPLORATORY SOIL BORING INFORMATION IS NOT THE RESPONSIBILITY OF THE CITY OF CANTON. IT IS THE CONTRACTOR RESPONSIBILITY TO REVIEW ANY AND ALL INFORMATION AVAILABLE. IF CONTRACTOR REQUESTS TO DRILL AND OR EXCAVATE WITHIN THE CITY'S R/W, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AT LEAST 3 WORKING DAYS PRIOR TO THIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY NOTIFICATION, AS SPECIFIED, ALL TRAFFIC CONTROL, PREMIUM BACKFILL, AND COMPACTION AND RESTORATION, AS NECESSARY.

(H) CONTINGENCY QUANTITIES

WHEN SPECIFIED ON PLANS OR SPECIFICATIONS, CONTINGENCY QUANTITIES ARE TO BE PERFORMED ONLY UNDER DIRECTION OF THE CITY ENGINEER. THE CONTRACTOR SHALL NOT ORDER ANY CONTINGENCY MATERIAL OR PERFORM ANY WORK UNTIL DIRECTED BY THE ENGINEER. THE ACTUAL WORK LOCATION AND QUANTITIES FOR SUCH ITEMS SHALL BE DOCUMENTED BY THE CONTRACTOR AND THE ENGINEER.

II. CONSTRUCTION INCIDENTALS

(A) PLAN DISCREPANCIES

ANY DISCREPANCIES FROM THE PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER SO THAT THE APPROPRIATE ADJUSTMENTS IN ALIGNMENT AND/OR GRADE MAY BE MADE PRIOR TO THE START OF CONSTRUCTION OR THE CONTINUATION OF THE SAME.

FAILURE BY THE CONTRACTOR TO VERIFY AND/OR DETERMINE EXISTING INFORMATION AS INDICATED WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR ANY CHANGES NECESSARY TO COMPLETE THE WORK SPECIFIED WITHOUT ADDITIONAL COMPENSATION.

(B) VERIFICATION OF UNDERGROUND UTILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AS WELL AS THE ACTUAL LOCATION, ALIGNMENT, AND ELEVATIONS OF ALL EXISTING UTILITIES/FACILITIES WITHIN AND/OR ADJACENT TO THE GENERAL LIMITS OF THESE IMPROVEMENTS INCLUDING WATERLINES, SANITARY AND STORM SEWERS, GAS LINES, COMMUNICATION LINES/BANKS, ELECTRIC LINES, ETC. THIS MAY REQUIRE EXPLORATORY EXCAVATIONS TO BE PERFORMED BY THE CONTRACTOR FOR WHICH HE WILL NOT BE REIMBURSED. THE CONTRACTOR SHALL NOT ASSUME THAT EXISTING UTILITIES/CONDUITS WERE INSTALLED AT TYPICAL/STANDARD DEPTHS OR AT UNIFORM SLOPES/GRADES/DEPTHS BETWEEN ACCESS POINTS (CATCH BASINS, MANHOLES, JUNCTION CHAMBERS, ETC.)

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 LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO INSTALL 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 AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

(C) PROTECTION OF UTILITIES

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT AND SUPPORT EXISTING UTILITIES ENCOUNTERED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS AS APPROVED BY THE OWNERS OF THE UTILITY AND THE CITY ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CLOSELY COORDINATE THEIR WORK WITH ALL UTILITY COMPANIES; ANY POTENTIAL DELAYS WILL NOT BE THE RESPONSIBILITY OF THE CITY.

THE CONTRACTOR SHOULD EXPECT AT A MINIMUM ONE SANITARY SEWER LATERAL, ONE ROOF DRAIN, ONE WATER SERVICE, AND ONE GAS SERVICE FOR EACH LOT. ANY OF THE ABOVE UTILITIES DAMAGED DUE TO THE CONTRACTOR'S WORK SHALL BE RESTORED TO THE UTILITY OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS.

(D) MAINTENANCE OF UTILITY SERVICES

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN UTILITY SERVICES AT ALL TIMES.

WATER SERVICE MAY BE INTERRUPTED FOR LIMITED PERIODS (4 HOURS MAXIMUM) DURING CONNECTION BETWEEN EXISTING WATER LINES AND RELOCATED/NEW WATER MAINS WHICH CANNOT BE COMPLETED OTHERWISE. NO SHUT DOWN SHALL OCCUR WITHOUT WRITTEN PERMISSION OF THE CITY OF CANTON WATER DEPARTMENT. PROPERTY OWNERS AFFECTED BY APPROVED INTERRUPTED SERVICE SHALL BE NOTIFIED 48 HOURS IN ADVANCE BY THE CONTRACTOR.

STORM SEWER AND SANITARY SEWER SERVICES SHALL BE MAINTAINED WITHOUT INTERRUPTION, UNLESS APPROVED BY THE CITY ENGINEER.

IN THE EVENT THAT CONSTRUCTION DISRUPTS THE FLOW OF A SANITARY SEWER, THE CONTRACTOR SHALL IMMEDIATELY RECTIFY THE DISRUPTED SEWER BY EITHER TEMPORARILY FLUMING WITH MATERIALS ACCEPTABLE TO THE ENGINEER OR BYPASSING WITH PUMPS. COST OF MAINTAINING AND REPAIR OF SANITARY SEWERS DISTURBED BY CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIFICATIONS.

(E) CONSTRUCTION NOISE

CONSTRUCTION NOISE ASSOCIATED WITH ANY IMPROVEMENT PROJECT SHALL BE LIMITED TO LEVELS COMMENSURABLE WITH ADJOINING LAND AND THEIR ASSOCIATED USAGE AS DETERMINED BY THE CITY ENGINEER. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICES SHALL NOT BE OPERATED BETWEEN THE HOURS OF 7:00 P.M. AND 7:00 A.M. UNLESS AUTHORIZED BY THE CITY ENGINEER.

(F) OPEN TRENCH CONSTRUCTION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION/TRENCHING PRACTICES FOR THE PROPOSED IMPROVEMENT, OR AS FURTHER SHOWN ON THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE LOCAL AND STATE SAFETY REGULATIONS, INCLUDING CODE OF FEDERAL REGULATIONS, PART 1926 (SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION), SUBPART P (EXCAVATIONS), FOR ALL APPLICABLE REQUIREMENTS AND RESPONSIBILITIES.

PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER OF THE PROJECT'S ASSIGNED "COMPETENT PERSON" IN OSHA EXCAVATION STANDARDS.

CALCULATED MAL CHECKED SMG

GENERAL NOTES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GN01.dwg 31-Aug-16 11:36 AM

II. CONSTRUCTION INCIDENTALS (continued)

(G) TRENCH CLOSING AND TEMPORARY TOPPING

THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THE NECESSARY LEVELS OF PROTECTION AND SAFEGUARDING OF ALL OPEN TRENCHES, WHEN WORK IS EITHER COMPLETED AT THE END OF THE DAY OR SUSPENDED FOR ANY OTHER REASON.

FOR TRENCH SURFACE REQUIREMENTS, REFER TO NOTE 4 ON CITY STANDARD DRAWING NO. 19.

(H) DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL.

(I) TESTING OF UTILITIES

ALL NEWLY CONSTRUCTED WATERLINES AND SANITARY SEWERS (INCLUDING LATERALS) MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH APPLICABLE STANDARDS (AWWA, ETC.) PER THE OHIO ENVIRONMENTAL PROTECTION AGENCY, AND PER THE REQUIREMENTS OF THE CITY OF CANTON WATER AND ENGINEERING DEPARTMENTS.

SANITARY SEWERS SHALL BE TESTED BY CONTRACTOR IN ACCORDANCE WITH THE CITY OF CANTON'S SUPPLEMENTAL SPECIFICATIONS:

02-00 TESTING FOR EXCESSIVE DEFLECTION FOR NON-PRESSURE THERMOPLASTIC SEWER PIPE.

03-00 TESTING PRACTICES FOR LOW-PRESSURE AIR TESTING OF INSTALLED, NON-PRESURE, THERMOPLASTIC SEWER PIPE.

04-01 STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE AIR PRESSURE TEST.

SANITARY AND STORM SEWERS CONSTRUCTED WITH THIS PROJECT SHALL BE TELEVISED BY THE CONTRACTOR ONLY WHEN A PAY ITEM IS PROVIDED IN ACCORDANCE WITH CITY OF CANTON'S SUPPLEMENTAL SPECIFICATION 05-01.

05-01 SEWER TELEVISION INSPECTION AND DOCUMENTATION PROCEDURE.

(J) PRESERVATION AND RESTORATION OF DISTURBED FEATURES

EXISTING DRIVES, BERMS, LAWNS, PAVEMENTS, CURBS, SIDEWALKS, SIGNS, MAILBOXES, FENCES, RETAINING WALLS, LANDSCAPING ITEMS, OR OTHER APPURTENANCES DISTURBED DURING CONSTRUCTION BUT NOT SPECIFICALLY DESIGNATED FOR REMOVAL/REPLACEMENT SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO DISTURBANCE AND TO THE COMPLETE SATISFACTION OF THE CITY ENGINEER.

RESTORATION OF EXISTING ROADWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OR OTHER AGENCIES HAVING AUTHORITY. COST FOR THE RESTORATION OF THESE ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE SPECIFIED IN THE PLANS OR SPECIFICATIONS. NO PUBLIC ROADWAY SHALL BE DISTURBED WITHOUT PRIOR WRITTEN APPROVAL FROM THE GOVERNING AGENCY AND ACQUISITION OF NECESSARY PERMITS.

(K) SALVAGED CASTINGS

WHEN DIRECTED BY THE CITY ENGINEER, ALL METAL CASTINGS SHALL BE CAREFULLY REMOVED AND STORED ON SITE OR DELIVERED TO A LOCATION DESIGNATED BY THE CITY ENGINEER.

(L) PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT TO BE ABANDONED.

BULKHEADS SHALL CONSIST OF BRICK WITH A MINIMUM THICKNESS OF 12 INCHES.

PAYMENT FOR PLUGGING OF EXISTING CONDUIT FOR ABANDONMENT SHALL BE INCLUDED IN THE UNIT BID OF THE VARIOUS ITEMS OF THE PROJECT.

(M) CONSTRUCTION LAYOUT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT UTILIZING PERTINENT PLAN DATA. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR STAKING HORIZONTAL OR VERTICAL CONTROL. CONSTRUCTION LAYOUT SHALL BE IN ACCORDANCE WITH ODOT 623 CONSTRUCTION LAYOUT STAKES AND SURVEYING.

AT THE CITY ENGINEER'S REQUEST, THE CONTRACTOR SHALL MAKE AVAILABLE ALL SURVEY FIELD NOTES FOR REVIEW.

(N) EXISTING MONUMENTATION

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS AND/OR ANY TYPE OF LAND MONUMENT. THE CONTRACTOR SHALL HAVE ALL MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. THE CONTRACTOR SHALL REPLACE/RESET ANY DISTURBED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY A REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

(O) ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON THE NAVD 1988 DATUM.

(P) DEWATERING OPERATIONS

WHEN DEEMED NECESSARY, THE CONTRACTOR MAY INSTALL DEWATERING EQUIPMENT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

THE PROPOSED LOCATION OF WELL POINTS, HEADER PIPE, ELECTRICAL DISTRIBUTION, GENERATORS AND DISCHARGE PIPES, ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS FOR THE INSTALLATION AND SUBSEQUENT REMOVAL OF DEWATERING EQUIPMENT AS WELL AS PROPER WATER DISCHARGE PROCEDURES AS MAY BE REQUIRED PER STATE AND LOCAL GOVERNING AGENCIES.

INSTALLATION OF ALL ELECTRICAL EQUIPMENT, INCLUDING GROUNDING AND PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

CONTRACTOR SHALL PROVIDE ALL COMBUSTIBLE ENGINE DRIVEN GENERATORS WITH "HOSPITAL GRADE" MUFFLERS. MUFFLERS SHALL BE RATED, AT A MAXIMUM OF 67 dB AT 23 FEET AWAY RUNNING FULL LOAD.

(Q) INSPECTION

FOLLOWING THE PRE-CONSTRUCTION MEETING(S) AND ESTABLISHMENT OF AN APPROVED SCHEDULE, THE CONTRACTOR SHALL GIVE A MINIMUM 48 HOUR NOTICE BEFORE STARTING ANY WORK ON THIS PROJECT AND SHALL KEEP THE CITY INFORMED OF HIS/HER CONSTRUCTION SCHEDULE. ALL WORK REQUIRED FOR THIS IMPROVEMENT SHALL BE SUBJECT TO INSPECTION BY THE CITY OF CANTON OR THEIR DESIGNATED REPRESENTATIVE. NO WORK SHALL BE PERFORMED WITHOUT AN AUTHORIZED INSPECTOR PRESENT, UNLESS OTHERWISE APPROVED.

(R) FIELD OFFICE

IF A PAY ITEM IS PROVIDED, THE CONTRACTOR SHALL PROVIDE A FIELD OFFICE IN ACCORDANCE WITH ODOT 619. THE FIELD OFFICE SHALL BE TYPE C.

III. EARTHWORK / SITE WORK

(A) EASEMENTS AND RIGHT-OF-WAY

THE CONTRACTOR SHALL STAY WITHIN THE DESIGNATED PROPERTIES, EASEMENTS, AND/OR RIGHT-OF-WAY PROVIDED FOR THE PROJECT AT ALL TIMES. NO MATERIAL SHALL BE STORED NOR ANY WORK PERFORMED ON PRIVATE PROPERTY UNLESS OTHERWISE APPROVED. DISTURBANCE OF EXISTING FEATURES AND/OR IMPROVEMENTS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND AS APPROVED BY THE CITY ENGINEER/PROPERTY OWNER.

(B) SUITABILITY OF SITE

THE CITY OF CANTON SHALL NOT BE RESPONSIBLE FOR THE TYPE AND/OR SUITABILITY OF THE MATERIAL UNDERLYING THE PROJECT SITE. THE CONTRACTOR MUST APPRAISE THEMSELVES OF ANY EXISTING SITE CONDITIONS WHICH MAY AFFECT THEIR BID OR THE PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL PERFORM ANY INVESTIGATIONS AND/OR TESTING NECESSARY TO ADEQUATELY DETERMINE/ESTIMATE TO THEIR SATISFACTION ALL SITE CONDITIONS WHICH COULD AFFECT THE PERFORMANCE OF THE PROPOSED IMPROVEMENTS. THIS COULD INCLUDE, BUT NOT BE LIMITED TO, UNSUITABLE AND/OR UNSTABLE SOIL/SUBSURFACE CONDITIONS, ROCK, WATER (PERCHED OR FREE), SPRINGS, ETC.

REFER TO CITY STANDARD DRAWING NO. 19 FOR ADDITIONAL DETAILS.

(C) REMOVAL/REPLACEMENT OF UNSUITABLE MATERIAL

THE CONTRACTOR SHALL UNDERCUT AND REPLACE UNSUITABLE MATERIAL ENCOUNTERED DURING INSTALLATION OF THE PROPOSED UTILITIES AND ROADWAY IN ACCORDANCE WITH CITY STANDARD DRAWING NO. 19 AND THE SUBGRADE STABILIZATION DETAIL ON SHEET 5.

IV. ROADWAY / DRIVE APPROACHES / WALK / CURB

(A) PAVEMENT STANDARDS

PAVEMENTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE CITY STANDARD DRAWINGS AND SPECIFICATIONS (LISTED BELOW) AND ODOT SPECIFICATIONS, UNLESS SPECIFIED OTHERWISE ON THE PLANS.

CITY STANDARD DRAWING NO.:

DRIVEWAYS, CURBS, AND PAVEMENT
28 "DRIVE APPROACH WITH SIDEWALK AGAINST CURB"
29 "COMBINED CURB & WALK"
30 "CONCRETE CURB AND COMBINED CURB & GUTTER"
33 "WHEELCHAIR RAMP"

CITY STREETSCAPE
40 "TYPICAL STREETSCAPE CORRIDOR"
42 "STREETSCAPE CONCRETE WALK PAVEMENT DETAILS"

CITY SPECIFICATIONS:
"CITY OF CANTON SPECIFICATIONS FOR THE CONSTRUCTION, REPAIR, AND REPLACEMENT OF SIDEWALKS, CURBS, AND DRIVEWAYS"

(B) RESTRICTED WORK SCHEDULE

NO CONCRETE FINISH WORK OR PERMANENT ASPHALT SHALL BE PLACED FROM OCTOBER 31ST TO MAY 1ST UNLESS WRITTEN APPROVAL IS GRANTED BY THE CITY ENGINEER.

(C) ASPHALT/CONCRETE

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE OF BEGINNING WORK WHICH REQUIRES COMPACTION TESTING AND/OR PRE-POUR INSPECTION PRIOR TO PLACEMENT OF ASPHALT OR CONCRETE. WORK SHALL NOT PROCEED UNTIL TESTING AND/OR INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE CITY ENGINEER.

V. SANITARY SEWERS / STORM SEWERS

(A) SEWER STANDARDS

ALL SANITARY/STORM SEWER CONDUITS AND APPURTENANCES SHALL BE CONSTRUCTED ACCORDING TO APPLICABLE CITY STANDARD DRAWINGS AND SPECIFICATIONS (LISTED BELOW) AND ODOT SPECIFICATIONS EFFECTIVE AT THE TIME OF CONSTRUCTION, UNLESS SPECIFIED OTHERWISE ON THE PLANS.

CITY STANDARD DRAWING NO.:

CATCH BASINS
1 "CURB INLET CATCH BASIN" - CATCH BASIN, MISC.: CITY CB-1
4 "SQUARE-TOP CATCH BASIN" - CATCH BASIN, MISC.: CITY CB-4

MANHOLES
10 "PRECAST STORM OR SANITARY MANHOLE" - MANHOLE, MISC.: CITY MH-10
11 "OUTSIDE DROP CONNECTION FOR SANITARY MANHOLE"
12 "MANHOLE COVER"

CONDUITS AND TRENCHES
18 "HOUSE CONNECTION STACK"
19 "UTILITY TRENCH REQUIREMENTS"
20 "SANITARY SEWERS AND LATERALS"
21 "CONCRETE ENCASEMENT DETAIL"
22 "DOWNSPOUT OUTLET (NON-CURBED STREET)
23 "DOWNSPOUT OUTLET (CURBED STREET)
24 "GROUNDWATER DRAIN LINE CONNECTION"

CALCULATED MAL | CHECKED SMG

GENERAL NOTES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GN01.dwg 31-Aug-16 11:36 AM

V. SEWERS / STORM SEWERS (continued)

ITEM 611 - CATCH BASIN, MISC.: CITY CB-1 (DOUBLE)

CITY STANDARD DRAWING NO. 1 "CURB INLET CATCH BASIN" SHALL APPLY WITH THE FOLLOWING MODIFICATIONS. THE CATCH BASIN SHALL BE 6' WIDE. THE CASTINGS SHALL BE NEENAH R-3295-2 DOUBLE UNIT FRAME, TYPE V GRATE AND CURB BOX OR APPROVED EQUAL.

CONDUIT MATERIAL

ALL PROPOSED STORM SEWER CONDUITS SHALL BE ONE OF THE FOLLOWING CONDUIT TYPES: 706.02, 706.04 OR 707.33, UNLESS OTHERWISE DESIGNATED IN THE PLANS.

VI. STORM WATER POLLUTION PREVENTION

(A) FOR PROJECTS ONE (1) ACRE OR MORE OF TOTAL LAND-DISTURBANCE

THE CONTRACTOR SHALL APPLY FOR AND OBTAIN AN OHIO EPA NPDES PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. SAID PERMIT REQUIRES THE IMPLEMENTATION OF THE CITY PREPARED STORM WATER POLLUTION PREVENTION PLAN (SWP3) TO ADDRESS CONSTRUCTION SITE STORM WATER RUNOFF AS WELL AS POST-CONSTRUCTION STORM WATER MANAGEMENT. THE SWP3 MUST BE REVIEWED AND APPROVED BY THE STARK COUNTY SOIL & WATER CONSERVATION DISTRICT (SWCD).

THE CONTRACTOR AND HIS REPRESENTATIVES SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE PERMIT AS WELL AS THE SWP3. ALL ACTIVITIES AND PRACTICES SHALL ALSO COMPLY WITH THE CURRENT EDITIONS OF THE CITY OF CANTON STORM WATER MANAGEMENT MANUAL AND THE OHIO DEPARTMENT OF NATURAL RESOURCES' RAINWATER AND LAND DEVELOPMENT MANUAL, AS APPLICABLE. SUCH PROJECTS ARE ALSO SUBJECT TO INSPECTION BY THE CITY OF CANTON AND/OR ITS AUTHORIZED REPRESENTATIVES (I.E. STARK SWCD) TO ENSURE COMPLIANCE WITH PERMIT AND SWP3 REQUIREMENTS AND LOCAL STORM WATER QUALITY REGULATIONS.

A PRE-CONSTRUCTION MEETING INITIATED BY THE CONTRACTOR IS REQUIRED ON-SITE WITH THE STARK SWCD PRIOR TO ANY LAND-DISTURBING ACTIVITIES. THE CONTRACTOR SHALL ABIDE BY ALL ORDERS ISSUED BY THE CITY AND/OR STARK SWCD PURSUANT TO INSPECTION OF THE PROJECT SITE.

VII. TRAFFIC

(A) MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC ADJACENT TO AND THROUGH THE PROJECT AS DESCRIBED BELOW AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATION MANUAL OF CONSTRUCTION AND MATERIALS SPECIFICATIONS ITEM 614 MAINTAINING TRAFFIC. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND REMOVE ALL SIGNS, FLAGS, FLAGMEN, WATCHMEN, BARRICADES, SIGN SUPPORTS, CONES, BARRELS, AND INCIDENTALS IN CONFORMANCE WITH THE MOST RECENT REVISIONS OF THE CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. INTERFERENCE WITH VEHICULAR TRAFFIC SHALL BE KEPT TO A MINIMUM AT ALL TIMES. ALL OPEN TRENCHES AND EXCAVATIONS SHALL BE PROTECTED WITH DRUMS, BARRICADES, OR BARRIERS. ACCESS SHALL BE MAINTAINED AT ALL TIMES FOR EMERGENCY AND FIRE DEPARTMENT VEHICLES.

ANY TEMPORARY ROADWAY CLOSING MUST BE APPROVED IN WRITING BY THE CITY TRAFFIC ENGINEER AND ANY OTHER PUBLIC AGENCY HAVING JURISDICTION. THE CONTRACTOR SHALL NOTIFY THE TRAFFIC ENGINEER AT LEAST 72 HOURS IN ADVANCE OF ANY SUCH CLOSINGS FOR PUBLICATION AND EMERGENCY AGENCY NOTIFICATION.

(B) RESIDENTIAL AND BUSINESS AREAS

THE CONTRACTOR SHALL MAINTAIN ACCESS TO LOCAL RESIDENCES AND BUSINESSES DURING CONSTRUCTION. IN THE EVENT A DRIVE ACCESS NEEDS TO BE CLOSED, THE CONTRACTOR SHALL GIVE NOTICE OF CLOSURE AND DURATION TO THE PROPERTY OWNER 24 HOURS IN ADVANCE. CONTRACTOR SHALL ARRANGE FOR ALTERNATE PARKING AND REASONABLE ACCESS FOR THOSE PROPERTY OWNERS AFFECTED BY DRIVE CLOSURES.

(C) EXISTING STREET NAME AND TRAFFIC CONTROL SIGNS

WHERE WORK REQUIRES THE MOVEMENT OF EXISTING SIGNS (STOP SIGNS, SPEED LIMIT SIGNS, NO PARKING SIGNS, ETC.). THE CONTRACTOR IS REQUIRED TO MAINTAIN THE FUNCTION OF ALL TRAFFIC CONTROL SIGNS. ALL SIGNS REMOVED BY THE CONTRACTOR SHALL BE STORED ON SITE AND REINSTALLED BY THE CONTRACTOR.

(D) NEW STREET NAME & TRAFFIC CONTROL SIGNS

ALL STREET NAME AND TRAFFIC CONTROL SIGNS SHALL COME COMPLETE AND BE MADE IN ACCORDANCE WITH THE CITY OF CANTON SIGN AND PAINT DEPARTMENT SPECIFICATIONS. GENERALLY, ALL SIGNS SHALL HAVE HI-INTENSITY SHEETING AND BE MADE WITH .080 50/52 ALUMINUM. STREET NAME SIGNS SHALL BE MADE WITH WHITE UPPER AND LOWER CASE LETTERING ON GREEN BACKGROUND USING 9" BLANKS, BE DOUBLED SIDED W/RADIUS CORNERS AND HAVE 6" NAME AND 3" SUFFIXES. ALL SIGN RELATED HARDWARE IS TO BE INCLUDED, SUCH AS 6" HEAVY DUTY U-CHANNEL CAPS AND STREET NAME CROSSES.

(E) EXISTING TRAFFIC SIGNALS

WHERE WORK REQUIRES INTERFERENCE WITH EXISTING SIGNALIZATION IN THE INTERSECTIONS, ALL WORK SHALL BE COORDINATED THROUGH THE CITY ENGINEER. THE CONTRACTOR SHALL NOT ALTER ANY SIGNALIZATION WITHOUT THE CITY ENGINEER'S AUTHORIZATION.

(F) NEW TRAFFIC SIGNALIZATION

ALL NEW OR MODIFIED TRAFFIC SIGNALIZATION AT INTERSECTIONS SHALL BE IN ACCORDANCE WITH CITY TRAFFIC ENGINEERING TRAFFIC CONTROL GENERAL NOTES AND ODOT SPECIFICATIONS; WITH SPECIAL EMPHASIS ON ODOT ITEMS 625, 632, 633, 732, AND 733 WHICH DEALS WITH TRAFFIC CONTROL.

(G) TRAFFIC CONTROL PLAN

THE CONTRACTOR SHALL SUBMIT TO THE CITY ENGINEER A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH CITY SUPPLEMENTAL SPECIFICATION 01-00. DETOURS, IF NECESSARY, SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO PLAN SUBMISSION.

VIII. WATER MAIN / SERVICES

(A) WATER MAINS/SERVICES

ALL WATER MAINS, SERVICES AND APPURTENANCES SHALL BE DESIGNED AND CONSTRUCTED ACCORDING TO THE CITY OF CANTON WATER DEPARTMENT REQUIREMENTS AND SPECIFICATIONS IN EFFECT AT THE TIME OF CONSTRUCTION. ANY DEVIATION FROM THE PLANS AFFECTING THE WATER SYSTEM MUST BE APPROVED BY THE CANTON WATER DEPARTMENT.

WATER MAINS SHALL BE CLASS 53 (12" AND UNDER) OR CLASS 54 (OVER 12") DUCTILE IRON MEETING AWWA C-151 WITH PUSH JOINTS. THE MINIMUM COVER OVER WATER MAINS SHALL BE 4'-6" FROM GROUND SURFACE TO THE BARREL OF THE PIPE. THE OUTSIDE SURFACE OF ALL DUCTILE IRON PIPE, FITTINGS, AND APPURTENANCES SHALL BE SHOP COATED WITH EITHER A COAL TAR OR ASPHALT BASE BITUMINOUS MATERIAL. IF THE COATING MATERIAL IS FOUND TO BE DAMAGED PRIOR TO THE PIPE TRENCH BEING BACKFILLED, THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL APPROVED MATERIAL AS REQUIRED TO REPAIR THE DAMAGES. THE CONTRACTOR SHALL HAVE SUFFICIENT COATING MATERIAL AVAILABLE AT THE JOB SITE PRIOR TO LAYING THE PIPE. THE INTERIOR OF ALL PIPES AND FITTINGS SHALL BE LINED WITH DOUBLE CEMENT MORTAR AND SEAL COATED IN COMPLETE CONFORMANCE WITH AWWA C-104, OR THE LATEST REVISION. FITTINGS SHALL BE RATED FOR 250 PSI WORKING PRESSURE IN ACCORDANCE WITH AWWA C-153. PIPE LENGTHS MAY BE DEFLECTED AT THE JOINT IF REQUIRED, AT ONE-HALF THE DEGREE RECOMMENDED BY THE MANUFACTURER. DISINFECTION OF WATER MAINS SHALL BE IN ACCORDANCE WITH AWWA C-651. ALL WATER LINE PRESSURE TESTING SHALL CONFORM TO AWWA C-600.

WATER MAINS SHALL BE INSTALLED AND BACKFILLED PER O.D.O.T. ITEM 638. WATERLINES LOCATED WITHIN THE LIMITS OF OR WITHIN A 1/2 TO 1 SLOPE OF EXISTING AND/OR PROPOSED ROADWAYS, PARKING AREAS, BUILDINGS, BUILDINGS, SIDEWALKS, AND/OR DRIVES SHALL BE INSTALLED AS TYPE B CONDUITS. ALL OTHER WATER MAINS MAY BE INSTALLED AS TYPE C CONDUITS. BEDDING SHALL BE AS SPECIFIED, EXCEPT THAT SLAG WILL NOT BE PERMITTED.

ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC. SHALL BE SECURED EQUAL. POURED-IN-PLACED CONCRETE THRUST BLOCKS SHALL ALSO BE PROVIDED AT/FOR EACH BEND, FITTINGS, TEE, DEAD END, ETC. THIS BLOCKING SHALL BE CAREFULLY PLACED TO ENSURE IT IS POSITIONED PROPERLY TO WITHSTAND THE RESULTANT FORCES AT EACH BEND, FITTING, ETC. AND SHALL BEAR ON STABLE UNDISTURBED GROUND CAPABLE OF WITHSTANDING THE POTENTIAL LOADING.

IN ADDITION TO THE RESTRAINT OF ALL BENDS, FITTINGS, TEES, VALVES, DEAD END, ETC. THE CONTRACTOR SHALL ALSO SECURE/RESTRAIN ALL JOINTS FOR AT LEAST THREE (3) PIPE JOINTS (50) LF MIN.) ON BOTH SIDES OF EACH DEAD END, BEND, FITTING, VALVE, TEE, ETC. UTILIZING MEGALUGS, FIELD LOK GASKETS, OR APPROVED EQUAL.

THE CONTRACTOR SHALL PROVIDE 18" VERTICAL CLEARANCE BETWEEN PROPOSED WATERLINES AND ANY SANITARY SEWERS. WHEN 18" CLEARANCE BETWEEN A WATERLINE AND SANITARY SEWER CANNOT BE OBTAINED THE CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE 12" MINIMUM CLEARANCE BETWEEN WATERLINE AND STORM SEWER. THE CONTRACTOR SHALL MAINTAIN TEN (10) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND SANITARY SEWERS AND FOUR (4) FOOT HORIZONTAL CLEARANCE BETWEEN WATERLINES/SERVICES AND STORM SEWERS.

THE FIRE HYDRANT SETTING SHALL INCLUDE THE HYDRANT, ANCHOR TEE, VALVE, VALVE BOX, 6 INCH PIPING AND ALL FITTINGS NEEDED FOR PROPER INSTALLATION.
FIRE HYDRANTS SHALL BE MUELLER A423 MEETING THE CITY OF CANTON WATER DEPARTMENT STANDARDS AND REQUIREMENTS. ALL COSTS FOR THE 6" PIPING ASSOCIATED WITH THE INSTALLATION OF FIRE HYDRANTS SHALL BE INCLUDED WITH THE FIRE HYDRANT PAY ITEM. ALL HYDRANTS WILL BE INSTALLED WITH THE PUMPER NOZZLE FACING THE STREET.

ALL WATER SERVICES MUST BE INSTALLED BEFORE ANY PAVEMENT FOR THE PROPOSED ROADWAYS HAS BEEN PLACED. CONTRACTOR IS NOT TO MAKE ANY SERVICE TAPS ON THE WATER MAIN. THE CANTON WATER DEPARTMENT WILL MAKE ALL SERVICE TAPS.

THE PROPOSED FACILITIES WILL MAINTAIN A MINIMUM 35 PSI PRESSURE DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

ALL DUCTILE IRON PIPE, INCLUDING FITTINGS AND APPURTENANCES BURIED UNDERGROUND, SHALL BE ENCASED WITH 8 MIL POLYETHYLENE FILM CONFORMING TO AWWA C105.

POLYETHYLENE WATER MAIN AND SERVICE TUBING 2" AND UNDER SHALL BE COPPER TUBE SIZE AND MEET STANDARDS ASTM-D2737 PE3408 AND AWWA C906. THE ONLY ACCEPTED TUBING IS CP CHEM PERFORMANCE PIPE DRISCOPLEX 5100-ULTRA-LINE.

THE CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN IN SERVICE, ANY EXISTING WATER MAINS EXPOSED DURING CONSTRUCTION.

ANY WATER SERVICE LINE THAT IS BROKEN, CUT OR OTHERWISE DAMAGED, SHALL BE REPLACED FROM THE CORPORATION STOP TO THE CURB STOP WITH A SINGLE PIECE OF PLASTIC SERVICE LINE (DRISCOPLEX). NO SPLICING OF THE SERVICE LINE WILL BE PERMITTED.

SERVICE BRANCHES WILL BE INSTALLED AS PER O.D.O.T ITEM 638.16 WITH THE FOLLOWING EXCEPTIONS:

1. WHEN A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, EXTENDING OR SHORTENING ON THE PROPERTY SIDE ON THE SERVICE STOP, IT SHALL BE REPLACED WITH NEW MATERIALS FROM THE CORPORATION STOP TO THE SERVICE STOP.

IN A STREET IMPROVEMENT, NO EXISTING WATER CURB BOX WILL BE LEFT IN THE PAVEMENT, CURB AND GUTTER OR SIDEWALK THE CURB BOX WILL BE MOVED TO A SUITABLE LOCATION DETERMINED BY THE CANTON WATER DEPARTMENT. WHEN THE CURB BOX IS MOVED ALL NEW MATERIAL WILL BE USED FROM THE CORPORATION STOP TO THE THE CURB STOP WHICH IS A SINGLE PIECE OF PLASTIC SERVICE LINE (DRISCOPLEX). NO SPLICING OF THE SERVICE LINE WILL BE PERMITTED. A NEW TAP (CORPORATION STOP) AND CURB STOP AND BOX MAY ALSO BE REQUIRED. THE DETERMINATION WILL BE MADE BY THE CANTON WATER DEPARTMENT.

ALL WATER MAINS WILL BE INSTALLED UNDER THE PAVEMENT WITH A MINIMUM OF 3 FEET FROM THE EDGE OF PAVEMENT OR THE CURB AND/OR GUTTER. IN EXISTING STREETS, A SAW CUT WILL BE MADE TO ENSURE A CLEAN EDGE.

WHEN AN EXISTING WATER MAIN MUST BE SHUT DOWN TO PERFORM REQUIRED WORK, THE PROPERTIES TO BE EFFECTED SHALL BE GIVEN A MINIMUM 24 HOUR NOTICE OF SAID SHUT DOWN. THE WORK WILL BE SCHEDULED AND COORDINATED TO MINIMIZE THE TIME THE MAIN IS OUT OF SERVICE.

THE CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS IN ADVANCE OF ANY SHUT DOWN OF AN EXISTING WATER MAIN. THE CONTRACTOR WILL NOT OPERATE ANY VALVES. VALVES WILL BE OPERATED BY CANTON WATER DEPARTMENT PERSONNEL ONLY. VALVES DAMAGED BY THE CONTRACTOR'S OPERATION WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

ALL VALVE BOXES WILL BE ADJUSTED TO FINAL GRADE OF THE PAVEMENT WHEN THE PROJECT IS COMPLETED.

ANY COMMERCIAL OR INDUSTRIAL WATER SERVICE MUST HAVE SITE AND PLUMBING PLANS SUBMITTED TO THE CANTON WATER DEPARTMENT ENGINEERING OFFICE FOR APPROVAL. THE CANTON WATER DEPARTMENT WILL REVIEW THE PLANS AND MAKE COMMENTS. CORRECTIONS MUST BE MADE AND RESUBMITTED. PRICE ESTIMATES WILL NOT BE ISSUED AND SERVICE TAPS WILL NOT BE MADE UNTIL THE PLANS HAVE BEEN APPROVED BY THE CANTON WATER DEPARTMENT.

CALCULATED MAL CHECKED SMG

GENERAL NOTES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GN01.dwg 31-Aug-16 11:36 AM

IX. POST CONSTRUCTION INCIDENTALS

(A) AS-BUILT DRAWINGS

AS-BUILT REPRODUCIBLE MYLARS SHALL BE PROVIDED TO THE CITY OF CANTON BY THE DESIGN ENGINEER AT THE COMPLETION OF THE PROJECT. AS-BUILT INFORMATION CONSISTS OF POST-CONSTRUCTION FIELD SURVEY DATA OF THE LOCATION, FLOWLINE ELEVATIONS, AND TOP-OF-GRATE/RIM ELEVATIONS FOR ALL STORM AND SANITARY STRUCTURES CONSTRUCTED AND/OR IMPACTED BY THE PROJECT.

FOR PRIVATE PROJECTS, THE CONSTRUCTION BOND WILL NOT BE RELEASED UNTIL THE AS-BUILT DRAWINGS HAVE BEEN ACCEPTED.

(B) PROPOSED MONUMENTATION

THE CONTRACTOR'S SURVEYOR SHALL NOTIFY THE CITY ENGINEER IN WRITING UPON THE COMPLETION OF MONUMENTS BEING SET AS PER PLAN OR RECORD PLAT.

(C) RELEASE OF RETAINER/BONDS

PRIOR TO THE RELEASE OF RETAINER/CONSTRUCTION BOND BY THE CITY OF CANTON, THE CONTRACTOR SHALL HAVE COMPLETED THE ENGINEER'S PROJECT PUNCHLIST AND SUBMIT FINAL WAIVER OF LIEN, IN ACCORDANCE WITH CITY SS 01-00.

X. MISCELLANEOUS GENERAL NOTES

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

HORIZONTAL DATUM

HORIZONTAL POSITIONS ARE BASED ON THE NORTH GRID OF THE OHIO STATE PLANE NORTH ZONE, THE NORTH AMERICAN DATUM OF 1983 (CORS96).

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	13	0	13
30"	4	0	4
48"	1	0	1
60"	0	0	0

ITEM 204, PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 5 HOURS.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON ODOT STANDARD CONSTRUCTION DRAWING BP-3.1.

ITEM SPECIAL, MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 611 OF THE SPECIFICATIONS AND THE CITY OF CANTON STANDARD DRAWINGS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL, MISCELLANEOUS METAL 1,500 POUNDS.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

UNRECORDED STORM WATER DRAINAGE

FURNISH A CONTINUANCE FOR ALL UNRECORDED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT-OF-WAY USE PERMIT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 706.02 AND 707.33.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, 6" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION 50 FT.

611, 6" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION 50 FT.

611, 6" CONDUIT, TYPE E, FOR DRAINAGE CONNECTION 50 FT.

611, 6" CONDUIT, TYPE F, FOR DRAINAGE CONNECTION 50 FT.

UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS

FURNISH A CONTINUANCE FOR ALL UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS SUCH AS SANITARY, WASTEWATER, CURTAIN/GRADIENT DRAINS, AND FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. FURNISH AN UNOBSTRUCTED CONTINUANCE OF THE UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS TO THE SATISFACTION OF THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT-OF-WAY USE PERMIT. ALL SANITARY AND SANITARY WASTEWATER CONTINUANCE MAY ALSO REQUIRE A NPDES PERMIT FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY. REPORT ALL CONTINUANCE TO THE LOCAL HEALTH DEPARTMENT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.45, 706.01, 706.02, OR 706.08 WITH JOINTS AS PER 706.11 OR 706.12.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

611, 6" CONDUIT, TYPE B, FOR SANITARY 50 FT.

611, 6" CONDUIT, TYPE C, FOR SANITARY 50 FT.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST 2 EACH

659, TOPSOIL 1,129 CU. YD.

659, SEEDING AND MULCHING, CLASS 1 10,167 SQ. YD.

659, REPAIR SEEDING AND MULCHING 509 SQ. YD

659, INTER-SEEDING 509 SQ. YD.

659, COMMERCIAL FERTILIZER 2.29 TON

659, LIME 2.11 ACRES

659, WATER 57 M. GAL.

659, MOWING 23 M. SQ. FT.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

SODDING AND EROSION CONTROL MAT

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SODDED AREAS AS SHOWN ON THE BIORETENTION CELL DETAILS SHEET NO. 102.

659, TOPSOIL 15 CU. YD.

659, WATER 1 M. GAL.

660, SODDING, UNSTAKED 134 SQ. YD.

836, SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2 67 SQ. YD

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

ITEM 202, HEADWALL REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE REMOVAL OF THE EXISTING CONCRETE HEADWALL AND THE EXISTING ENERGY DISSIPATOR SYSTEM (CONCRETE BAFFLES) AT THE OUTLET END OF THE EXISTING 60" CULVERT. ALL PROVISIONS OF ODOT CMS 202 SHALL APPLY.

THE HEADWALL IS LOCATED AT STATION 168+97, RT. SEE PLAN SHEET NO. 45.

CALCULATED MAL CHECKED SMG

GENERAL NOTES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GN01.dwg 31-Aug-16 11:37 AM

ITEM 670, SLOPE EROSION PROTECTION, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 670 SHALL APPLY WITH THE FOLLOWING MODIFICATION. THIS ITEM SHALL INCLUDE 2 INCHES OF ADDITIONAL TOPSOIL.

SLOPE EROSION PROTECTION, AS PER PLAN SHALL BE APPLIED TO ALL GRASS FILTER STRIP AREAS WITHIN THE CONSTRUCTION LIMITS AS SHOWN ON THE STORM WATER POLLUTION PREVENTION PLAN.

THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 670, SLOPE EROSION PROTECTION, AS PER PLAN.

ITEM 670, SLOPE EROSION PROTECTION, AS PER PLAN
2,120 SQ. YD.

ITEM 202, STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE REMOVAL OF THE EXISTING CONCRETE WALL ALONG 12TH STREET NW BETWEEN STA. 150+57.96 TO STA. 153+78.91 LEFT AND STA. 155+88.57 TO STA. 157+06.26 LEFT, AND SHALL INCLUDE THE REMOVAL OF THE CURB FOUNDATION. ALL PROVISIONS OF ODOT CMS 202 SHALL APPLY.

THE PAYMENT WILL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 202, STRUCTURE REMOVED, AS PER PLAN. PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

THE LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 202, STRUCTURE REMOVED, AS PER PLAN.

ITEM 601, ROCK CHANNEL PROTECTION, TYPE A WITH AGGREGATE FILTER, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 601 SHALL APPLY WITH THE FOLLOWING MODIFICATION. THE ROCK CHANNEL PROTECTION, TYPE A SHALL BE BROKEN SANDSTONE.

THE PAYMENT WILL BE AT THE UNIT PRICE BID FOR ITEM 601, ROCK CHANNEL PROTECTION, TYPE A WITH AGGREGATE FILTER, AS PER PLAN. PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

ITEM 601, ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 601 SHALL APPLY WITH THE FOLLOWING MODIFICATION. THE ROCK CHANNEL PROTECTION, TYPE B SHALL BE BROKEN SANDSTONE.

THE ROCK SHALL BE PLACED WITH A MAXIMUM SLOPE OF 2:1 TO MATCH THE EXISTING OR PROPOSED SLOPE. THE ROCK ALONG THE WEST BRANCH NIMISHILLEN CREEK NEAR THE PROPOSED 12TH STREET NW BRIDGE SHALL BE PLACED AS FOLLOWS:

1. ALONG THE WEST BANK, NORTH OF THE BRIDGE, THE ROCK SHALL BE PLACED FROM THE TOE OF THE SLOPE UP 5' ALONG THE BANK AND EXTEND 10' BEYOND THE PROPOSED 36" STORM SEWER OUTLET.
2. ALONG THE EAST BANK, NORTH OF THE BRIDGE, THE ROCK SHALL BE PLACED FROM THE TOE OF THE SLOPE UP TO THE EDGE OF THE PROPOSED MULTI-PURPOSE TRAIL.
3. ALONG THE EAST BANK UNDER THE BRIDGE THE ROCK SHALL BE PLACED FROM THE TOE OF THE SLOPE UP TO THE ABUTMENT.
4. ALONG THE EAST BANK SOUTH OF THE BRIDGE THE ROCK SHALL BE PLACED FROM THE TOE OF THE SLOPE UP 5' ALONG THE BANK.
5. AT THE PEDESTRIAN BRIDGE ALONG THE BANKS AS SHOWN ON SHEET NO. 193

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 601, ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER, AS PER PLAN 200 CU. YD.

THE PAYMENT WILL BE AT THE UNIT PRICE BID FOR ITEM 601, ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER, AS PER PLAN. PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

ITEM 601, ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 601 SHALL APPLY WITH THE FOLLOWING MODIFICATION. THE ROCK CHANNEL PROTECTION, TYPE C SHALL BE BROKEN SANDSTONE.

THE PAYMENT WILL BE AT THE UNIT PRICE BID FOR ITEM 601, ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN. PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

AIR POLLUTION PERMIT

THE CONTRACTOR SHALL RECEIVE AN AIR POLLUTION PERMIT FROM THE CITY OF CANTON HEALTH DEPARTMENT PRIOR TO THE START OF ANY CONSTRUCTION.

EXISTING RAILROAD CROSSING PANELS, GATES AND LIGHTS

EXISTING RAILROAD GATES AND SERVICE CONNECTIONS ARE WITHIN THE PROJECT LIMITS, AND THE PROJECT PAVEMENT FULL-DEPTH PAVEMENT REPLACEMENT WILL ABUT TO EXISTING CONCRETE RAILROAD CROSSING PANELS. ANY DAMAGES TO THESE FEATURES DUE TO THE CONSTRUCTION OPERATIONS WILL BE AT THE CONTRACTORS COST TO REPAIR TO THE SATISFACTION OF THE RAILROAD.

THE CONTRACTOR SHALL CO-OPERATE WITH THE RAILROAD OFFICIALS CONCERNING WORK ADJACENT TO RAILROAD TRACKS, IN ORDER TO AVOID DELAY TO, OR INTERFERENCE WITH RAILROAD TRAFFIC, AND SHALL NOTIFY THE RAILROAD COMPANY 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS WITHIN THE RAILROAD RIGHT-OF-WAY.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE RAILROAD TO SCHEDULE FLAGGERS WHEN WORKING IN THE RAILROAD RIGHT-OF-WAY AND TO MAINTAIN APPROPRIATE INSURANCE AS REQUIRED BY THE RAILROAD FOR THE DURATION OF THE PROJECT.

WATERWORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING THE EXISTING 8" WATERMAIN BETWEEN APPROXIMATE STA. 153+50 AND STA. 155+00 LEFT. IF THE DETERMINED COVER OF THE EXISTING WATERMAIN WOULD RESULT IN COVER LESS THAN 5 FEET AFTER THE PROPOSED GRADING IS COMPLETED THEN THE WATERMAIN IS TO BE LOWERED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE MERCY HOSPITAL REPRESENTATIVE 48 HOURS PRIOR TO ANY DISRUPTIONS IN SERVICE.

FOR ADDITIONAL REQUIREMENTS, REFER TO VIII. WATERMAIN/SERVICES NOTES.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK AS NOTED ABOVE AND SHALL INCLUDE ALL NECESSARY APPERTUNANCES AND INCIDENTALS TO CONSTRUCT COMPLETE THIS WORK IN ACCORDANCE WITH ODOT CMS 638 AND CITY OF CANTON REQUIREMENTS:

638, 8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND FITTINGS 100 L.F.

PROTECTION OF TREES

GRADING WORK IS PROPOSED AROUND MANY TREES THAT HAVE BEEN DESIGNATED IN THE PLANS TO BE SAVED. THE CONTRACTOR SHALL WORK TO MINIMIZE IMPACTS TO THESE TREES, AVOIDING HEAVY OPERATIONS OR THE STORING OF MATERIALS OVER THE CRITICAL ROOT ZONES.

THE PLAN CROSS SECTIONS REFLECT TYPICAL GRADING CONDITIONS. IN AREAS OF TREES DESIGNATED TO BE SAVED, MODIFYING THE GRADING WILL BE PERMITTED AS DIRECTED BY THE ENGINEER TO REDUCE THE IMPACTS TO THESE TREES. NO ADDITIONAL PAYMENT FOR MODIFYING GRADING WILL BE MADE.

CANTON PARKS TRAIL SIGNS AND EXERCISE STATION

UNLESS PAID FOR UNDER ANOTHER PAY ITEM, THE CONTRACTOR SHALL REMOVE AND STORE EXISTING PARK SIGNAGE AND REMOVE ALL WOOD POSTS AND BOLLARDS, INCLUDING WOOD POSTS AND BOLLARDS WITHOUT SIGNAGE, LOCATED WITHIN THE PARK AND PROJECT CONSTRUCTION LIMITS. THE CONTRACTOR SHALL COORDINATE WITH THE PARKS FOR DELIVERY OF THE SALVAGED SIGNS. PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE REMOVAL OF SIGNS AND POSTS, REMOVAL OF WOOD POSTS, BOLLARDS INCLUDING ANY FOUNDATIONS, STORAGE OF THE SALVAGED SIGNS, AND DELIVERY OF SIGNS TO THE PARKS.

ADDITIONALLY THE CONTRACTOR SHALL REMOVE AND STORE THE EXERCISE STATION LOCATED WITHIN THE PARK TRAILS CONSTRUCTION LIMITS. PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE DISMANTLING AND REMOVAL OF THE EXERCISE STATION, STORAGE, AND REERECTION. THE CONTRACTOR SHALL DISPOSE OF THE EXISTING POSTS AND ANY FOUNDATIONS AND PROVIDE NEW WOOD POSTS, FOUNDATIONS, AND MOUNTING HARDWARE CONSISTENT WITH THE EXISTING AND TO THE SATISFACTION OF THE ENGINEER.

REMOVAL OF THE EXISTING EXERCISE STATION ASPHALT SURFACE AND CONSTRUCTION OF THE NEW SURFACE SHALL BE INCLUDED UNDER ANOTHER PAY ITEM.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED THE GENERAL SUMMARY FOR THE WORK DESCRIBED ABOVE:

ITEM 202 - REMOVAL MISC.: WOOD POSTS AND BOLLARDS 10 EACH

ITEM 202 - REMOVAL MISC.: WOOD SIGN POSTS 30 EACH

ITEM 202 - REMOVAL MISC.: PARK SIGNS REMOVED AND STORED 30 EACH

ITEM 202 - REMOVAL MISC.: REMOVE AND REERECT PARK EXERCISE STATION 1 EACH

PARK MONUMENT

THE CONTRACTOR SHALL REMOVE AND REERECT THE EXISTING STEEL ART MONUMENT LOCATED AT APPROXIMATELY STA. 166+85 RT. THE CONTRACTOR SHALL REMOVE AND SAFELY STORE THE MONUMENT UNTIL IT IS REERECTED AT THE PROPOSED LOCATION. A 3 INCH NON-REINFORCED CONCRETE PAD MEETING THE REQUIREMENTS OF ITEM 608 SHALL BE CONSTRUCTED AT THE NEW LOCATION AND SIZE AS SHOWN IN THESE PLANS. THE CONCRETE PAD SHALL BE LEVEL, PLACED IN A SINGLE LAYER AND SMOOTHED WITH A FLOAT TO OBTAIN A SANDY TEXTURE FINISH. THE CONTRACTOR SHALL PROVIDE NEW STAINLESS STEEL HARDWARE MEETING THE REQUIREMENTS OF ODOT CMS 730.10 AND ANCHOR THE MONUMENT TO THE CONCRETE SURFACE SIMILAR TO THE EXISTING MOUNTING. REUSE OF EXISTING MOUNTING HARDWARE SHALL BE AT THE DISCRETION OF THE ENGINEER.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE EXISTING MEMORIAL GARDEN WITH CANTON PARKS. EXISTING PLANTINGS, SIGN PLACARDS, AND SITTING BENCH AT THE MEMORIAL GARDEN WILL BE REMOVED BY THE CANTON PARKS. THE EXISTING 'BARN STONES' AT THE PERIMETER OF THE MEMORIAL GARDEN WILL BE REMOVED AND RELOCATED UNDER ANOTHER PAY ITEM.

THIS WORK SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS TO COMPLETE THE REMOVAL, STORAGE, REERECTION OF THE MONUMENT, REMOVAL OF THE EXISTING CONCRETE PAD AND CONSTRUCTION OF THE NEW CONCRETE PAD, AND ALL MOUNTING AND ANCHORING HARDWARE.

THE FOLLOWING LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 202, REMOVAL MISC.: PARK MONUMENT REMOVED AND RESET.

ITEM 202 - REMOVAL MISC.: PARK MONUMENT REMOVED AND RESET LUMP SUM

EXISTING BARN STONES

THE CONTRACTOR SHALL REMOVE AND RESET THE EXISTING BARN STONES LOCATED AROUND THE PERIMETER OF THE EXISTING MEMORIAL GARDEN AT APPROXIMATELY STA. 166+65 TO STA. 167+05 RT. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, ANY TEMPORARY STORAGE, AND RESETTING THE BARN STONES FOR LANDSCAPING PURPOSES ON A LEVEL 4 INCH AGGREGATE BASE AS SHOWN ON SHEET 129.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION OF THE EXISTING MEMORIAL GARDEN WITH CANTON PARKS.

THIS WORK SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS TO COMPLETE THE REMOVAL, TEMPORARY STORAGE, BASE MATERIAL, GRADING, AND RESETTING OF THE BARN STONES.

THE FOLLOWING LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 202, REMOVAL MISC.: MONUMENT BARNSTONES REMOVED AND RESET.

ITEM 202 - REMOVAL MISC.: MONUMENT BARNSTONES REMOVED AND RESET LUMP SUM

ITEM 202, GATE REMOVED, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 202 SHALL APPLY WITH THE FOLLOWING MODIFICATION. IN ADDITION TO REMOVING THE METAL SWING GATES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF THE BRICK COLUMNS AND FOUNDATIONS, ATTACHED SIGNS, AND ANY WOOD OR METAL STOP POSTS.

PAYMENT FOR ITEM 202, GATE REMOVED, AS PER PLAN WILL BE AT THE UNIT PRICE PER EACH AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

CALCULATED MAL CHECKED SMG

GENERAL NOTES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK00315.R001\Drawing\90671\roadway\sheets\90671GN01.dwg 31-Aug-16 11:37 AM

ITEM 202, PAVEMENT REMOVED, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 202 SHALL APPLY WITH THE FOLLOWING MODIFICATION. WITHIN THE AREAS OF FULL-DEPTH PAVEMENT REPLACEMENT WHERE EXISTING BRICK BASE IS PRESENT, THE CONTRACTOR SHALL REMOVE THE BRICK FOR SALVAGE AND DELIVERY TO THE CITY. THE CONTRACTOR SHALL COORDINATE DELIVERY DATES AND LOCATION WITH THE CITY.

CARE SHALL BE TAKEN TO LIMIT DAMAGE TO THE BRICKS AND TO LIMIT THE NON-BRICK MATERIAL THAT IS COMINGLED WITH THE BRICK. LARGE AMOUNTS OF ASPHALT OR OTHER NON-BRICK MATERIAL WILL NOT BE ACCEPTABLE.

THE LOCATIONS OF BRICK BASE ARE APPROXIMATE AND BASED ON PAVEMENT CORING INFORMATION, AND THE PAYMENT WILL BE AT THE UNIT PRICE BID FOR ITEM 202, PAVEMENT REMOVED, AS PER PLAN. PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

ITEM 202, CURB REMOVED, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 202 SHALL APPLY WITH THE FOLLOWING MODIFICATIONS. THIS WORK SHALL APPLY ONLY TO THE NATURAL 'STONE' CURB LOCATED WITHIN THE CONSTRUCTION AREAS. THE CONTRACTOR SHALL REMOVE THE 'STONE' CURB FOR SALVAGE AND DELIVERY TO THE CITY. CARE SHALL BE TAKEN TO LIMIT DAMAGE TO THE 'STONE' CURB. THE CONTRACTOR SHALL COORDINATE DELIVERY DATES AND LOCATION WITH THE CITY.

AS DIRECTED BY THE CITY, ANY 'STONE' CURB NOT DEEMED SALVAGEABLE OR REUSEABLE SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO ODOT CMS 202 AT NO ADDITIONAL COST TO THE CITY.

ALL LABOR, EQUIPMENT, AND INCIDENTALS TO REMOVE, STORE, AND DELIVER THE 'STONE' CURB SHALL BE INCLUDED IN THE UNIT BID COST FOR ITEM 202, CURB REMOVED, AS PER PLAN. THE LOCATIONS OF 'STONE' CURB ARE APPROXIMATE. ALL OTHER 'CONCRETE' CURB SHALL BE REMOVED UNDER ITEM 202, CURB REMOVED.

ITEM 202, WALK REMOVED, AS PER PLAN

IN ADDITION TO THE PROVISIONS OF ODOT CMS 202, THE FOLLOWING WORK SHALL BE INCLUDED WITH THE REMOVAL OF THE PARK WALKING TRAILS DESIGNATED FOR REMOVAL. BACKFILL ALL CAVITIES CREATED BY THE REMOVAL THAT ARE NOT COVERED BY SUBSEQUENT WORK AND PROVIDE POSITIVE GRADING OF THE AREAS. IN AREAS WHERE ONLY WALK REMOVAL OCCURS AND NO SUBSEQUENT WORK, THE CONTRACTOR IS TO PROVIDE SEEDING AND MULCHING CONSISTENT WITH SEEDING APPLICATIONS IN PROJECT DISTURBED AREAS. THE COST OF THE ABOVE WORK SHALL BE INCLUDED WITH ITEM 202, WALK REMOVED, AS PER PLAN.

ITEM SPECIAL, BRICK WALKWAY PAVERS

BRICK PAVERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF CANTON STANDARD DRAWING ON SHEETS 109.

PAYMENT FOR ITEM SPECIAL, BRICK WALKWAY PAVERS SHALL BE MADE AT THE CONTRACT UNIT PRICE PER SQUARE FOOT OF BRICK WALKWAY PAVERS AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT TO COMPLETE THE BRICK PAVERS, SETTING SAND, SEALANT, AND JOINT SAND IN ACCORDANCE WITH CITY STANDARDS.

ITEM SPECIAL, TREE FRAME AND GRATE

SPECIFICATIONS OF THE TREE FRAMES, GRATES AND CONSTRUCTION OF THE CONCRETE COLLARS SHALL BE IN ACCORDANCE WITH CITY OF CANTON STANDARD DRAWING ON SHEETS 110-111. CONCRETE SHALL BE PER ODOT 499, CLASS C WITH LIMESTONE AGGREGATE.

PAYMENT FOR ITEM SPECIAL, TREE FRAME AND GRATE SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO COMPLETE THE CONCRETE COLLAR, TREE FRAMES, GRATES, AND EXCAVATION OF THE TREE PIT.

ITEM 608, 4" CONCRETE WALK, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 608 SHALL APPLY WITH THE ADDITION THAT THE WALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF CANTON STANDARD DRAWING ON SHEET 109 AND 112. THIS WORK SHALL INCLUDE THE THICKER CONCRETE BETWEEN THE WALK AND THE BACK OF THE BRICK WALKWAY PAVERS.

PAYMENT FOR ITEM 608, 4" CONCRETE WALK, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE PER SQUARE FOOT AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

ITEM 608, WALKWAY MISC.: CONCRETE BASE

ALL PROVISIONS OF ODOT CMS 608 SHALL APPLY WITH THE ADDITION THAT THE WALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF CANTON STANDARD DRAWING ON SHEETS 109-111. THIS ITEM INCLUDES THE 3 INCH CONCRETE BASE CONSTRUCTED UNDER THE BRICK WALKWAY PAVERS AND THE 6 INCH WIDE CONCRETE HEADER BETWEEN THE ROADWAY CURB AND BRICK PAVERS.

PAYMENT FOR ITEM 608, WALKWAY MISC.: CONCRETE BASE SHALL BE MADE AT THE CONTRACT UNIT PRICE PER SQUARE FOOT AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO CONSTRUCT THE CONCRETE BASE AND HEADER.

ITEM 608, CURB RAMP, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 608 SHALL APPLY WITH THE FOLLOWING MODIFICATION. THE TRUNCATED DOMES SHALL EXTEND THE ENTIRE WIDTH OF THE SIDEWALK AS SHOWN IN THE PLANS.

PAYMENT FOR ITEM 608, CURB RAMP, AS PER PLAN SHALL BE AT THE UNIT PRICE PER SQUARE FOOT AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

ITEM 609, CURB TYPE 6, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 609 SHALL APPLY WITH THE ADDITION THAT THE CURB SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF CANTON STANDARD DRAWINGS ON SHEETS 96 AND 109. ALL PROVISIONS OF ODOT CMS 609 AND THE CURRENT CITY OF CANTON SPECIFICATIONS SHALL BE INCLUDED.

PAYMENT FOR ITEM 609, CURB TYPE 6, AS PER PLAN WILL BE AT THE UNIT PRICE PER FOOT AND INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

ITEM SPECIAL - RUBBERIZED SURFACE

THE CONTRACTOR SHALL CONSTRUCT A 1" THICK RUBBERIZED SURFACE AS PROVIDED BY POROUS PAVE INC.. RUBBERIZED SURFACE SHALL BE COLOR 'BROWN', AND PER MANUFACTURER SPECIFICATIONS AND INSTALLATION REQUIREMENTS.

POROUS PAVE INC.
4385 EAST 110TH STREET
GRANT, MI. 49327

PAYMENT FOR ITEM SPECIAL-RUBBERIZED SURFACE SHALL BE MADE AT THE CONTRACT UNIT PRICE PER CUBIC YARD AND SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS TO COMPLETE THE WORK DESCRIBED ABOVE.

PRIVATE HOSPITAL SIGNS

THE TWO EXISTING MERCY MEDICAL HOSPITALS LOCATED ON 12TH STREET NW AT APPROXIMATELY STA. 153+59 AND STA. 156+05 SHALL BE RELOCATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL, STORAGE, AND RESETTING SIGNS SIMILAR TO EXISTING CONDITIONS. ANY DAMAGES TO THE SIGNS AS A RESULT OF THIS WORK SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE CITY AT THE CONTRACTOR'S EXPENSE. ANY REPLACEMENTS OF POSTS, FOUNDATIONS, HARDWARE, AND ELECTRIC FITTINGS AND CONNECTIONS SHALL BE INCIDENTAL TO THE COST OF THIS WORK.

SIGN AT STA. 153+59, RELOCATE TO STA. 153+59, 40' LT. (CENTER OF SIGN). ORIENT SIGN PERPENDICULAR TO 12TH STREET, SEE PLAN.
SIGN AT STA. 156+05, RELOCATE TO STA. 156+73, 38' LT. (CENTER OF SIGN). ORIENT SIGN TO FACE WESTBOUND TRAFFIC, SEE PLAN.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK DESCRIBED ABOVE:

ITEM 202, REMOVAL MISC.: HOSPITAL SIGN REMOVED AND RESET 2 EACH

ITEM 625, LIGHT POLE REMOVED, AS PER PLAN

ALL PROVISIONS OF ODOT CMS 625 FOR REMOVAL OF LIGHT POLES SHALL APPLY WITH THE FOLLOWING AMENDMENTS. THE TWO EXISTING PRIVATE LIGHT POLES SHALL BE CAREFULLY REMOVED FOR DELIVERY TO THE REPRESENTATIVE OF THE HOSPITAL CONSTRUCTION AND FACILITIES. THE FOUNDATIONS SHALL BE REMOVED AND DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE REMOVAL AND DELIVERY WITH THE REPRESENTATIVE. A SECURITY CAMERA AND SIGNS ATTACHED TO THE POLES SHALL BE DELIVERED WITH THE LIGHT POLES TO THE REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE HOSPITAL REP. REGARDING DISCONNECTION OF THE SECURITY CAMERA PRIOR TO BEGINNING THIS WORK. ALL COORDINATION, DISCONNECTIONS, DELIVERY, AND STORAGE TO COMPLETE THE WORK DESCRIBED ABOVE SHALL BE INCIDENTAL TO THE COST OF ITEM 625, LIGHT POLE REMOVED, AS PER PLAN.

ITEM SPECIAL, LAWN SPRINKLER SYSTEMS

THE EXISTING LAWN SPRINKLER SYSTEMS WITHIN THE CONSTRUCTION AREAS ALONG THE MERCY HOSPITAL PROPERTY ON 12TH STREET SHALL BE REMOVED AND REPLACED INKIND TO PROVIDE SIMILAR SERVICE TO THESE AREAS. THIS WORK SHALL INCLUDE THE REMOVAL AND DISCONNECTION OF THE PORTIONS OF SPRINKLER SYSTEMS DISTURBED AND THE INSTALLATION OF NEW SYSTEM COMPLETE. THIS WORK COMPLETE SHALL INCLUDE, BUT NOT LIMITED TO, THE INSTALLATION OF WATER LINES, SPRINKLER HEADS, VALVES AND BOXES, AND SERVICE CONNECTIONS.

COMPLETED SPRINKLER SYSTEMS SHALL SERVICE AREAS BETWEEN THE APPROXIMATE STATIONS:

150+50 TO 154+90 LEFT AND 156+70 TO 156+85 LEFT

PAYMENT WILL BE AT THE LUMP SUM PRICE BID FOR ITEM SPECIAL, LAWN SPRINKLER SYSTEMS AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK DESCRIBED ABOVE.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM SPECIAL, LAWN SPRINKLER SYSTEMS LUMP SUM

BIORETENTION CELL(S)

CONSTRUCT THE BIORETENTION CELL(S) AFTER ALL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED AS SHOWN ON THE CONTRACT PLANS AND TO THE SATISFACTION OF THE ENGINEER. DO NOT USE THE COMPLETED BIORETENTION CELL(S) AS TEMPORARY SEDIMENT CONTROL FACILITIES DURING CONSTRUCTION. DO NOT OPERATE HEAVY EQUIPMENT WITHIN THE PERIMETER OF A BIORETENTION FACILITY DURING EXCAVATION, UNDERDRAIN PLACEMENT, BACKFILLING OR PLANTING OF THE FACILITY. USE ALL SUITABLE EXCAVATED MATERIAL IN THE WORK. ALTERNATIVELY, LEGALLY USE, RECYCLE, OR DISPOSE OF ALL EXCAVATED MATERIALS ACCORDING TO 105.16 AND 105.17.

EXCAVATE THE BIORETENTION CELL(S) TO THE SIZE, SIDE SLOPES, AND ELEVATIONS SHOWN ON THE CONTRACT PLANS. MINIMIZE THE COMPACTION OF THE BOTTOM OF THE BIORETENTION FACILITY BY THE METHOD OF EXCAVATION. SCARIFY THE SUBSOIL 3" MINIMUM BEFORE INSTALLATION OF FILTER FABRIC AND AGGREGATE INTO BIORETENTION CELL.

THE BIORETENTION SOIL SHALL BE A UNIFORM MIX THAT IS FREE OF STONES, STUMPS, ROOTS, OR ANY OTHER OBJECT THAT IS LARGER THAN TWO INCHES. THE SOIL MAY CONSIST OF EXISTING SOIL, FURNISHED SOIL, OR A COMBINATION OF BOTH PROVIDED THAT IT MEETS THE FOLLOWING REQUIREMENTS:

PH RANGE: 5.2-8.0

COMPOSITION BY VOLUME
5 PARTS SAND - CMS FINE AGGREGATE AS PER 703.20
2 PARTS COMPOST - CMS 659.06
1 PARTS TOPSOIL - CMS 659.05

THOROUGHLY MIX THE BIORETENTION SOIL PRIOR TO PLACEMENT. TEST AND ADJUST THE PH AS PER CMS 659.02.B. ALL SAND USED SHALL MEET CMS 203.02.H, NATURAL GRANULAR MATERIALS.

PLACE THE SOIL IN 12 INCH LIFTS AND CONSOLIDATE BY WATERING UNTIL SATURATED. AN ADDITIONAL 3 INCHES OF BIORETENTION SOIL SHALL BE USED TO ACCOUNT FOR EXPECTED SETTLING OF THE UNCOMPACTED SOIL. FINAL SOIL ELEVATION SHALL BE AS SHOWN ON THE CONTRACT PLANS.

THE FILTER LAYER SHALL BE 3 INCHES OF FINE AGGREGATE PER CMS 703.20 ABOVE 3 INCHES OF COURSE AGGREGATE #78 PER CMS 703.20.

THE GRANULAR BACKFILL MATERIAL SHALL BE COURSE AGGREGATE #57 WASHED STONE PER CMS 703.20.

CONSTRUCT THE UNDERDRAIN SYSTEM AS PER CMS 605 EXCEPT THE GRANULAR MATERIAL SHALL CONSIST OF #57 WASHED STONE. PLACE THE FILTER LAYER AND GRANULAR BACKFILL MATERIAL AS SHOWN IN THE PLANS. ENSURE A MINIMUM OF 2 INCHES OF GRANULAR COVER OVER THE UNDERDRAIN PRIOR TO PLACEMENT OF THE FILTER LAYER.

PLACE OBSERVATION WELLS AND CLEANOUTS WHERE SHOWN IN THE PLANS. CONNECT THE WELLS/CLEANOUTS TO THE PERFORATED UNDERDRAIN WITH THE APPROPRIATE MANUFACTURED CONNECTIONS. THE WELLS/CLEANOUTS SHALL EXTEND 6 INCHES ABOVE THE TOP ELEVATION OF THE BIORETENTION FACILITY STONE. CAP THE WELLS/CLEANOUTS WITH A THREADED SCREW CAP. CAP THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL/CLEANOUT OR CONNECTED TO OTHER CONDUITS.

AS SHOWN IN THE PLANS, FURNISH SODDING UNSTAKED PAID PER CMS 660 AROUND THE BIORETENTION CELLS TO PREVENT SEDIMENT FROM CLOGGING THE BIORETENTION SURFACE AND USE THE SEEDING AND EROSION CONTROL TURF REINFORCING PAID PER SUPPLEMENTAL SPECIFICATION 836 ALONG THE OVERFLOW WEIR. REFER TO SHEET 10 FOR THESE SODDING AND TURF REINFORCING QUANTITIES.

PLACE TURF, SEED AND WILDFLOWERS, EROSION CONTROL MAT SPECIFIED FOR BIORETENTION FACILITIES AND AS SPECIFIED IN THE PLANS. APPLY NO PESTICIDES, HERBICIDES, AND FERTILIZERS DURING PLANTING, ESTABLISHMENT, OR MAINTENANCE UNDER ANY CIRCUMSTANCES.

BIORETENTION CELLS WILL BE PAID FOR AS ITEM SPECIAL, BIORETENTION CELL AT THE CONTRACT LUMP SUM PRICE. UNLESS SEPARATELY ITEMIZED IN THE PLAN THE PAYMENT WILL BE FULL COMPENSATION FOR ALL APPLICABLE INCIDENTALS NECESSARY TO SATISFACTORILY COMPLETE THE WORK.

THE LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM SPECIAL, BIORETENTION CELL.

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GN01.dwg 31-Aug-16 11:37 AM

ENVIRONMENTAL COMMITMENTS

1. IMPACTS TO STREAMS AND WETLANDS WILL BE MITIGATED UNDER THE CURRENT CLEAN WATER ACT REQUIREMENTS AS REGULATED BY THE US ARMY CORPS OF ENGINEERS AND OHIO EPA REGULATIONS (33 CFR PARTS 325 AND 332 AND 40 CFR PART 230, AND OAC 3745-01-54), AND OHIO ISOLATED WETLAND LAW (ORC 6111.027).

2. RECONSTRUCTED AND DISTURBED EARTHEN AREAS SHALL BE SEEDED/REVEGETATED WITH NATIVE PLANT SPECIES AND MULCHED DURING CONSTRUCTION TO ENCOURAGE ESTABLISHMENT OF VEGETATION COVER, DECREASE EROSION AND PREVENT EROSION OF SEDIMENTS INTO WATERS OF THE UNITED STATES.

3. NATURAL BUFFERS ADJACENT TO OPEN WATER AND WETLANDS SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE. EXISTING RIPARIAN HABITATS SHOULD BE MAINTAINED TO MAXIMUM EXTENT PRACTICABLE AND EQUIPMENT AND STAGING AREAS SHALL BE KEPT WELL AWAY FROM OPEN WATER AND WETLANDS TO THE EXTENT PRACTICABLE. ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 107.10 (PROTECTION AND RESTORATION OF PROPERTY) PROHIBIT THE CONTRACTOR FROM CREATING STAGING AREAS NEAR STREAMS/WETLANDS.

4. DISTURBED EARTHEN AREAS SHALL BE SEEDED/REVEGETATED WITH NATIVE PLANT SPECIES AND MULCHED DURING CONSTRUCTION TO ENCOURAGE ESTABLISHMENT OF VEGETATION COVER, DECREASE EROSION AND PREVENT EROSION OF SEDIMENTS INTO WATERS OF THE UNITED STATES.

5. THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. PRIOR TO DEMOLITION AND REMOVAL OF THE 12TH STREET BRIDGES, THE UNDERSIDE OF EACH BRIDGE SHALL BE CAREFULLY EXAMINED FOR THE PRESENCE OF BATS, ESPECIALLY FROM APRIL 15 TO SEPTEMBER 15. IF ANY BATS ARE FOUND ROOSTING ON THE UNDERSIDE OF THE BRIDGE, ODOT-OES (614-466-7100) SHALL BE NOTIFIED AND THE US FISH AND WILDLIFE SERVICE, ECOLOGICAL SERVICES DIVISION SHALL BE CONTACTED OR PROVIDED WITH INFORMATION.

6. THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACT TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING OR DEAD WOODY PLANT WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

7. ALL CONSULTATION UNDER SECTION 7(A) OF THE ESA WILL BE CONCLUDED AND WATERWAY PERMITS WILL BE SUBMITTED TO THE APPROPRIATE AGENCIES PRIOR TO ANY TREE-CLEARING FOR THE PROJECT.

8. THE PROPOSED PROJECT HAS BEEN DESIGNED TO MINIMIZE IMPACTS TO MONUMENT PARK AND STADIUM PARK AND THE WEST BRANCH TRAIL. IN ADDITION, THE FOLLOWING MEASURES WILL BE TAKEN TO MINIMIZE AND MITIGATE THE IMPACTS:

   - ANY AREAS THAT ARE DISTURBED BY CONSTRUCTION WILL BE RESTORED AND SEEDED TO MATCH PRE-CONSTRUCTION CONDITIONS.

   - THE CONTRACTOR WILL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE CITY OF CANTON TO ENSURE ADEQUATE ACCESS IS MAINTAINED AT ALL TIMES DURING CONSTRUCTION ACTIVITIES, PARTICULARLY DURING SPECIAL EVENTS.

   - ADDITIONAL PARKING WILL BE MADE AVAILABLE DURING PARKING LOT CLOSURE AND APPROPRIATE SIGNAGE WILL BE INSTALLED TO ALERT USERS OF SHORT TERM CLOSURES AND TO DIRECT USERS TO ADDITIONAL ACCESS POINTS.

   - THE EXISTING PARK DRIVE ENTRANCES, GATES, LANDSCAPING, SIGNAGE AND ASSOCIATED UTILITIES WILL BE REPLACED TO COMPLEMENT THE EXISTING 4(F) PROPERTIES AND THE SURROUNDING ENVIRONMENT. THE EXISTING SCULPTURE WILL BE RELOCATED OUTSIDE OF THE NEW ROADWAY CONSTRUCTION.

9. TWO WETLANDS AREAS WERE IDENTIFIED WITHIN THE PROJECT STUDY AREA. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR IMPACT WETLAND 1 AND/OR THE REMAINING PORTION OF WETLAND 2 AS INDICATED IN THE PLAN. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS WITHIN WETLANDS AREAS. TO PROTECT AND DELINEATE THE BOUNDARY OF THE EXISTING REMAINING WETLANDS WITHIN THE PROJECT CONSTRUCTION LIMITS, FILTER FABRIC FENCE AND CONSTRUCTION FENCE SHALL BE INSTALLED WITHIN THE WETLANDS LIMITS BY THE CONTRACTOR PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES WITHIN THESE LIMITS AND ADJACENT AREAS INCLUDING ANY NECESSARY CLEARING AND GRUBBING. THE FILTER FABRIC FENCE AND CONSTRUCTION FENCE SHALL MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION AND REMOVED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION ACTIVITIES.

CALCULATED MAL | CHECKED SMG

GENERAL NOTES

STA - 12TH STREET IMPROVEMENTS

13
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GN01.dwg 31-Aug-16 11:38 AM

MAINTENANCE OF TRAFFIC

TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS, ITEM 614 MAINTAINING TRAFFIC AND THE FOLLOWING:

1. A MINIMUM OF ONE 10' LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT, COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410 AND 614.

2. LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES AND RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

3. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR MAINTAINING ROADWAY TRAFFIC AND TO MAINTAIN DRIVE ACCESS:

410, TRAFFIC COMPACTED SURFACE, TYPE A OR B	10 CU. YD.
614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	5 CU. YD.
614, DETOUR SIGNING	1 LUMP
615, ROADS FOR MAINTAINING TRAFFIC	1 LUMP
616, WATER	5 M GAL.
616, CALCIUM CHLORIDE	1.00 TON

4. BECAUSE OF THE REQUIREMENT TO PLACE THE ASPHALT SURFACE COURSE OVER THE ENTIRE ROADWAY AT THE SAME TIME, IT WILL BE NECESSARY FOR THE CONTRACTOR TO PROVIDE TEMPORARY RAMPING OF OBSTRUCTIONS SUCH AS MANHOLES AND WATER VALVES. SUFFICIENT TEMPORARY ASPHALT SHALL BE PLACED SO AS TO PROVIDE A SMOOTH TRANSITION FOR THE TRAVELING PUBLIC. ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC WILL BE USED FOR THIS PURPOSE. PRIOR TO PLACING THE FINAL ASPHALT SURFACE COURSE, ALL TEMPORARY RAMPING MATERIAL SHALL BE REMOVED IN A NEAT MANNER AND SHALL BE INCLUDED IN THE COST OF THIS ITEM. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS USE AS DIRECTED BY THE ENGINEER:

614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	15 CU. YD.

5. PRIOR TO OPENING TO TRAFFIC, EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ADEQUATE DRAINAGE OF THE TRAVELED ROADWAYS DURING ALL PHASES OF CONSTRUCTION BY USING EXISTING DRAINAGE FACILITIES, TEMPORARY DRAINAGE FACILITIES, AND PROPOSED DRAINAGE FACILITIES.

7. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE-HALF HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF TWENTY (20) FEET.

8. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

MAINTENANCE OF TRAFFIC (CONT'D)

9. THE CONTRACTOR SHALL INFORM THE CITY OF CANTON EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

10. ONLY DURING OFF-PEAK PERIODS (i.e., ANY PERIOD OTHER THAN 6-9 AM AND 3-6 PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION PHASE.

11. ALL CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED AND INCLUDED FOR PAYMENT IN ITEM 614, MAINTAINING TRAFFIC. REMOVAL OF CONFLICTING PAVEMENT MARKINGS ON CONCRETE PAVEMENT SURFACES SHALL BE PERFORMED USING SAND BLASTING OR WATER BLASTING METHODS TO AVOID MARRING. SCARIFIERS AND HANDGRINDERS SHALL NOT BE ALLOWED ON CONCRETE PAVEMENT SURFACES.

12. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, CENTER, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

THE FOLLOWING QUANTITIES SHALL BE USED AS DIRECTED BY THE ENGINEER AND CARRIED TO THE GENERAL SUMMARY:

614, WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE 1	0.06 MILE
614, WORK ZONE CENTER LINE, CLASS 1, 642 PAINT	0.36 MILE
614, WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE 1	0.24 MILE
614, WORK ZONE EDGE LINE, CLASS 1, 642 PAINT	0.38 MILE
614, WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1	0.12 MILE
614, WORK ZONE CHANNELIZING LINE, CLASS 1, 740.06 TYPE 1	474 FT
614, WORK ZONE DOTTED LINE, CLASS 1, 740.06, TYPE 1	1,300 FT
614, WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS 1, 740.06, TYPE 1	186 FT
614, WORK ZONE STOP LINE, CLASS 1, 642 PAINT	44 FT
614, WORK ZONE STOP LINE, CLASS 1, 740.06, TYPE 1	142 FT

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 614 - MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) 12TH STREET

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 270 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 22. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $ 1,000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

ITEM 614 - MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR) STADIUM PARK DRIVE

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 30 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON SHEET 23. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $ 1,000 PER DAY FOR EACH CALENDAR DAY THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

STADIUM PARK DRIVE SHALL BE OPEN TO TRAFFIC DURING THE HALL OF FAME FESTIVAL. CONTRACTOR TO CONFIRM DATES OF FESTIVAL WITH CITY OF CANTON.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING A TRAFFIC SIGNAL CHANGES WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).
- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE CITY OF CANTON AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 120 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

LOCAL TRAFFIC MAINTENANCE

TEMPORARY ACCESS TO ADJACENT PROPERTIES AND SIDE STREETS SHALL BE MAINTAINED USING ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B. WHERE NECESSARY AND WHEN DIRECTED BY THE ENGINEER, ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC MAY BE USED TO PROVIDE TEMPORARY ACCESS TO ADJACENT PROPERTIES AND SIDE STREETS.

THE CONTRACTOR SHALL TAKE SPECIAL CARE TO MAINTAIN ACCESS FOR DELIVERY TRUCKS ON SIDE STREETS. THE CONTRACTOR SHALL ALSO MAINTAIN ACCESS TO ALL COMMERCIAL PROPERTIES FOR CUSTOMERS, DELIVERIES, ETC. THE CONTRACTOR MAY USE FLAGGERS FOR THIS PURPOSE. FOR COMMERCIAL PROPERTIES WITH MULTIPLE DRIVE ENTRANCES, AT LEAST ONE DRIVE ENTRANCE SHALL BE ACCESSIBLE AT ALL TIMES. CLASS FS CONCRETE AND, WHERE POSSIBLE, PART-WIDTH CONSTRUCTION SHALL BE USED TO CONSTRUCT DRIVE ENTRANCES.

PEDESTRIAN TRAFFIC MAINTENANCE

WHEN IT BECOMES NECESSARY TO CLOSE A LENGTH OF SIDEWALK DUE TO ROADWAY OR SIDEWALK CONSTRUCTION, PEDESTRIAN TRAFFIC SHALL BE MAINTAINED WITH THE USE OF A DETOUR IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING MT-110.10 AND FOLLOWING THE REQUIREMENTS OF 614.02 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. PEDESTRIAN ACCESS SHALL BE MAINTAINED TO RESIDENCES AT ALL TIMES. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER:

614, WORK ZONE CROSSWALK LINE, CLASS I	75 FT
608, TEMPORARY ASPHALT CONCRETE WALK	2,250 SF

TRAIL TRAFFIC MAINTENANCE

TRAIL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. AN ALTERNATE ROUTE SHALL BE PROVIDED WHENEVER THE EXISTING ROUTE IS BLOCKED BY CONSTRUCTION, ALTERATION AND MAINTENANCE OR OTHER TEMPORARY CONDITIONS OR PART-WIDTH CONSTRUCTION SHALL BE USED. THE ALTERNATE TRAIL SHALL MATCH EXISTING CONDITIONS AND/OR COMPLY WITH THE AMERICAN WITH DISABILITIES ACCESSIBILITY GUIDELINES AND SIGNAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE OMUTCD. ALL WORK ASSOCIATED WITH PROVIDING AN ALTERNATE TRAIL SHALL BE INCLUDED IN THE UNIT PRICE BID PER LUMP SUM ITEM 614, MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED BELOW. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER:

608, TEMPORARY ASPHALT CONCRETE WALK	5,000 SF

INSTALLATION OF TEMPORARY PAVEMENT MARKINGS

ALL TEMPORARY PAVEMENT MARKINGS AND SIGNS REQUIRED FOR A PARTICULAR LANE CLOSURE OR TRAFFIC PATTERN SHALL BE INSTALLED ON A SINGLE WORK DAY, AND THE CORRESPONDING TRAFFIC PATTERN, AS DETAILED ON THE PLANS, SHALL BE IMPLEMENTED IMMEDIATELY. PRIOR TO PLACING TEMPORARY MARKINGS, THE CONTRACTOR SHALL COVER ALL EXISTING CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYTIME AND NIGHTTIME HOURS IN CONFORMANCE WITH ITEM 614.11F(1B).

CALCULATED BEP | CHECKED DRJ

MAINTENANCE OF TRAFFIC NOTES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MN001.dwg 31-Aug-16 11:38 AM

TRENCH FOR WIDENING AND UTILITY WORK

TRENCH EXCAVATION FOR BASE WIDENING AND UTILITY WORK SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS PLACED AT TWENTY (20) FOOT INTERVALS AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND/OR BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).

2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0500.

3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-800-229-1388.

4. OHIO LABORERS' TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTS'S CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE AN ALTERNATE WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY. EACH WTS SHALL HAVE A WTS CERTIFICATION CONTAINING THE DATE OF ISSUE AND SHALL BE FROM ANY OF THE APPROVED ORGANIZATIONS. AT THE TIME OF THE PRECONSTRUCTION CONFERENCE, THE WTS CERTIFICATION DATE OF ISSUE SHALL BE WITHIN THE 5 YEARS PRIOR TO THE ORIGINAL COMPLETION DATE OF THE PROJECT.

THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.

2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.

3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.

4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.

5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.

ALL WORK ASSOCIATED WITH WORKSITE TRAFFIC SUPERVISOR, INCLUDING ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614 - BUSINESS ENTRANCE (M4-H15) SIGN

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE 36 INCH X 48 INCH IN SIZE WITH TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS" ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO #3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90° TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM.

ITEM 614, BUSINESS ENTRANCE SIGN	2 EACH

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, CHANGEABLE MESSAGE SIGNS, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGNS SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT HTTP://WWW.DOT.STATE.OH.US/TESTLAB/APPLISTS/MISC/PCMS%20%20NTPEP-BASED.HTM. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 475 FT. AND 650 FT. RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS. THE PCMS FINAL LOCATIONS ARE TO BE PROVIDED BY THE ENGINEER:

- 12TH STREET EAST AND WEST OF PROJECT - ½ MILE FROM PROJECT
- I-77 NORTHBOUND AND SOUTHBOUND EXIT RAMPS TO 12TH STREET- ½ MILE FROM EXITS

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE HIGH-INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE CITY PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN FOUR (4) HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRE-CONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE CITY TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE CITY DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	36 SNMT

CALCULATED BEP CHECKED DRJ

MAINTENANCE OF TRAFFIC NOTES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MN002.dwg 31-Aug-16 11:38 AM

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

BEFORE ANY WORK IS STARTED REPRESENTATIVES OF THE CITY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING SIGNAL INSTALLATIONS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING SIGNAL SHALL BE MADE BY THE CITY'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL ITEMS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE CITY AND THE CONTRACTOR.

AFTER THE REPORT HAS BEEN SIGNED BY ALL PARTIES, THE SIGNAL INSTALLATION SHALL BE TURNED OVER TO THE CONTRACTOR, WHO SHALL THEN BE REQUIRED TO MAINTAIN THE TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

A) EXISTING SIGNAL INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS INCLUDING DAMAGE DUE TO UTILITY RELOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION AT AN INTERSECTION FROM THE TIME THE INSTALLATION IS FIRST DISTURBED, WHETHER FROM UTILITY WORK OR FROM THE CONTRACTOR.

B) NEW OR REUSED SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

C) REQUIRED TEMPORARY SIGNAL HEADS, SUPPORTS TO COMPLY WITH THE OMUTCD.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL PROVIDE THE MAINTAINING AGENCY AND THE PROJECT 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. 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. THE CONTRACTOR SHALL HAVE THE MALFUNCTION CORRECTED AND/OR REPAIRED TO THE SATISFACTION OF THE ENGINEER WITHIN EIGHT HOURS OF THE NOTIFICATION OR LIQUIDATED DAMAGES OF $500 PER HOUR SHALL BE ASSESSED THE CONTRACTOR.

ALL LAMP OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGES.

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 PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR IS NOTIFIED OF THE OUTAGE.

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 EIGHT HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. 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 DAMAGES FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGES AS PER 107.15.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION (CONT'D)

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE PROJECT ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE CITY OF CANTON FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONEYS DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15. IN ADDITION TO THESE BILLINGS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES OF $500/HOUR FOR EACH HOUR BEYOND THE ALLOWED EIGHT HOUR PERIOD THAT THE SIGNAL IS INOPERATIVE.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICES ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A MUTUALLY ACCEPTABLE AGREEMENT WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE.

THE CONTRACTOR SHALL INFORM THE PROJECT ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DUE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED FOUR HOURS AND SHALL NOT INCLUDE THE HOURS OF 6:00AM TO 9:00AM AND 4:00PM TO 6:00PM. 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 CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY POLICE, HIRED BY THE CONTRACTOR.

1. I-77 EXIT AND ENTRANCE RAMPS/MERCY DRIVE

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED, AS 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. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE; AND 5. TIME OF COMPLETION OF REPAIR AND SYSTEM RESTORED TO FULL SERVICE. A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE APPLICABLE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC.

TEMPORARY RAMPING OF VERTICAL SURFACES

IN ORDER TO PROVIDE FOR LOCAL ACCESS, LONGITUDINAL VERTICAL FACES ABUTTING DRIVES SHALL BE TEMPORARILY RAMPED. TRANSVERSE VERTICAL FACES SHALL BE TEMPORARILY RAMPED A MINIMUM OF FIVE (5) FEET IN LENGTH.

ALL TEMPORARY RAMPING SHALL BE INSTALLED AT THE DIRECTION OF THE ENGINEER USING ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

SUGGESTED SEQUENCE OF CONSTRUCTION:

THE PROJECT SHALL BE CONSTRUCTED IN A MANNER THAT MINIMIZES INCONVENIENCE TO THE TRAVELING PUBLIC AND BUSINESSES:

PHASES MAY BE PERFORMED CONCURRENTLY AS LONG AS TRAFFIC IS MAINTAINED IN ACCORDANCE WITH THE PLANS.

THE PROJECT WILL BE CONSTRUCTED IN FIVE PHASES AS FOLLOWS:

PHASE 1 - CONSTRUCT TRUNK STORM SEWER IN THE VICINITY OF THE MERCY WELLNESS CENTER.

THIS PHASE SHALL INCLUDE THE INSTALLATION OF THE PROPOSED TRUNK STORM SEWER IN THE VICINITY OF THE MERCY WELLNESS CENTER. TWO WAY, TWO LANE TRAFFIC SHALL BE MAINTAINED UTILIZING FLAGGERS AND APPLICABLE STANDARD CONSTRUCTION DRAWINGS MT-95.31, MT-95.32 AND MT-97.10. TRENCH SHALL BE BACKFILLED AND/OR STEEL PLATED AT THE END OF EACH WORK DAY.

PHASE 2 - CONSTRUCT WESTBOUND LANES IN THE VICINITY OF THE MERCY WELLNESS CENTER.

THIS PHASE INCLUDES THE WIDENING OF 12TH STREET TO THE NORTH INCLUDING THE CONSTRUCTION OF CURB, SIDEWALK, DRIVEWAYS, AND PAVEMENT UP TO AND INCLUDING THE INTERMEDIATE COURSE. STORM SEWER LATERALS WILL CONSTRUCTED AND UTILITIES (HYDRANTS, ETC.) WILL BE RELOCATED TO THE NORTH. TWO-WAY, TWO-LANE TRAFFIC WILL BE MAINTAINED USING THE EXISTING EASTBOUND PAVEMENT. SEE SHEET 19 FOR THE PHASE CONSTRUCTION PLANS.

SIDE ROAD/RAMP TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL FLAG THE INTERSECTIONS DURING CONSTRUCTION OPERATIONS AS APPROVED BY THE ENGINEER.

PHASE 3 - CONSTRUCT EASTBOUND LANES IN THE VICINITY OF THE MERCY WELLNESS CENTER.

THIS PHASE INCLUDES THE CONSTRUCTING 12TH STREET TO THE SOUTH INCLUDING THE CONSTRUCTION OF CURB, SIDEWALK, DRIVEWAYS, AND PAVEMENT UP TO AND INCLUDING THE INTERMEDIATE COURSE. STORM SEWER AND LATERALS WILL BE CONSTRUCTED. TWO-WAY, TWO-LANE TRAFFIC WILL BE MAINTAINED USING THE WESTBOUND PAVEMENT. SEE SHEET 20 FOR THE PHASE CONSTRUCTION PLANS.

SIDE ROAD TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL FLAG THE INTERSECTIONS DURING CONSTRUCTION OPERATIONS AS APPROVED BY THE ENGINEER.

PHASE 4 - CONSTRUCTION OF REMAINING PROJECT LIMITS

THIS PHASE SHALL CONSTRUCT THE REMAINING PORTIONS OF THE PROJECT. THIS PHASE CONSTRUCTS THE CURB, SIDEWALK, DRIVEWAYS, BRIDGES AND PAVEMENT UP TO AND INCLUDING THE INTERMEDIATE COURSE. STORM SEWER AND LATERALS WILL BE CONSTRUCTED. TRAFFIC WILL BE DETOURED IN ACCORDANCE WITH PLAN SHEET 22.

THE CONTRACTOR SHALL MAINTAIN ACCESS ALONG STADIUM PARK DRIVE AT ALL TIMES WITH THE EXCEPTION OF THE RECONSTRUCTION OF THE DRIVE. DURING THAT TIME TRAFFIC SHALL BE DETOURED IN ACCORDANCE WITH SHEET 23.

ALL PATH CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE PEDESTRIAN MAINTENANCE NOTE ON SHEET 14 AND DETAILS ON SHEET 21. THE CONTRACTOR SHALL NOT REMOVE THE EXISTING PATH UNTIL THE PROPOSED PATH IS COMPLETED FOR THE SAME ROUTE.

PHASE 5 - PLACEMENT OF FINAL SURFACE COURSE AND PAVEMENT MARKINGS

DURING PLACEMENT OF THE FINAL SURFACE COURSE OVER THE ENTIRE ROADWAY WIDTH, TWO-WAY, TWO-LANE TRAFFIC WILL BE MAINTAINED IN ACCORDANCE WITH MT-97.12. DURING PLACEMENT OF THE FINAL PAVEMENT MARKINGS, TRAFFIC WILL BE MAINTAINED IN ACCORDANCE WITH MT-99.20.

CALCULATED BEP CHECKED DRJ

MAINTENANCE OF TRAFFIC NOTES

STA - 12TH STREET IMPROVEMENTS

16
210

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MN003.dwg 31-Aug-16 11:38 AM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	614 WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I	614 WORK ZONE CENTER LINE, CLASS I, 642 PAINT	614 WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	614 WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I	614 WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 740.06, TYPE I	614 WORK ZONE STOP LINE, CLASS I, 642 PAINT	614 WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	630 SIGN, TEMPORARY OVERLAY							
					MILE	FT	MILE	FT	MILE	FT	FT	FT	FT	FT	SF							
		12TH STREET																				
		PHASE 2																				
19	WD-1	146+25	147+18	LT & RT							93											
19	WC-1	147+18	149+35	LT & RT			217															
19	WT-1	147+18	149+35	LT & RT								93										
19	OV-1	147+60		LT & RT											12							
19	WC-2	147+75	149+35	LT & RT			160															
19	WL-1	147+93	149+35	LT & RT	142																	
19	WD-2	149+35	150+10	LT & RT							75											
19	WD-3	149+35	150+10	RT							75											
19	WS-1	149+35		RT										24								
19	WC-3	150+10	154+00	RT		390																
19	WE-3	150+10	154+00	RT				390														
19	WS-2	150+67		RT									11									
19	WC-4	154+00	154+75	RT		75																
19	WE-4	154+00	154+75	RT				75														
		PHASE 3																				
20	WC-1	145+75	146+25	LT & RT			50															
20	WE-1	145+75	146+55	RT					80													
20	WCH-1	145+75	146+25	RT						50												
20	WD-1	146+25	147+13	LT & RT							88											
20	WS-1	146+25		RT										24								
20	WC-2	147+13	149+00	LT			187															
20	WE-2	147+13	149+00	LT & RT					187													
20	WCH-2	147+13	149+00	LT & RT						187												
20	OV-1	147+60		LT & RT											12							
20	WS-2	149+00		LT & RT										23								
20	WD-2	149+00	150+00	LT & RT							100											
20	WD-3	149+00	149+64	LT & RT							109											
20	WD-4	149+00	150+10	LT							110											
20	WE-3	150+00	154+00	LT				400														
20	WS-3	150+10		LT									11									
20	WC-3	150+10	154+00	LT		390																
20	WE-4	154+00	155+10	LT				110														
20	WC-4	154+00	154+75	LT		75																
				SUBTOTAL	142	930	614	975	267													
					MILE	MILE	MILE	MILE	MILE													
TOTALS CARRIED TO GENERAL SUMMARY					0.03	0.18	0.12	0.19	0.06	237	650	93	22	71	24							

CALCULATED BRO
CHECKED DRJ

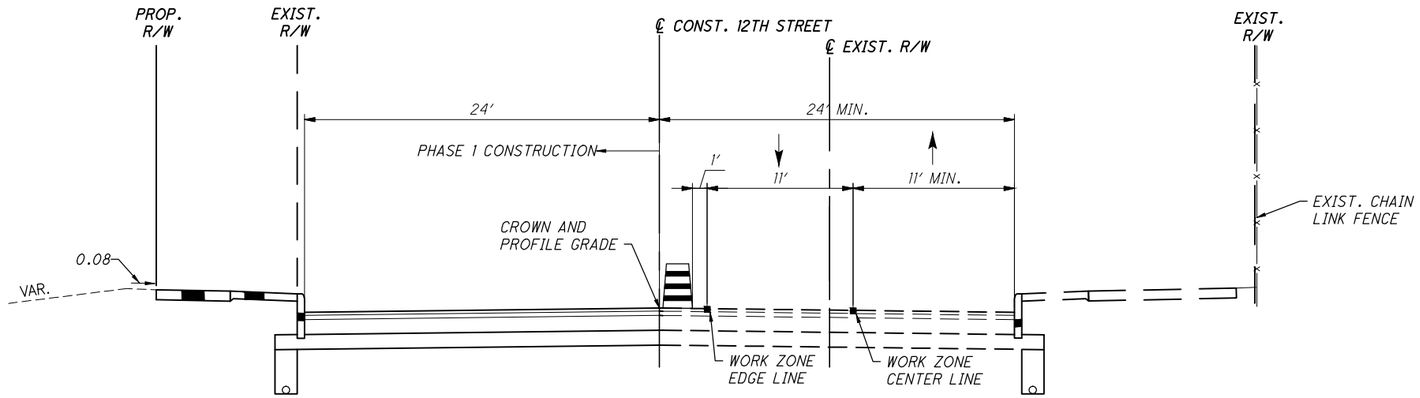
SUMMARY OF TRAFFIC SUBSUMMARY

MAINTENANCE

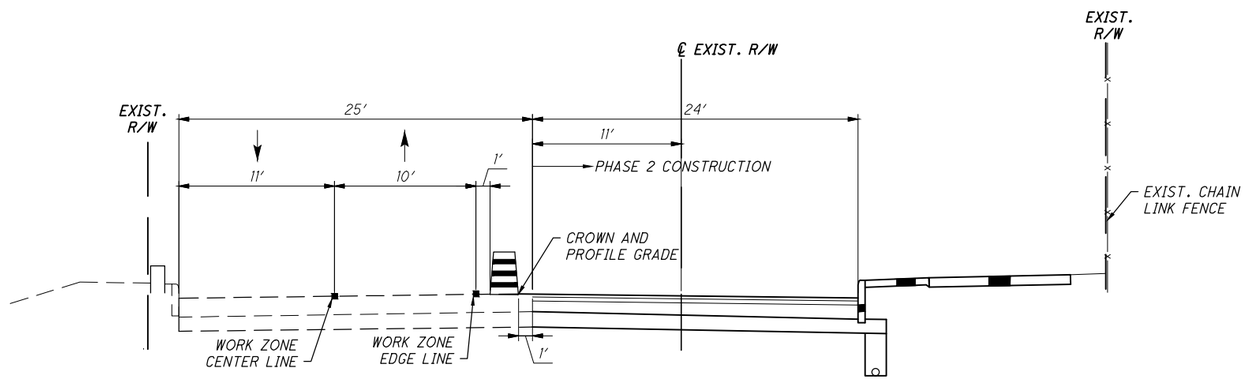
STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MS001.dwg 31-Aug-16 11:39 AM

PHASE 1 NOT SHOWN
STORM SEWER CONSTRUCTION



12TH STREET - PHASE 2



12TH STREET - PHASE 3

PHASE 4 NOT SHOWN
MISCELLANEOUS CONSTRUCTION

PHASE 5 NOT SHOWN
FINAL SURFACE COURSE
TRAFFIC SHALL BE MAINTAINED PER MT-99.20

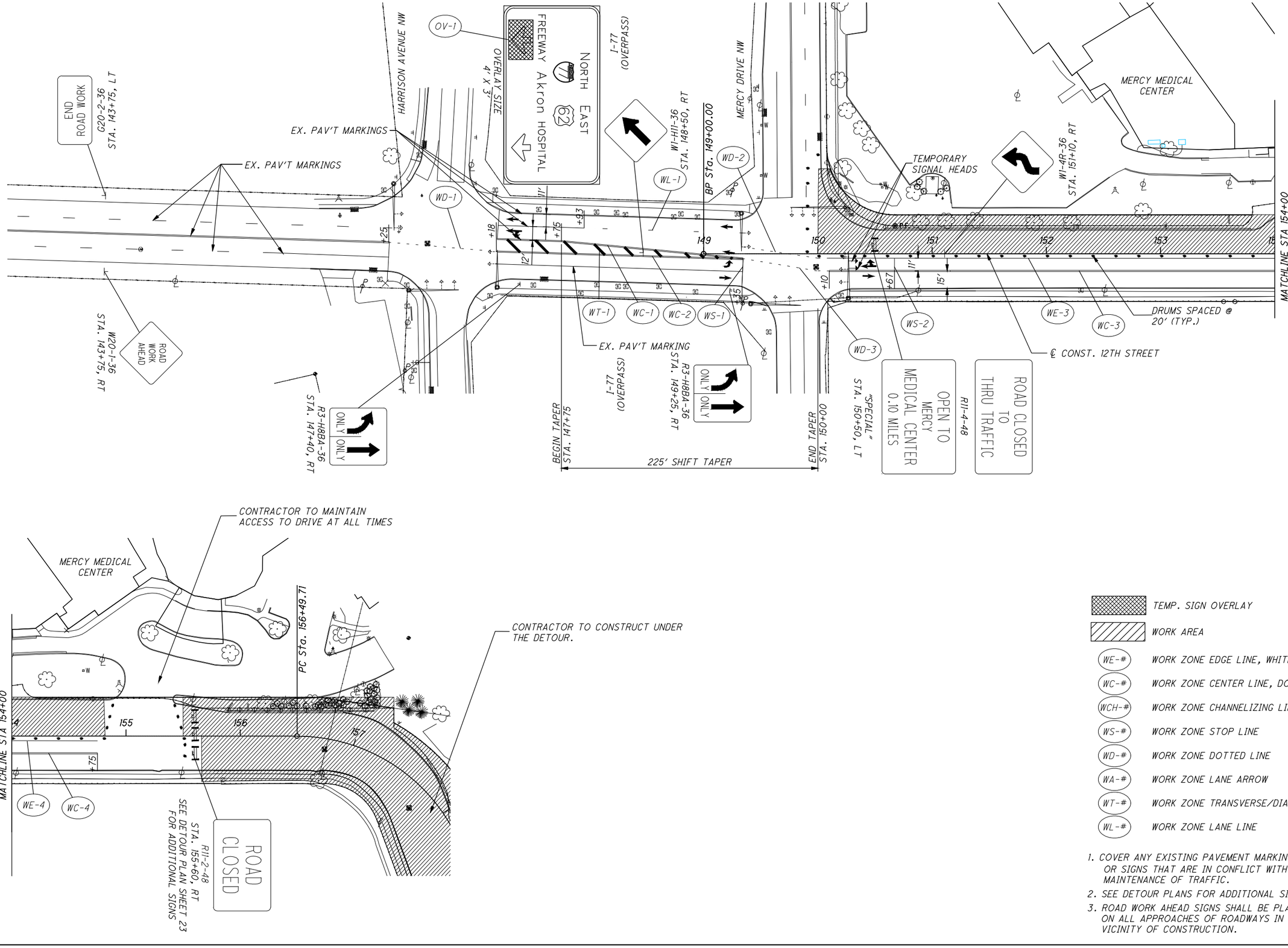
THE CONTRACTOR SHALL COORDINATE THE ROADWAY WORK IN THE VICINITY OF THE MERCY MEDICAL CENTER DRIVEWAY AS TO MAINTAIN TWO WAY ACCESS TO/FROM AT ALL TIMES.

CALCULATED BEP
CHECKED DRJ

MAINTENANCE OF TRAFFIC PHASED TYPICAL SECTIONS

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MY001.dwg 31-Aug-16 11:39 AM



TEMP. SIGN OVERLAY

WORK AREA

(WE-#) WORK ZONE EDGE LINE, WHITE

(WC-#) WORK ZONE CENTER LINE, DOUBLE SOLID

(WCH-#) WORK ZONE CHANNELIZING LINE

(WS-#) WORK ZONE STOP LINE

(WD-#) WORK ZONE DOTTED LINE

(WA-#) WORK ZONE LANE ARROW

(WT-#) WORK ZONE TRANSVERSE/DIAGONAL LINE

(WL-#) WORK ZONE LANE LINE

1. COVER ANY EXISTING PAVEMENT MARKINGS OR SIGNS THAT ARE IN CONFLICT WITH THE PROPOSED MAINTENANCE OF TRAFFIC.
2. SEE DETOUR PLANS FOR ADDITIONAL SIGNING.
3. ROAD WORK AHEAD SIGNS SHALL BE PLACED ON ALL APPROACHES OF ROADWAYS IN VICINITY OF CONSTRUCTION.

N

0 20 40 HORIZONTAL SCALE IN FEET

CALCULATED BEP | CHECKED DRJ

MAINTENANCE OF TRAFFIC PLAN
PHASE 2 STA. 150+00 TO STA. 156+50

STA - 12TH STREET IMPROVEMENTS

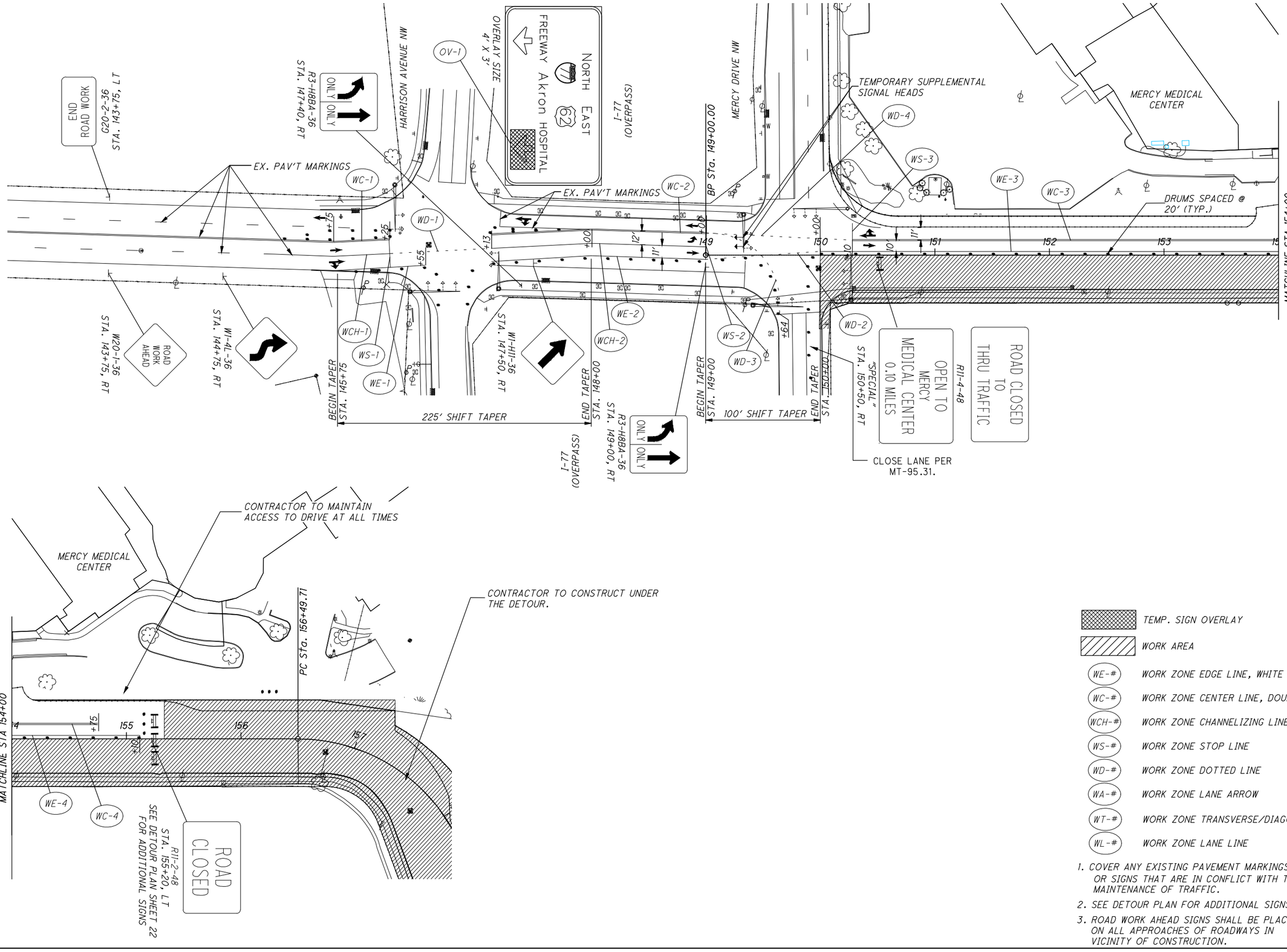
G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MP001.dwg 31-Aug-16 11:40 AM

MAINTENANCE OF TRAFFIC PLAN
PHASE 3 STA. 150+00 TO STA. 156+50

STA - 12TH STREET IMPROVEMENTS

CALCULATED BEP
CHECKED DRJ

HORIZONTAL SCALE IN FEET
0 20 40 20



TEMP. SIGN OVERLAY

WORK AREA

(WE-#) WORK ZONE EDGE LINE, WHITE

(WC-#) WORK ZONE CENTER LINE, DOUBLE SOLID

(WCH-#) WORK ZONE CHANNELIZING LINE

(WS-#) WORK ZONE STOP LINE

(WD-#) WORK ZONE DOTTED LINE

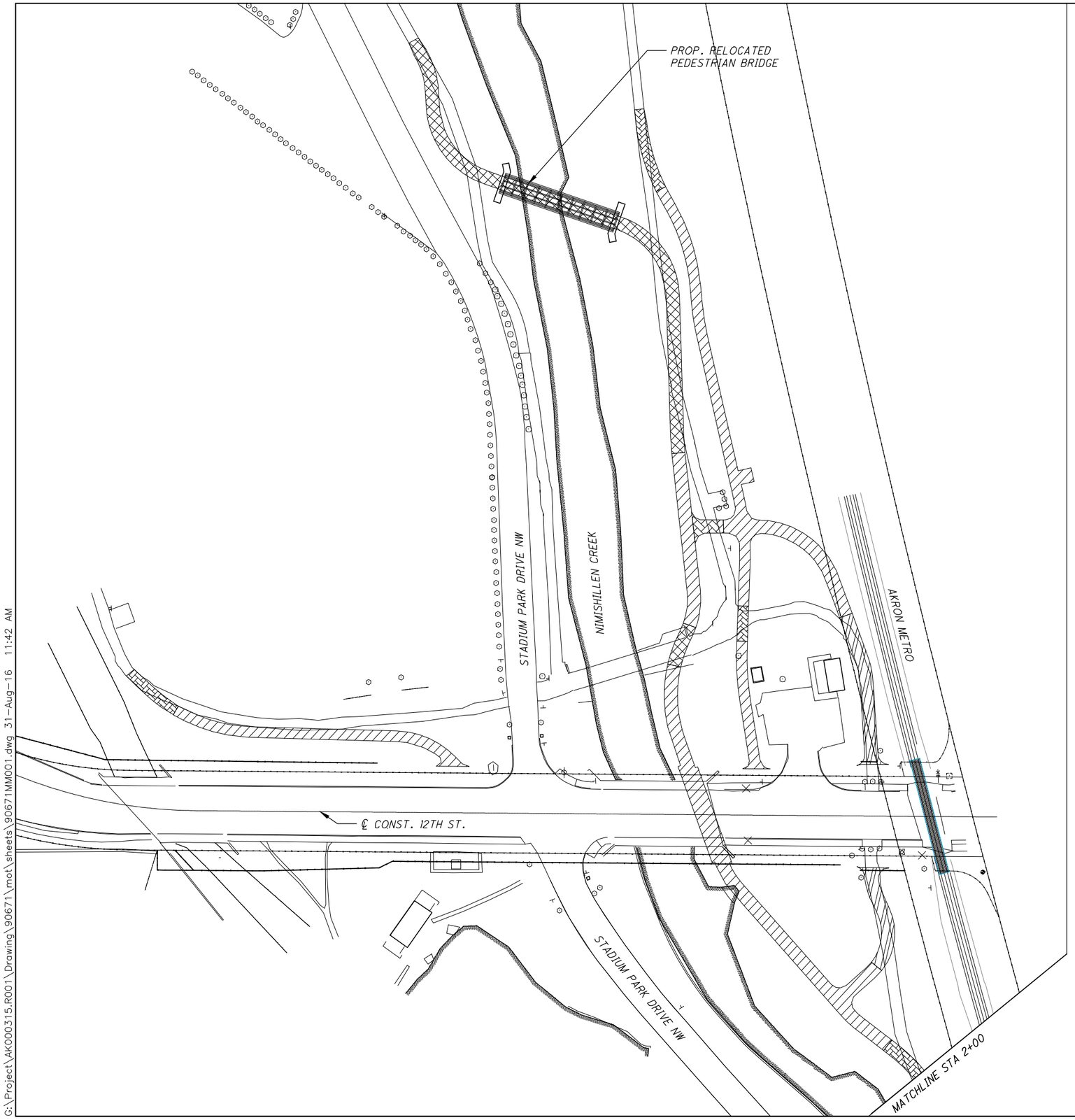
(WA-#) WORK ZONE LANE ARROW

(WT-#) WORK ZONE TRANSVERSE/DIAGONAL LINE

(WL-#) WORK ZONE LANE LINE

1. COVER ANY EXISTING PAVEMENT MARKINGS OR SIGNS THAT ARE IN CONFLICT WITH THE PROPOSED MAINTENANCE OF TRAFFIC.
2. SEE DETOUR PLAN FOR ADDITIONAL SIGNS.
3. ROAD WORK AHEAD SIGNS SHALL BE PLACED ON ALL APPROACHES OF ROADWAYS IN VICINITY OF CONSTRUCTION.

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MP002.dwg 31-Aug-16 11:41 AM



TRAIL CONSTRUCTION SEQUENCE:

1) CONSTRUCT OFF LINE SECTIONS OF THE MULTI-PURPOSE TRAIL, PEDESTRIAN TRAIL (A) AND PEDESTRIAN TRAIL (B).

2) CONSTRUCT TEMPORARY TIE-INS OR ALTERNATE PATHS TO MAINTAIN PEDESTRIAN TRAILS.

3) CLOSE THE EXISTING MULTI-USE TRAIL TO RELOCATE BRIDGE. WHEN CLOSED THE CONTRACTOR IS TO FINISH SECTIONS OF THE MULTI-PURPOSE TRAIL INCLUDING TIE-INS.

4) CONSTRUCT MULTI-PURPOSE BYPASS.

5) REMOVE EXISTING TRAILS AND FOUNDATIONS OF THE EXISTING BRIDGE.

N

0 10 20 40
HORIZONTAL SCALE IN FEET

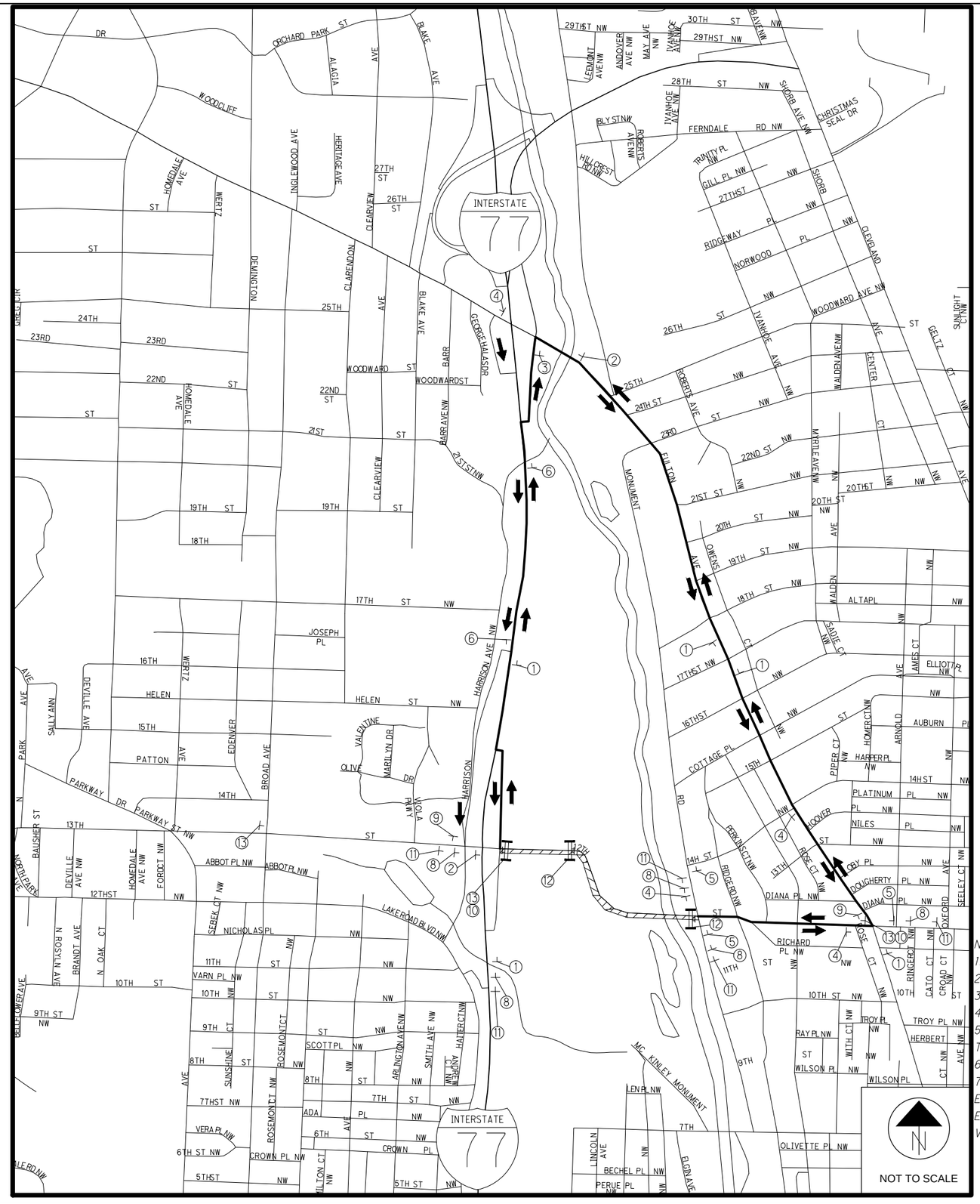
CALCULATED BEP
CHECKED DRJ

MULTI-PURPOSE TRAIL PHASING PLAN

STA - 12TH STREET IMPROVEMENTS

21
210

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MM001.dwg 31-Aug-16 11:42 AM



LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE
- DIRECTION OF TRAFFIC

① 12TH STREET / D3-1-24 / DETOUR / M4-H9T-30

② 12TH STREET / D3-1-24 / DETOUR / M4-8-24 / M5-1L-21

③ 12TH STREET / D3-1-24 / DETOUR / M4-8-24 / M5-1R-21

④ 12TH STREET / D3-1-24 / DETOUR / M4-9L-30

⑤ 12TH STREET / D3-1-24 / DETOUR / M4-19R-30

⑥ 12TH STREET / D3-1-24 / DETOUR / M4-8-24 / M6-2R-21

⑦ 12TH STREET / D3-1-24 / DETOUR / M4-8-24 / M6-2L-21

⑧ DETOUR AHEAD / W20-2-36

⑨ END DETOUR / M4-8A-24

⑩ DETOUR / M4-10L-48 / DETOUR / M4-10R-48

⑪ TYPE A WARNING LIGHT / ROAD CLOSED AHEAD / W20-3-36

⑫ TYPE A WARNING LIGHTS / ROAD CLOSED / R11-2-48

⑬ TYPE A WARNING LIGHTS / ROAD CLOSED XXX MILES AHEAD LOCAL TRAFFIC ONLY / R11-3A-60

GATES AND BARRICADES PER MT-101.60

NOTES:

1. FOR MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION SEE SHEET 16
2. DETOUR SIGNING LOCATIONS SHALL BE AS PER THE OMUTCD AND ROAD CLOSURES SHALL BE PER MT-101.60.
3. WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.
4. DETOUR SIGNS SHALL BE UNCOVERED AND VISIBLE TO TRAFFIC ONLY WHEN THE CLOSURE IS IN EFFECT.
5. DISTANCE BETWEEN ADVANCED WARNING SIGNS SHALL BE A MINIMUM OF 500' ON I-77 AND 200' ON ALL OTHER ROADWAYS. THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMUTCD.
6. ALL ROAD CLOSURE SIGNS SHALL BE MOUNTED ON A TYPE III BARRICADE AS PER STANDARD DRAWING MT-101.60.
7. 12TH STREET AT MONUMENT RD. SHALL BE CLOSED PER ODOT STD. DWG. MT-101.60. NOTICE OF CLOSURE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS.

CALCULATED BEP
CHECKED DRJ

12TH STREET DETOUR PLAN

STA - 12TH STREET IMPROVEMENTS

22
210

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\90671MD001.dwg 31-Aug-16 11:42 AM

LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE
- DIRECTION OF TRAFFIC

① STADIUM PARK DR / D3-1-24 / DETOUR ↑ / M4-H9T-30

② STADIUM PARK DR / D3-1-24 / DETOUR / M4-8-24 ← / M5-1L-21

③ STADIUM PARK DR / D3-1-24 / DETOUR / M4-8-24 → / M5-1R-21

④ STADIUM PARK DR / D3-1-24 / DETOUR ← / M4-9L-30

⑤ STADIUM PARK DR / D3-1-24 / DETOUR → / M4-19R-30

⑥ STADIUM PARK DR / D3-1-24 / DETOUR / M4-8-24 ↗ / M6-2R-21

⑦ STADIUM PARK DR / D3-1-24 / DETOUR / M4-8-24 ↖ / M6-2L-21

⑧ DETOUR AHEAD / W20-2-36

⑨ END DETOUR / M4-8A-24

⑩ DETOUR / M4-10L-48

DETOUR / M4-10R-48

⑪ TYPE A WARNING LIGHT

ROAD CLOSED AHEAD / W20-3-36

⑫ TYPE A WARNING LIGHTS

ROAD CLOSED / R11-2-48

⑬ TYPE A WARNING LIGHTS

ROAD CLOSED
XXX MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3A-60

GATES AND BARRICADES PER MT-101.60

NOTES:

1. FOR MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION SEE SHEET 16
2. DETOUR SIGNING LOCATIONS SHALL BE AS PER THE OMUTCD AND ROAD CLOSURES SHALL BE PER MT-101.60.
3. WHENEVER THE CLOSURE OCCURS, THE TOTAL DETOUR SIGNING AS INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.
4. DETOUR SIGNS SHALL BE UNCOVERED AND VISIBLE TO TRAFFIC ONLY WHEN THE CLOSURE IS IN EFFECT.
5. DISTANCE BETWEEN ADVANCED WARNING SIGNS SHALL BE A MINIMUM OF 500' ON I-77 AND 200' ON ALL OTHER ROADWAYS. THEIR PLACEMENT SHALL BE IN ACCORDANCE WITH THE OMUTCD.
6. ALL ROAD CLOSURE SIGNS SHALL BE MOUNTED ON A TYPE III BARRICADE AS PER STANDARD DRAWING MT-101.60.
7. NOTICE OF CLOSURE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS.

CALCULATED BEP | CHECKED DRJ

STADIUM PARK DR NORTH DETOUR PLAN

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\mot\sheets\906711MD002.dwg 31-Aug-16 11:43 AM

ITEM	SHEET NO.																			ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET
	10	11	12	PVMT. CALC.	14	15		17	29	32	35	37	38	39	104	105	108	120	121						
																								ROADWAY	
201	1																			201	11000	LS		CLEARING AND GRUBBING	10
202		1																		202	11001	LS		STRUCTURE REMOVED, AS PER PLAN	11
202										1										202	20011	1	EACH	HEADWALL REMOVED, AS PER PLAN	10
202									955	3014										202	23000	3969	SY	PAVEMENT REMOVED	
202										8174										202	23001	8174	SY	PAVEMENT REMOVED, AS PER PLAN	12
202										9718							150			202	30000	9868	SF	WALK REMOVED	
202										11672										202	30001	11672	SF	WALK REMOVED, AS PER PLAN	12
202									200	239										202	32000	439	FT	CURB REMOVED	
202										3113										202	32001	3113	FT	CURB REMOVED, AS PER PLAN	12
202										1964										202	35100	1964	FT	PIPE REMOVED, 24" AND UNDER	
202										214										202	35200	214	FT	PIPE REMOVED, OVER 24"	
202										289										202	38000	289	FT	GUARDRAIL REMOVED	
202										12										202	58000	12	EACH	MANHOLE REMOVED	
202										18										202	58100	18	EACH	CATCH BASIN REMOVED	
202										150										202	75000	150	FT	FENCE REMOVED	
202										4										202	75251	4	EACH	GATE REMOVED, AS PER PLAN	11
202		1																		202	98000	LS		REMOVAL MISC.: PARK MONUMENT REMOVED AND RESET	11
202		1																		202	98000	LS		REMOVAL MISC.: MONUMENT BARNSTONES REMOVED AND RESET	11
202		10								18										202	98100	28	EACH	REMOVAL MISC.: WOOD POSTS AND BOLLARDS	11
202		30																		202	98100	30	EACH	REMOVAL MISC.: WOOD SIGN POST	11
202		30																		202	98100	30	EACH	REMOVAL MISC.: PARK SIGN REMOVED AND STORED	11
202		1																		202	98100	1	EACH	REMOVAL MISC.: REMOVE AND REERECT PARK EXERCISE STATION	11
202			2																	202	98100	2	EACH	REMOVAL MISC.: HOSPITAL SIGN REMOVED AND RESET	12
625										2										625	75401	2	EACH	LIGHT POLE REMOVED, AS PER PLAN	12
625										2										625	75500	2	EACH	LIGHT POLE FOUNDATION REMOVED	
203									7920											203	10000	7920	CY	EXCAVATION	
203									5915											203	20000	5915	CY	EMBANKMENT	
SPECIAL			1																	SPECIAL		LS		BIORETENTION CELL	12
204				13281					1031		4857									204	10000	19169	SY	SUBGRADE COMPACTION	
204									865											204	13000	865	CY	EXCAVATION OF SUBGRADE	
204									865											204	30010	865	CY	GRANULAR MATERIAL, TYPE B	
204	5																			204	45000	5	HOUR	PROOF ROLLING	10
204									3475											204	50000	3475	SY	GEOTEXTILE FABRIC	
608											918						150			608	10000	1068	SF	4" CONCRETE WALK	
608											35726									608	10001	35726	SF	4" CONCRETE WALK, AS PER PLAN	12
608											641									608	52001	641	SF	CURB RAMP, AS PER PLAN	12
608											675									608	52010	675	SF	CURB RAMP, TYPE A1	
608											85						1			608	52044	86	SF	CURB RAMP, TYPE B3	
608											5535									608	98000	5535	SF	WALKWAY, MISC.: CONCRETE BASE	12
SPECIAL											4981									SPECIAL		4981	SF	BRICK WALKWAY PAVERS	12
SPECIAL											59									SPECIAL		59	EACH	TREE FRAME AND GRATE	12
SPECIAL									2											SPECIAL		2	EACH	TYPICAL MAJOR BRT STOP WITH BUS SHELTER	113-115
861									3320											861	10000	3320	SY	GEOGRID FOR SUBGRADE STABILIZATION	
SPECIAL			1																	SPECIAL		LS		LAWN SPRINKLER SYSTEMS	12

CALCULATED MAL
CHECKED AKM

GENERAL SUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671G01.dwg 31-Aug-16 5:27 PM

ITEM	SHEET NO.																			ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET
	10	11	12	PVMT. CALC.	14	15		17	29	32	35	37	38	39	104	105	108	120	121						
																								EROSION CONTROL	
601												219								601	32010	219	CY	ROCK CHANNEL PROTECTION, TYPE A WITH AGGREGATE FILTER, AS PER PLAN	11
601		200																		601	32111	200	CY	ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER, AS PER PLAN	11
601												6								601	32205	6	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN	11
659	2																			659	00100	2	EACH	SOIL ANALYSIS TEST	
659	1144																			659	00300	1144	CY	TOPSOIL	
659	10167																			659	00500	10167	SY	SEEDING AND MULCHING, CLASS 1	
659	509																			659	14000	509	SY	REPAIR SEEDING AND MULCHING	
659	509																			659	15000	509	SY	INTER-SEEDING	
659	2.29																			659	20000	2.29	TON	COMMERCIAL FERTILIZER	
659	2.11																			659	31000	2.11	ACRE	LIME	
659	58																			659	35000	58	MGAL	WATER	
659	23																			659	40000	23	MSF	MOWING	
660	134																			660	30000	134	SY	SODDING UNSTAKED	
670		2120																		670	00501	2120	SY	SLOPE EROSION PROTECTION, AS PER PLAN	11
832														55000						832	30000	55000	EACH	EROSION CONTROL	
836	67																			836	10020	67	SY	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 2	11
																								DRAINAGE	
602												1.6								602	20000	1.6	CY	CONCRETE MASONRY	
602												30								602	20001	30	CY	CONCRETE MASONRY, AS PER PLAN	99
605													399							605	13410	399	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	101
605													3490							605	14020	3490	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	101
611													280							611	00510	280	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	101
611	100																			611	00900	100	FT	6" CONDUIT, TYPE B	
611	100																			611	01100	100	FT	6" CONDUIT, TYPE C	
611	50																			611	01400	50	FT	6" CONDUIT, TYPE E	
611	50																			611	01500	50	FT	6" CONDUIT, TYPE F	
611												561								611	04400	561	FT	12" CONDUIT, TYPE B	
611												211								611	04400	211	FT	12" CONDUIT, TYPE B, 706.02	
611												208								611	04600	208	FT	12" CONDUIT, TYPE C	
611												479								611	05900	479	FT	15" CONDUIT, TYPE B	
611												16								611	07600	16	FT	18" CONDUIT, TYPE C	
611												620								611	10400	620	FT	24" CONDUIT, TYPE B	
611												33								611	11200	33	FT	24" CONDUIT, TYPE F	
611												230								611	16400	230	FT	36" CONDUIT, TYPE B	
611												145								611	16600	145	FT	36" CONDUIT, TYPE C, 706.02	
611												8								611	23800	8	FT	60" CONDUIT, TYPE B	
611												139								611	53210	139	FT	48" X 76" CONDUIT, TYPE B, 706.04	
611												1								611	98634	1	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
611												16								611	98690	16	EACH	CATCH BASIN, MISC.: CITY CB-1	8
611												7								611	98690	7	EACH	CATCH BASIN, MISC.: CITY CB-1 (DOUBLE)	9
611												5								611	98690	5	EACH	CATCH BASIN, MISC.: CITY CB-4	8
611												1								611	99620	1	EACH	MANHOLE, NO. 5	
611												3								611	99654	3	EACH	MANHOLE ADJUSTED TO GRADE	
611												6								611	99660	6	EACH	MANHOLE RECONSTRUCTED TO GRADE	
611												13								611	99690	13	EACH	MANHOLE, MISC.: CITY MH-10	8
SPECIAL	1500																			SPECIAL	61199820	1500	LB	MISCELLANEOUS METAL	10

CALCULATED MAL CHECKED AKM

GENERAL SUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GG01.dwg 31-Aug-16 5:27 PM

ITEM	SHEET NO. 10	11	12	PVMT. CALC.	14	15		17	29	32	35	37	38	39	104	105	108	120	121	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET
																								PAVEMENT	
SPECIAL				20																SPECIAL		20	CY	RUBBERIZED SURFACE	12
254				161																254	01000	161	SY	PAVEMENT PLANING, ASPHALT CONCRETE	
301				1657																301	46000	1657	CY	ASPHALT CONCRETE BASE, PG64-22	
304				2080					171		539									304	20000	2790	CY	AGGREGATE BASE	
407				15																407	10000	15	GAL	TACK COAT	
407				1719					37											407	14000	1756	GAL	TACK COAT FOR INTERMEDIATE COURSE	
411											2									411	10000	2	CY	STABILIZED CRUSHED AGGREGATE	
424				169																424	10000	169	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A	
441				88																441	50000	88	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
441				545																441	50300	545	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
441									32											441	50400	32	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
441									45											441	50600	45	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)	
452									112											452	11010	112	SY	7" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1	
452				200																452	14010	200	SY	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1	113
609				649					179											609	26000	828	FT	CURB, TYPE 6	
609				3681																609	26001	3681	FT	CURB, TYPE 6, AS PER PLAN	12
																								WATERWORK	
638		100																		638	01204	100	FT	8" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, PUSH-ON JOINTS AND FITTINGS	11
638									1											638	10500	1	EACH	FIRE HYDRANT REMOVED AND RESET	
638									2											638	10800	2	EACH	VALVE BOX ADJUSTED TO GRADE	
																								LIGHTING	
625																		44		625	10481	44	EACH	LIGHT POLE, DECORATIVE, AS PER PLAN	116
625																		40		625	14501	40	EACH	LIGHT POLE FOUNDATION, AS PER PLAN	116
625																		17040		625	22990	17040	FT	NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	
625																		7084		625	23304	7084	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	
625																		202		625	25102	202	FT	CONDUIT, 1", 725.05	
625																		7849		625	25403	7849	FT	CONDUIT, 2", 725.05, AS PER PLAN	117
625																		44		625	27551	44	EACH	LUMINAIRE, DECORATIVE, AS PER PLAN	117
625																		8		625	27600	8	EACH	LUMINAIRE, MISC.: TYPE B OR C	117
625																		10		625	27600	10	EACH	LUMINAIRE, IN-GRADE, AS PER PLAN (WELL LIGHT)	117
625																		2		625	27600	2	EACH	LUMINAIRE, IN-GRADE, (WELL LIGHT) FOUNDATION, AS PER PLAN	117
625																		251		625	29002	251	FT	TRENCH, 24" DEEP	
625																		4855		625	29401	4855	FT	TRENCH IN PAVED AREAS, AS PER PLAN	116
625																	1	25		625	31420	26	EACH	PULL BOX, 725.06, 17"X30"	
625																	2			625	31430	2	EACH	PULL BOX, 725.06, 24"X36"	
625																		45		625	32000	45	EACH	GROUND ROD	
625																		1		625	35011	1	EACH	REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN	117
625																	10	5486		625	36000	5496	FT	PLASTIC CAUTION TAPE	
632																		2		632	70001	2	EACH	POWER SERVICE, AS PER PLAN	117
																								TRAFFIC CONTROL	
611																	20			611	00400	20	FT	4" CONDUIT, TYPE E	
625																	20			625	25402	20	FT	CONDUIT, 2", 725.05	
625																	194			625	25900	194	FT	CONDUIT, JACKED OR DRILLED, 3"	
625																	20			625	29000	20	FT	TRENCH	
625																	1			625	31510	1	EACH	PULL BOX REMOVED	
625																	1			625	39520	1	EACH	PULL BOX CLEANED	108

CALCULATED MAL | CHECKED AKM

GENERAL SUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671G01.dwg 01-Sep-16 12:28 PM

ITEM	SHEET NO.																		ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET
	10	11	12	PVMT. CALC.	14	15		17	29	32	35	37	38	39	104	105	108	120	121						
																							TRAFFIC CONTROL (CONTINUED)	
630															124.0					630	02100	124	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
630															218.0					630	03100	218	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
630															28.0					630	08004	28	FT	ONE WAY SUPPORT, NO. 3 POST	
630															7					630	08600	7	EACH	SIGN POST REFLECTOR	
630															1					630	79500	1	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
630															185.0					630	80100	185	SF	SIGN, FLAT SHEET	
630															1					630	80500	1	EACH	SIGN, DOUBLE FACED, STREET NAME	
630															27					630	84900	27	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
630															1					630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
630															1					630	85200	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DELIVERY	
630															15					630	86002	15	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
630															3					630	87500	3	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
630															2					630	87550	2	EACH	REMOVAL OF POLE MOUNTED SIGN AND DELIVERY	
632																	336			632	40700	336	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
644																0.05				644	00204	0.05	MILE	LANE LINE, 6"	
644																0.69				644	00300	0.69	MILE	CENTER LINE	
644																725				644	00400	725	FT	CHANNELIZING LINE, 8"	
644																58				644	00500	58	FT	STOP LINE	
644																227				644	00600	227	FT	CROSSWALK LINE	
644																282				644	00700	282	FT	TRANSVERSE/DIAGONAL LINE	
644																32				644	00900	32	SF	ISLAND MARKING	
644																1				644	01000	1	EACH	RAILROAD SYMBOL MARKING	
644																13				644	01300	13	EACH	LANE ARROW	
804																	4084			804	19080	4084	FT	FIBER OPTIC CABLE, ARMORED, 12 FIBER	
804																	2			804	30010	2	EACH	FAN-OUT KIT, 12 FIBER	
804																	1			804	34012	1	EACH	TERMINATION PANEL, 12 FIBER	
804																	2			804	36000	2	EACH	SLACK INSTALLATION	
804																	12			804	37500	12	EACH	FIBER OPTIC CONNECTOR	
816																	4			816	30001	4	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN	108
																							LANDSCAPE	
659																			638	659	10001	638	SY	SEEDING AND MULCHING, AS PER PLAN	129
661																			4	661	00500	4	CY	MULCH	
661																			170	661	12000	170	EACH	GROUNDCOVER AND VINES, 4" POT, "VINCA MINOR"	
661																			2	661	14000	2	EACH	PERENNIALS, 1 GAL., "HAMLN GRASS"	
661																			20	661	40080	20	EACH	DECIDUOUS TREE, 2" CALIPER, "AMERICAN HORNBEAM"	
661																			18	661	40080	18	EACH	DECIDUOUS TREE, 2" CALIPER, "FRONTIER ELM"	
661																			21	661	40080	21	EACH	DECIDUOUS TREE, 2" CALIPER, "KWANZAN CHERRY"	
671																			59	671	15010	59	SY	EROSION CONTROL MAT, TYPE B	

CALCULATED MAL CHECKED AKM

GENERAL SUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671G001.dwg 31-Aug-16 5:27 PM

ITEM	SHEET NO.																			ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET
	10	11	12	PVMT. CALC.	14	15		17	29	32	35	37	38	39	104	105	108	120	121						
																								STRUCTURE OVER 20' SPAN:	
																								CREEK BRIDGE STA-M12TH CA-05-15 ESTIMATE QUANTITIES, SEE SHEET 136	
																								RACEWAY BRIDGE STA-12NW-1300 ESTIMATE QUANTITIES, SEE SHEET 166	
																								PEDESTRIAN BRIDGE ESTIMATE QUANTITIES, SEE SHEET 194	
																								MAINTENANCE OF TRAFFIC	
410					10															410	12000	10	CY	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
608					7250															608	21200	7250	SF	TEMPORARY ASPHALT CONCRETE WALK	
614					120															614	11110	120	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
614					1															614	12420	LS		DETOUR SIGNING	
614					20															614	13000	20	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
614						36														614	18601	36	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	15
614					0.06			0.03												614	20200	0.09	MILE	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I	
614					0.36			0.18												614	21100	0.54	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
614					0.24			0.12												614	21200	0.36	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I	
614					0.38			0.19												614	22100	0.57	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
614					0.12			0.06												614	22200	0.18	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
614					474			237												614	23400	711	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I	
614					1300			650												614	24400	1950	FT	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I	
614					186			93												614	25400	279	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 740.06, TYPE I	
614					44			22												614	26200	66	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
614					142			71												614	26400	213	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
614					75															614	27000	75	FT	WORK ZONE CROSSWALK LINE, CLASS I	
614						2														614	40050	2	EACH	BUSINESS ENTRANCE SIGN	
615					1															615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
616					5															616	10000	5	MGAL	WATER	
616					1															616	20000	1	TON	CALCIUM CHLORIDE	
630								24												630	80300	24	SF	SIGN, TEMPORARY OVERLAY	
																								MISCELLANEOUS	
108																				108	99000	LS		CPM PROGRESS SCHEDULE	
614																				614	11000	LS		MAINTAINING TRAFFIC	
619																				619	16020	24	MNTH	FIELD OFFICE, TYPE C	
623																				623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
624																				624	10000	LS		MOBILIZATION	
690																				690	98400	LS		PRE-CONSTRUCTION VIDEO TAPING, AS PER PROPOSAL	
990																				990	30000	LS		PERFORMANCE BOND	
																								ALTERNATE BID ITEMS	
816																		4		816	30001	4	EACH	VIDEO DETECTION SYSTEM (TRAFICON), AS PER PLAN	108

CALCULATED MAL CHECKED AKM

GENERAL SUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671G001.dwg 31-Aug-16 5:27 PM

MISC. ROADWAY SUBSUMMARY

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	SPECIAL TYPICAL MAJOR BRT STOP WITH BUS SHELTER	638 FIRE HYDRANT REMOVED AND RESET	638 VALVE BOX ADJUSTED TO GRADE	
					EACH	EACH	EACH	
		12TH STREET						
41	W-1	150+11.43		LT			1	
41	W-2	150+14.66		LT			1	
42	W-3	154+75.50		LT		1		
44	BS-1	165+80.64		LT	1			
44	BS-2	166+18.18		RT	1			
		TOTAL CARRIED TO THE GENERAL SUMMARY			2	1	2	

EARTHWORK SUBSUMMARY

SHEET NO.	LOCATION/STATION FROM	LOCATION/STATION TO	203 EXCAVATION	203 EMBANKMENT	204 EXCAVATION OF SUBGRADE	204 GRANULAR MATERIAL, TYPE B	204 GEOTEXTILE FABRIC	861 GEOGRID FOR SUBGRADE STABILIZATION	
			CY	CY	CY	CY	SY	SY	
	12TH STREET								
64	149+50.00	170+50.00	5647	3927	616	616	2450	2441	
	STADIUM PARK DRIVE								
69	1+50.00	7+00.00	52	717	249	249	1025	879	
	MULTI-PURPOSE, PED. (B), BY-PASS TRAILS								
82	0+25.00	11+50.00	2215	624					
	PEDESTRIAN TRAIL (A)								
87	102+50.00	105+50.00	6	647					
TOTAL CARRIED TO THE GENERAL SUMMARY			7920	5915	865	865	3475	3320	

DRIVEWAY SUBSUMMARY

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 PAVEMENT REMOVED	202 CURB REMOVED	204 SUBGRADE COMPACTION	304 AGGREGATE BASE	407 TACK COAT FOR INTERMEDIATE COURSE	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (DRIVEWAYS)	452 7" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1	609 CURB, TYPE 6	
					SY	FT	SY	CY	GAL	CY	CY	SY	FT	
		HOSPITAL DRIVE												
92	R-90	154+83.27 12TH	154+65.49 12TH	LT		73								
92	R-91	155+43.63 12TH	156+81.70 12TH	LT		127								
92	R-92	154+65.49 12TH	156+81.70 12TH	LT	578									
92	DR-1	154+65.49 12TH	156+81.70 12TH	LT			620	103	25	22	30			
92	DR-1	155+12.50 12TH	156+81.70 12TH	LT									179	
92	DR-1	154+71.50 12TH	155+19.50 12TH	LT			51	8				51		
		PARKING LOT												
93	R-95	169+09.88	169+77.00	LT	377									
93	DR-3	0+35.30	0+96.49	LT/RT			299	50	12	10	15			
93	DR-3	169+33.23 12TH	169+71.34 12TH	LT			61	10				61		
TOTAL CARRIED TO THE GENERAL SUMMARY					955	200	1031	171	37	32	45	112	179	

CALCULATED MAL CHECKED AKM

ROADWAY AND DRIVEWAY SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

29
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GS02.dwg 31-Aug-16 1:07 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 PAVEMENT REMOVED	202 PAVEMENT REMOVED, AS PER PLAN	202 WALK REMOVED	202 WALK REMOVED, AS PER PLAN	202 CURB REMOVED	202 CURB REMOVED, AS PER PLAN	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 GUARDRAIL REMOVED	202 MANHOLE REMOVED	202 CATCH BASIN REMOVED	202 HEADWALL REMOVED, AS PER PLAN	202 FENCE REMOVED	202 GATE REMOVED, AS PER PLAN	202 REMOVAL MISC.: WOOD POSTS AND BOLLARDS	625 LIGHT POLE FOUNDATION REMOVED	625 LIGHT POLE REMOVED, AS PER PLAN		
		FROM	TO		SY	SY	SF	SF	FT	FT	FT	FT	FT	EACH	EACH	EACH	FT	EACH	EACH	EACH	EACH		
		12TH STREET																					
41	R-1	150+02.51	150+57.96	LT					85														
41	R-2	150+02.51	150+23.22	LT			262																
41	R-3	150+01.04	153+50.00	RT						370													
41	R-4	150+10.54	153+50.00	RT			1670																
41	R-5	150+23.13		RT							14				1								
41	R-6	150+10.00	153+50.00	LT/RT		1968																	
42	R-7	153+78.91	154+83.27	LT					108														
42	R-8	155+43.63	155+88.67	LT					46														
42	R-9	156+84.73	158+00.00	LT						132													
42	R-10	153+50.00	158+00.00	RT						423													
42	R-11	153+50.00	158+00.00	RT			1976																
42	R-12	153+50.00	158+00.00	LT/RT		2704																	
42	R-13	153+73.79	153+88.20	LT/RT							41				1								
42	R-14	153+86.65	153+88.20	RT							8				1								
42	R-15	153+88.20	155+33.25	RT							145			1									
42	R-16	155+32.00	155+33.00	LT							28				1								
42	R-17	155+33.00	155+33.25	LT/RT							42				1								
42	R-18	155+33.25	156+77.61	RT							140			1									
42	R-19	155+30.05	155+33.25	RT							10				1								
42	R-20	156+53.60	156+77.61	LT/RT							45												
42	R-21	156+72.69	156+77.61	RT							11				1								
42	R-22	156+77.61	157+66.45	RT							80			1									
42	R-23	157+58.15	157+66.45	RT							9				1								
42-43	R-24	157+66.45	160+66.24	RT							286			1									
42	R-25	157+46.27	157+61.00	LT							28			1									
42	R-26	157+61.00	157+66.45	LT/RT							30			1									
42-43	R-27	157+57.71	160+39.78	LT									289										
42	R-96	155+58.66		LT																		1	
42	R-97	156+38.56		LT																		1	
43	R-28	158+00.00	163+00.00	LT						491													
43	R-29	158+00.00	163+00.00	RT						514													
43	R-30	158+00.00	163+00.00	RT			2322																
43	R-31	158+00.00	163+00.00	LT/RT	1923	895																	
43	R-32	160+63.48	160+66.24	RT							10				1								
43	R-33	160+66.24	162+89.88	RT							240			1									
43	R-34	160+53.64	160+66.24	LT/RT							43				1								
43-44	R-35	162+89.88	164+29.09	LT/RT							148			1									
44	R-36	163+00.00	164+14.82	LT						110													
44	R-37	164+72.63	167+00.00	LT						226													
44	R-38	163+00.00	164+55.33	RT						168													
44	R-39	165+08.76	167+00.00	RT						191													
44	R-40	163+00.00	164+39.13	LT/RT		685																	
44	R-41	164+91.50	167+00.00	LT/RT		842																	
				SUBTOTAL (THIS SHEET)	1923	7094	6230	0	239	2625	1358	0	289	8	10	0	0	0	0	0	2		

CALCULATED MAL
CHECKED AKM

REMOVAL SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GS03.dwg 31-Aug-16 1:07 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 PAVEMENT REMOVED	202 PAVEMENT REMOVED, AS PER PLAN	202 WALK REMOVED	202 WALK REMOVED, AS PER PLAN	202 CURB REMOVED	202 CURB REMOVED, AS PER PLAN	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 GUARDRAIL REMOVED	202 MANHOLE REMOVED	202 CATCH BASIN REMOVED	202 HEADWALL REMOVED, AS PER PLAN	202 FENCE REMOVED	202 GATE REMOVED, AS PER PLAN	202 REMOVAL MISC.: WOOD POSTS AND BOLLARDS	625 LIGHT POLE FOUNDATION REMOVED	625 LIGHT POLE REMOVED, AS PER PLAN		
		FROM	TO		SY	SY	SF	SF	FT	FT	FT	FT	FT	EACH	EACH	EACH	FT	EACH	EACH	EACH	EACH		
44	R-42	163+00.00	164+57.00	RT			829																
44	R-43	165+09.17	167+00.00	RT			919																
44	R-44	164+29.09	165+21.47	RT								94		1									
44	R-45	164+01.42	164+29.09	LT/RT							85				1								
44	R-46	165+21.47	167+07.62	RT							186			1									
	R-47	(not used)																					
44	R-48	103+00.00 PED. A	5+13.38 STADIUM	LT/RT				2167															
	R-49	(not used)																					
45	R-50	167+00.00	167+33.00	RT						33													
45	R-51	3+70.85 STADIUM	167+90.52	RT						30													
45	R-52	168+84.50	170+36.12	RT						151													
45	R-53	167+00.00	4+81.36 STADIUM	LT						52													
45	R-54	4+83.45 STADIUM	167+88.00	LT						60													
45	R-55	168+74.86	0+56.16 DRIVE DR-3	LT						82													
45	R-56	0+47.91 DRIVE DR-3	170+18.93	LT						80													
45	R-57	167+00.00	167+34.93	RT			177																
45	R-58	167+82.50	168+02.76	RT			137																
45	R-59	168+84.83	170+36.25	RT			773																
45	R-60	167+58.94	167+93.86	LT			176																
45	R-61	168+75.00	169+16.77	LT			215																
45	R-62	169+73.48	170+24.92	LT			262																
45	R-63	169+04.71		RT																	1		
45	R-64	169+03.09		LT																	1		
45	R-65	167+00.00	167+98.45	LT/RT		430																	
45	R-66	168+79.85	170+37.70	LT/RT		650																	
45	R-67	167+01.50	167+07.62	LT/RT							28				1								
45	R-68	167+07.62	167+81.76	RT							74			1									
45	R-69	167+81.76	168+00.63	RT							19			1									
45	R-70	167+29.18	167+80.85	RT							52				1								
45	R-71	167+80.85	167+81.76	RT							8				1								
45	R-72	167+81.76	167+86.78	LT/RT							28				1								
45	R-73	168+85.55	168+94.44	LT/RT							37				1								
45	R-74	168+65.65	168+94.44	RT							29				1								
45	R-75	168+96.75	170+00.00	RT								120				1							
		STADIUM PARK DR.																					
65	R-76	2+10.00	4+04.00	LT/RT	523																		
65	R-77	3+68.00		LT/RT														2					
65	R-78	4+86.00		LT/RT														2					
65	R-79	5+30.09	6+75.21	LT															18				
65	R-80	5+20.00	7+72.00	RT				2333															
65	R-81	4+47.50	6+65.00	LT/RT	568																		
			SUBTOTAL (THIS SHEET)		1091	1080	3488	4500	0	488	546	214	0	4	7	1	0	4	18	2	0		

CALCULATED MAL
CHECKED AKM

REMOVAL SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GS03.dwg 31-Aug-16 1:07 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	202 PAVEMENT REMOVED	202 PAVEMENT REMOVED, AS PER PLAN	202 WALK REMOVED	202 WALK REMOVED, AS PER PLAN	202 CURB REMOVED	202 CURB REMOVED, AS PER PLAN	202 PIPE REMOVED, 24" AND UNDER	202 PIPE REMOVED, OVER 24"	202 GUARDRAIL REMOVED	202 MANHOLE REMOVED	202 CATCH BASIN REMOVED	202 HEADWALL REMOVED, AS PER PLAN	202 FENCE REMOVED	202 GATE REMOVED, AS PER PLAN	202 REMOVAL MISC.: WOOD POSTS AND BOLLARDS	625 LIGHT POLE FOUNDATION REMOVED	625 LIGHT POLE REMOVED, AS PER PLAN		
					SY	SY	SF	SF	FT	FT	FT	FT	FT	EACH	EACH	EACH	FT	EACH	EACH	EACH	EACH		
		PEDESTRIAN & MULTI-PURPOSE TRAILS																					
70	R-82	1+66.83 MULTI-PURP.	21+34.14 BYPASS	LT/RT				1868															
70	R-83	30+04.33 BYPASS	31+10.00 BYPASS	LT/RT				851															
70	R-84	120+53.95 PED. B	120+23.86 PED. B	LT/RT							60				1								
70-71	R-85	30+10.81 BYPASS	31+50.57 BYPASS	RT													150						
71	R-86	31+10.00 BYPASS	5+93.24 MULTI-PURP.	LT/RT				1453															
71	R-87	121+14.60 PED. B	125+10.00 PED. B	LT/RT				3000															
SUBTOTAL (FROM SHEET 30)					1923	7094	6230	0	239	2625	1358	0	289	8	10	0	0	0	0	0	2		
SUBTOTAL (FROM SHEET 31)					1091	1080	3488	4500	0	488	546	214	0	4	7	1	0	4	18	2	0		
SUBTOTAL (THIS SHEET)					0	0	0	7172	0	0	60	0	0	0	1	0	150	0	0	0	0		
TOTAL CARRIED TO THE GENERAL SUMMARY					3014	8174	9718	11672	239	3113	1964	214	289	12	18	1	150	4	18	2	2		

CALCULATED MAL
CHECKED AKM

REMOVAL SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GS03.dwg 31-Aug-16 1:07 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	LENGTH	WIDTH	AREA	NO. OF AREAS	204 SUBGRADE COMPACTION	304 AGGREGATE BASE	411 STABILIZED CRUSHED AGGREGATE	608 CURB RAMP, TYPE A1	608 CURB RAMP, TYPE B3	608 CURB RAMP, AS PER PLAN	608 4" CONCRETE WALK	608 4" CONCRETE WALK, AS PER PLAN	608 WALKWAY, MISC.: CONCRETE BASE	SPECIAL BRICK WALKWAY PAVERS	SPECIAL TREE FRAME AND GRATE	
		FROM	TO		FT	FT	SF		SY	CY	CY	SF	SF	SF	SF	SF	SF	SF	EACH	
		12TH STREET																		
41		150+02.51	150+52.50	LT		VARIES	492.40	1	54.71	6.08						492.40				
41		150+52.50	153+50.00	LT	297.50	4.50	1338.75	1	148.75	16.53						1338.75				
41		150+52.50	150+71.50	LT	19.00	5.00	95.00	1	10.56	1.17						95.00				
41		150+71.50	153+48.50	LT	[10.00]	[4.00]	40.00	12	53.33	5.93							480.00	480.00		
41		150+71.50	153+48.50	LT	[10.00]	[0.50]	5.00	12	6.67	0.74							60.00			
41		150+85.00	153+35.00	LT				6											6	
41		150+98.50	153+21.50	LT	[23.00]	[5.00]	115.00	5	63.89	7.10						575.00				
41		153+48.50	153+50.00	LT	1.50	5.00	7.50	1	0.83	0.09						7.50				
41		149+99.04	150+41.04	RT		VARIES	230.90	1	25.66	2.85						230.90				
41		150+41.04	153+50.00	RT	308.96	9.50	2935.12	1	326.12	36.24						2935.12				
41		150+41.04	150+71.50	RT	30.46	5.00	152.30	1	16.92	1.88						152.30				
41		150+71.50	153+48.50	RT	[10.00]	[4.00]	40.00	12	53.33	5.93							480.00	480.00		
41		150+71.50	153+48.50	RT	[10.00]	[0.50]	5.00	12	6.67	0.74							60.00			
41		150+85.00	153+35.00	RT				6											6	
41		150+98.50	153+21.50	RT	[23.00]	[5.00]	115.00	5	63.89	7.10						575.00				
41		153+48.50	153+50.00	RT	1.50	5.00	7.50	1	0.83	0.09						7.50				
41	CR-1	150+15.75		RT			85.19	1	9.47	1.05			85.19							
41	CR-2	150+15.57		LT			88.05	1	9.78	1.09		88.05								
42		153+50.00	154+71.50	LT	121.50	4.50	546.75	1	60.75	6.75						546.75				
42		155+19.50	158+00.00	LT	280.50	4.50	1262.25	1	140.25	15.58						1262.25				
42		153+50.00	153+71.50	LT	21.50	5.00	107.50	1	11.94	1.33						107.50				
42		153+98.50	154+71.50	LT	[23.00]	[5.00]	115.00	2	25.56	2.84						230.00				
42		155+19.50	155+21.50	LT	2.00	5.00	10.00	1	1.11	0.12						10.00				
42		155+48.50	155+71.00	LT	22.50	5.00	112.50	1	12.50	1.39						112.50				
42		155+98.00	156+20.50	LT	22.50	5.00	112.50	1	12.50	1.39						112.50				
42		156+47.50	157+73.00	LT	[23.00]	[5.00]	115.00	3	38.33	4.26						345.00				
42		157+97.15	158+00.00	LT	2.85	5.00	14.25	1	1.58	0.18						14.25				
42		153+71.50	155+98.00	LT	[10.00]	[4.00]	40.00	8	35.56	3.95							320.00	320.00		
42		153+71.50	155+98.00	LT	[10.00]	[0.50]	5.00	8	4.44	0.49							40.00			
42		156+20.50	156+47.50	LT	[10.00]	[4.00]	40.00	1	4.44	0.49							40.00	40.00		
42		156+47.50	156+52.00	LT	[10.00]	[0.50]	5.00	1	0.56	0.06							5.00			
42		156+73.34	157+97.15	LT	[10.00]	[4.00]	40.00	6	26.67	2.96							240.00	240.00		
42		156+73.34	157+97.15	LT	[10.00]	[0.50]	5.00	6	3.33	0.37							30.00			
42		153+85.00	157+85.00	LT				8											8	
42		153+50.00	158+00.00	RT	450.00	9.50	4275.00	1	475.00	52.78						4275.00				
42		153+50.00	153+71.50	RT	21.50	5.00	107.50	1	11.94	1.33						107.50				
42		153+98.50	157+76.22	RT	[23.00]	[5.00]	115.00	8	102.22	11.36						920.00				
42		153+71.50	157+86.00	RT	[10.00]	[4.00]	40.00	17	75.56	8.40							680.00	680.00		
42		153+71.50	157+86.00	RT	[10.00]	[0.50]	5.00	17	9.44	1.05							85.00			
42		157+94.00	158+00.00	RT	[6.00]	[4.00]	24.00	1	2.67	0.30							24.00	24.00		
42		153+85.00	157+90.00	RT				9											9	
43		158+00.00	163+00.00	LT	500.00	4.50	2250.00	1	250.00	27.78						2250.00				
43		158+00.00	158+22.73	LT	22.73	5.00	113.65	1	12.63	1.40						113.65				
43		158+22.73	162+99.05	LT	[10.00]	[4.00]	40.00	20	88.89	9.88							800.00	800.00		
							SUBTOTAL (THIS SHEET)		2259	251	0	88	85	0	0	16816	3344	3064	29	

[##] - LENGTH OR WIDE FOR ONE SINGLE AREA OF THIS ITEM.
'NO. OF AREAS' - TOTAL OCCURENCES OF SINGLE AREAS WITHIN THE STATION LIMITS.

CALCULATED MAL
CHECKED AKM

SIDEWALK SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GS01.dwg 31-Aug-16 1:07 PM

								204	304	411	608	608	608	608	608	608	SPECIAL	SPECIAL	
SHEET NO.	REFERENCE NO.	STATION		SIDE	LENGTH	WIDTH	AREA	NO. OF AREAS	SUBGRADE COMPACTION	AGGREGATE BASE	STABILIZED CRUSHED AGGREGATE	CURB RAMP, TYPE A1	CURB RAMP, TYPE B3	CURB RAMP, AS PER PLAN	4" CONCRETE WALK	4" CONCRETE WALK, AS PER PLAN	WALKWAY, MISC.: CONCRETE BASE	BRICK WALKWAY PAVERS	TREE FRAME AND GRATE	
		FROM	TO		FT	FT	SF		SY	CY	CY	SF	SF	SF	SF	SF	SF	SF	EACH	
43		158+22.73	162+99.05	LT	[10.00]	[0.50]	5.00	20	11.11	1.23							100.00			
43		158+35.00	162+85.00	LT				10											10	
43		158+47.31	162+70.95	LT	[23.00]	[5.00]	115.00	9	115.00	12.78						1035.00				
43		162+99.05	163+00.00	LT	0.95	5.00	4.75	1	0.53	0.06						4.75				
43		158+00.00	163+00.00	RT	500.00	9.50	4750.00	1	527.78	58.64						4750.00				
43		158+00.00	158+03.69	RT	[4.00]	[4.00]	16.00	1	1.78	0.20							16.00	16.00		
43		158+00.00	158+03.69	RT	[4.00]	[0.50]	2.00	1	0.22	0.02							2.00			
43		158+26.40	162+97.99	RT	[10.00]	[4.00]	40.00	20	88.89	9.88							800.00	800.00		
43		158+26.40	162+97.99	RT	[10.00]	[0.50]	5.00	20	11.11	1.23							100.00			
43		158+40.00	162+85.00	RT				10											10	
43		158+03.69	162+72.00	RT	[23.00]	[5.00]	115.00	10	127.78	14.20						1150.00				
43		162+97.99	163+00.00	RT	2.01	5.00	10.05	1	1.12	0.12						10.05				
44		163+00.00	163+94.06	LT	94.06	4.50	423.27	1	47.03	5.23						423.27				
44		163+00.00	163+20.95	LT	20.95	5.00	104.75	1	11.64	1.29						104.75				
44		163+20.95	163+94.06	LT	[10.00]	[4.00]	40.00	4	17.78	1.98							160.00	160.00		
44		163+20.95	163+94.06	LT	[10.00]	[0.50]	5.00	4	2.22	0.25							20.00			
44		163+49.05	163+65.95	LT	16.90	5.00	84.50	1	9.39	1.04						84.50				
44		163+94.06	164+22.75	LT		VARIES	230.60	1	25.62	2.85						230.60				
44		164+66.85	164+86.43	LT		VARIES	196.24	1	21.80	2.42						196.24				
44		164+86.43	165+53.51	LT	67.08	4.50	301.86	1	33.54	3.73						301.86				
44		165+03.51	165+26.51	LT	23.00	5.00	115.00	1	12.78	1.42						115.00				
44		164+93.51	165+53.51	LT	[10.00]	[4.00]	40.00	3	13.33	1.48							120.00	120.00		
44		164+93.51	165+53.51	LT	[10.00]	[0.50]	5.00	3	1.67	0.19							15.00			
44		165+53.51	166+36.51	LT		VARIES	897.48	1	99.72	11.08						897.48				
44		165+67.68	166+01.68	LT		VARIES	211.53	1	23.50	2.61					211.53					
44		165+74.93	166+06.91	LT	32.00	2.00	64.00	1	7.11	0.79							64.00	64.00		
44		166+36.51	166+63.49	LT	27.00	9.50	256.50	1	28.50	3.17						256.50				
44		166+36.51	166+63.49	LT	[10.00]	[4.00]	40.00	1	4.44	0.49							40.00	40.00		
44		166+36.51	166+63.49	LT	[10.00]	[0.50]	5.00	2	1.11	0.12							10.00			
44		166+63.49	167+00.00	LT		VARIES	517.91	1	57.55	6.39						517.91				
44		163+35.00	166+50.00	LT				5											5	
44		163+00.00	164+47.99	RT	147.99	9.50	1405.91	1	156.21	17.36						1405.91				
44		163+00.00	163+22.01	RT	22.01	5.00	110.05	1	12.23	1.36						110.05				
44		163+22.01	164+47.99	RT	[10.00]	[4.00]	40.00	3	13.33	1.48							120.00	120.00		
44		163+22.01	164+47.99	RT	[10.00]	[0.50]	5.00	3	1.67	0.19							15.00	15.00		
44		163+47.99	164+22.01	RT	[23.00]	[5.00]	115.00	2	25.56	2.84						230.00				
44		163+94.06	164+22.75	RT		VARIES	282.42	1	31.38	3.49						282.42				
44		164+98.95	165+36.52	RT		VARIES	478.09	1	53.12	5.90						478.09				
44		165+36.52	165+63.48	RT	27.00	9.50	256.50	1	28.50	3.17						256.50				
44		165+36.52	165+63.48	RT	[10.00]	[4.00]	40.00	2	8.89	0.99							80.00	80.00		
44		165+36.52	165+63.48	RT	[10.00]	[0.50]	5.00	2	1.11	0.12							10.00	10.00		
44		165+63.48	165+92.86	RT	29.38	14.50	426.01	1	47.33	5.26						426.01				
44		165+92.86	166+24.82	RT	32.00	2.00	64.00	1	7.11	0.79							64.00	64.00		
44		166+00.15	166+31.22	RT		VARIES	205.69	1	22.85	2.54					205.69					
44		165+92.86	166+24.82	RT	32.00	12.50	400.00	1	44.44	4.94						400.00				
44		166+24.82	166+36.50	RT	11.68	14.50	169.36	1	18.82	2.09						169.36				
44		166+36.50	166+63.50	RT	[10.00]	[4.00]	40.00	2	8.89	0.99							80.00	80.00		
44		166+36.50	166+63.50	RT	[10.00]	[0.50]	5.00	2	1.11	0.12							10.00	10.00		
SUBTOTAL (THIS SHEET)									1787	199	0	0	0	0	417	13836	1826	1579	25	

[##] - LENGTH OR WIDE FOR ONE SINGLE AREA OF THIS ITEM.
'NO. OF AREAS' - TOTAL OCCURENCES OF SINGLE AREAS WITHIN THE STATION LIMITS.

CALCULATED MAL
CHECKED AKM

SIDEWALK SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GS01.dwg 31-Aug-16 1:08 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	LENGTH	WIDTH	AREA	NO. OF AREAS	204 SUBGRADE COMPACTION	304 AGGREGATE BASE	411 STABILIZED CRUSHED AGGREGATE	608 CURB RAMP, TYPE A1	608 CURB RAMP, TYPE B3	608 CURB RAMP, AS PER PLAN	608 4" CONCRETE WALK	608 4" CONCRETE WALK, AS PER PLAN	608 WALKWAY, MISC.: CONCRETE BASE	SPECIAL BRICK WALKWAY PAVERS	SPECIAL TREE FRAME AND GRATE	
		FROM	TO		FT	FT	SF		SY	CY	CY	SF	SF	SF	SF	SF	SF	SF	EACH	
44		166+36.50	166+63.50	RT	27.00	9.50	256.50	1	28.50	3.17						256.50				
44		166+63.50	167+00.00	RT		VARIES	515.78	1	57.31	6.37						515.78				
44		163+35.00	166+50.00	RT				5											5	
45		167+00.00	167+18.63	LT		VARIES	98.5	1	10.94	1.22						98.50				
45		167+68.79	167+99.20	LT		VARIES	264.35	1	29.37	3.26						264.35				
45		168+73.64	168+81.50	LT		VARIES	139.00	1	15.44	1.72						139.00				
45		168+81.50	169+08.50	LT	27.00	[4.00]	108.00	1	12.00	1.33							108.00	108.00		
45		168+81.50	169+08.50	LT	27.00	[0.50]	13.50	1	1.50	0.17							13.50	13.50		
45		168+81.50	169+08.50	LT	27.00	9.50	256.50	1	28.50	3.17						256.50				
45		169+08.50	169+33.23	LT	24.73	14.50	358.58	1	39.84	4.43						358.58				
45		169+71.34	170+15.19	LT		VARIES	706.02	1	78.45	8.72						706.02				
45		167+00.00	167+40.83	RT		VARIES	393.47	1	43.72	4.86						393.47				
45		167+89.00	168+15.94	RT		VARIES	297.1	1	33.01	3.67						297.10				
45		168+90.38	168+96.50	RT		VARIES	63.60	1	7.07	0.79						63.60				
45		168+96.50	169+23.50	RT	27.00	[4.00]	108.00	1	12.00	1.33							108.00	108.00		
45		168+96.50	169+23.50	RT	27.00	[0.50]	13.50	1	1.50	0.17							13.50			
45		168+96.50	169+23.50	RT	27.00	9.50	256.50	1	28.50	3.17						256.50				
45		169+23.50	169+46.50	RT	23.00	14.50	333.50	1	37.06	4.12						333.50				
45		169+46.50	169+73.50	RT	27.00	[4.00]	108.00	1	12.00	1.33							108.00	108.00		
45		169+46.50	169+73.50	RT	27.00	[0.50]	13.50	1	1.50	0.17							13.50			
45		169+46.50	169+73.50	RT	27.00	9.50	256.50	1	28.50	3.17						256.50				
45		169+73.50	170+26.16	RT		VARIES	877.77	1	97.53	10.84						877.77				
45	CR-3	167+03.03		RT			68.50	1	7.61	0.85		68.50								
45	CR-4	167+40.83		RT			81.14	1	9.02	1.00		81.14								
45	CR-5	167+03.46		LT			67.40	1	7.49	0.83		67.40								
45	CR-6	167+18.63		LT			76.79	1	8.53	0.95		76.79								
45	CR-7	167+89.00		RT			75.12	1	8.35	0.93		75.12								
45	CR-8	167+68.79		LT			81.12	1	9.01	1.00		81.12								
45	CR-9	170+26.16	170+45.69	RT			366.17	1	40.69	4.52				366.17						
45	CR-10	170+15.19	170+29.76	LT			274.56	1	30.51	3.39				274.56						
45	CR-11	169+98.00		LT			68.50	1	7.61	0.85		68.50								
45	CR-12	169+98.00		RT			68.50	1	7.61	0.85		68.50								
		MEMORIAL WALK																		
94	SW-1	0+00.00	0+48.29	LT/RT		VARIES	261.44	1	29.05	3.23					261.44					
94	SW-2	5+25.50	5+65.57	LT/RT		VARIES	239.37	1	26.60	2.96					239.37					
94	SW-3	5+00.00	5+25.50	LT/RT		VARIES	134.00	1	14.89		1.65									
SUBTOTAL (FROM SHEET 33)									2259	251	0	88	85	0	0	16816	3344	3064	29	
SUBTOTAL (FROM SHEET 34)									1787	199	0	0	0	0	417	13836	1826	1579	25	
SUBTOTAL (THIS SHEET)									811	89	2	587	0	641	501	5074	365	338	5	
TOTAL CARRIED TO THE GENERAL SUMMARY									4857	539	2	675	85	641	918	35726	5535	4981	59	

[##] - LENGTH OR WIDE FOR ONE SINGLE AREA OF THIS ITEM.
'NO. OF AREAS' - TOTAL OCCURENCES OF SINGLE AREAS WITHIN THE STATION LIMITS.

CALCULATED MAL
CHECKED AKM

SIDEWALK SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GS01.dwg 31-Aug-16 1:08 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	601 ROCK CHANNEL PROTECTION, TYPE A WITH AGGREGATE FILTER, AS PER PLAN CY	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN CY	602 CONCRETE MASONRY CY	602 CONCRETE MASONRY, AS PER PLAN CY	611 12" CONDUIT, TYPE B FT	611 12" CONDUIT, TYPE B, 706.02 FT	611 12" CONDUIT, TYPE C FT	611 15" CONDUIT, TYPE B FT	611 18" CONDUIT, TYPE C FT	611 24" CONDUIT, TYPE B FT	611 24" CONDUIT, TYPE F FT	611 36" CONDUIT, TYPE B FT	611 36" CONDUIT, TYPE C, 706.02 FT	611 60" CONDUIT, TYPE B FT	611 48" X 76" CONDUIT, TYPE B, 706.04 FT	611 CATCH BASIN RECONSTRUCTED TO GRADE EACH	611 CATCH BASIN, MISC.: CITY CB-1 EACH	611 CATCH BASIN, MISC.: CITY CB-1 (DOUBLE) EACH	611 CATCH BASIN, MISC.: CITY CB-4 EACH	611 MANHOLE, NO. 5 EACH	611 MANHOLE ADJUSTED TO GRADE EACH	611 MANHOLE RECONSTRUCTED TO GRADE EACH	611 MANHOLE, MISC.: CITY MH-10 EACH
		12TH STREET																									
41	D-1	150+14.01		RT																						1	
41	D-2	150+24.00	150+14.01	RT								13								1							
41	D-3	150+04.57		LT															1								
41	D-4	152+90.00		RT					6											1							
41-42	D-5	152+90.00	154+50.00	RT								160															1
41	D-6	152+90.00		LT/RT					42											1							
42	D-7	154+50.00		RT					6											1							
42	D-8	154+50.00	156+10.00	RT								160															1
42	D-9	154+50.00		LT/RT					42													1					
42	D-10	156+10.00		RT					6											1							
42	D-11	156+10.00	156+90.00	RT								76															1
42	D-12	155+90.00	156+10.00	LT/RT					44											1							
42	D-13	156+50.00		LT							61												1				
42	D-14	156+90.00	157+61.00	LT/RT								70															1
42	D-15	157+46.00	157+61.00	LT									16	28													1
42-43	D-16	157+61.00	158+50.00	LT										90													1
42	D-18	157+61.00		LT/RT					20													1					
43	D-17	159+30.00		LT/RT					20											1							
43	D-19	158+50.00	160+50.00	LT										199													1
43	D-20	160+50.00		LT					8											1							
43	D-21	160+50.00	161+50.00	LT										98													1
43	D-22	160+50.00		LT/RT					20											1							
43	D-23	161+50.00	162+50.00	LT										98													1
43	D-24	162+50.00		LT					8											1							
43-44	D-25	162+50.00	163+60.00	LT										107													1
44	D-27	163+60.00		LT					13													1					
44	D-28	163+60.00	163+94.44	LT											33												1
44-45	D-29	165+50.00	167+77.10	LT			0.76									230											1
44	D-32	163+94.44	165+50.00	LT													145										1
44	D-33	165+50.00	166+90.00	LT					140													1					
44	D-34	166+90.00		LT/RT					40													1					
44	D-35	166+90.00	167+98.95	RT		3	0.21			117										1							
45	D-39	170+00.00	169+37.00	RT	219			30.00										8	139					1			
45	D-40	169+25.00	169+55.00	LT					30														1				
45	D-41	169+25.00		LT/RT					40													1					
45	D-42	169+25.00		RT		3	0.21				32											1					
45	D-43	169+25.00	169+55.00	RT					30											1							
70-71	D-38	168+24.82	169+17.00	LT			0.21			94													1				
SUBTOTAL CARRIED TO SHEET 37					219	6	1.39	30.00	515	211	93	479	16	620	33	230	145	8	139	1	12	7	3	1		1	13

CALCULATED AKM CHECKED MAL

DRAINAGE SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DS01.dwg 31-Aug-16 1:08 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	601 ROCK CHANNEL PROTECTION, TYPE A WITH AGGREGATE FILTER, AS PER PLAN	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER, AS PER PLAN	602 CONCRETE MASONRY	602 CONCRETE MASONRY, AS PER PLAN	611 12" CONDUIT, TYPE B	611 12" CONDUIT, TYPE B, 706.02	611 12" CONDUIT, TYPE C	611 15" CONDUIT, TYPE B	611 18" CONDUIT, TYPE C	611 24" CONDUIT, TYPE B	611 24" CONDUIT, TYPE F	611 36" CONDUIT, TYPE B	611 36" CONDUIT, TYPE C, 706.02	611 60" CONDUIT, TYPE B	611 48" X 76" CONDUIT, TYPE B, 706.04	611 CATCH BASIN RECONSTRUCTED TO GRADE	611 CATCH BASIN, MISC.: CITY CB-1	611 CATCH BASIN, MISC.: CITY CB-1 (DOUBLE)	611 CATCH BASIN, MISC.: CITY CB-4	611 MANHOLE, NO. 5	611 MANHOLE ADJUSTED TO GRADE	611 MANHOLE RECONSTRUCTED TO GRADE	611 MANHOLE, MISC.: CITY MH-10
					CY	CY	CY	CY	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
		STADIUM PARK DRIVE																									
65	D-30	6+45.00		LT/RT					23												1						
65	D-31	6+45.00		RT			0.21				24										1						
65	D-36	2+25.00		LT/RT					23												1						
65	D-37	2+25.00		RT							22										1						
102	D-44	169+28.57	169+50.00	RT							49												1				
102	D-45	2+83.88	2+88.12	RT							20												1				
		SANITARY WORK																									
42	SA-1	153+84.11, 12TH ST		LT																						1	
42	SA-2	155+44.11, 12TH ST		LT																					1		
42	SA-3	157+27.42, 12TH ST		LT																						1	
45	SA-5	169+63.66, 12TH ST		LT																						1	
45	SA-6	169+73.77, 12TH ST		LT																						1	
70	SA-4	2+70.68, MULTI-PURPOSE TRAIL		RT																					1		
70	SA-8	0+98.38, MULTI-PURPOSE TRAIL		LT																						1	
70,84	SA-7	120+79.63, PED. TRAIL (B)		LT																					1		
SUBTOTAL (THIS SHEET)							0.21		46		115										4		2		3	5	
SUBTOTAL CARRIED FROM SHEET 36					219	6	1.39	30.00	515	211	93	479	16	620	33	230	145	8	139	1	12	7	3	1		1	13
TOTALS CARRIED TO GENERAL SUMMARY					219	6	1.60	30.00	561	211	208	479	16	620	33	230	145	8	139	1	16	7	5	1	3	6	13

CALCULATED AKM
CHECKED MAL

DRAINAGE SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DS01.dwg 31-Aug-16 1:08 PM

						605	605	611	INFORMATION ONLY	
SHEET NO.	REFERENCE NO.	STATION		SIDE	UNDERDRAIN UPSTREAM INVERT ELEVATION	UNDERDRAIN OUTLET INVERT ELEVATION	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	6"X11.25° BEND	END CAP
		FROM	TO				FT	FT	FT		
		12TH STREET									
40		150+04.57	151+27.00	LT		1105.75		126.00	10.00	1	1
40		151+27.00	152+90.00	LT		1106.31		153.00	10.00	1	1
40-41		152+95.00	154+50.00	LT		1102.39		145.00	10.00	1	1
41		154+55.00	155+90.00	LT		1097.30		125.00	10.00	1	1
41-42		155+95.00	160+50.00	LT		1065.79		445.00	10.00	1	1
42		160+55.00	162+50.00	LT		1049.92		185.00	10.00	1	1
42-43		162+55.00	163+60.00	LT		1041.96		95.00	10.00	1	1
43		163+60.00	163+94.00	LT	1041.21	1041.04	24.00		10.00	1	1
43		165+00.00	165+50.00	LT		1032.77		40.00	10.00	1	1
43		165+55.00	166+90.00	LT	1032.61	1030.83	125.00		10.00	1	1
44		169+04.00	169+25.00	LT		1029.29		11.00	10.00	1	1
44		169+25.00	169+50.00	LT	1030.17	1030.04	15.00		10.00	1	1
44		169+55.00	170+32.00	LT		1029.33		67.00	10.00	1	1
40		150+24.00	151+27.00	RT		1106.32		93.00	10.00	1	1
40		151+27.00	152+90.00	RT		1106.31		153.00	10.00	1	1
40-41		152+95.00	154+50.00	RT		1102.92		145.00	10.00	1	1
41		154+55.00	156+10.00	RT		1095.82		145.00	10.00	1	1
41		156+15.00	157+61.00	RT		1087.53		136.00	10.00	1	1
41-42		157+66.00	159+30.00	RT		1075.98		154.00	10.00	1	1
42		159+35.00	160+50.00	RT		1066.89		105.00	10.00	1	1
42-43		160+55.00	164+60.00	RT		1034.69		395.00	10.00	1	1
43		165+26.00	166+90.00	RT		1030.08		154.00	10.00	1	1
44		169+25.00	169+50.00	RT	1030.17	1029.84	15.00		10.00	1	1
44		169+55.00	170+43.00	RT		1029.33		78.00	10.00	1	1
		STADIUM PARK DRIVE									
64		2+25.00	166+95.00, 12TH ST	LT	1031.03	1023.65	220.00		10.00	1	1
64		166+95.00, 12TH ST	6+45.00	LT		1021.09		205.00	10.00	1	1
64		2+25.00	3+83.00	RT		1023.04		150.00	10.00	1	1
64		4+53.00	6+45.00	RT		1021.10		185.00	10.00	1	1
TOTALS CARRIED TO GENERAL SUMMARY					5165	29617	399	3490	280		

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DS01.dwg 31-Aug-16 1:08 PM

CALCULATED AKM
CHECKED MAL

UNDERDRAIN SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

PROJECT DESCRIPTION

ROADWAY IMPROVEMENTS INCLUDE FULL DEPTH RECONSTRUCTION FOR 0.38 MILES OF 12TH STREET NW, FROM THE MERCY DRIVE/I-77 RAMPS TO MONUMENT DRIVE, INCLUDING NEW PAVEMENT, SIDEWALKS, STORM SEWER, AND STREETSCAPING. THE IMPROVEMENTS WILL ALSO INCLUDE THE REPLACEMENT OF THE BRIDGES OVER NIMISHILLEN CREEK AND CANTON PARKS WATERWORKS RACEWAY, AND IMPROVEMENTS TO THE CANTON PARKS MULTI-PURPOSE AND WALKING TRAILS.

POST CONSTRUCTION BMPS

VEGETATED FILTER STRIPS

BIORETENTION CELL 1

BIORETENTION CELL 2

LEGEND

CATCH BASIN

MANHOLE

INLET PROTECTION

SILT FENCE

TURBIDITY CURTAIN

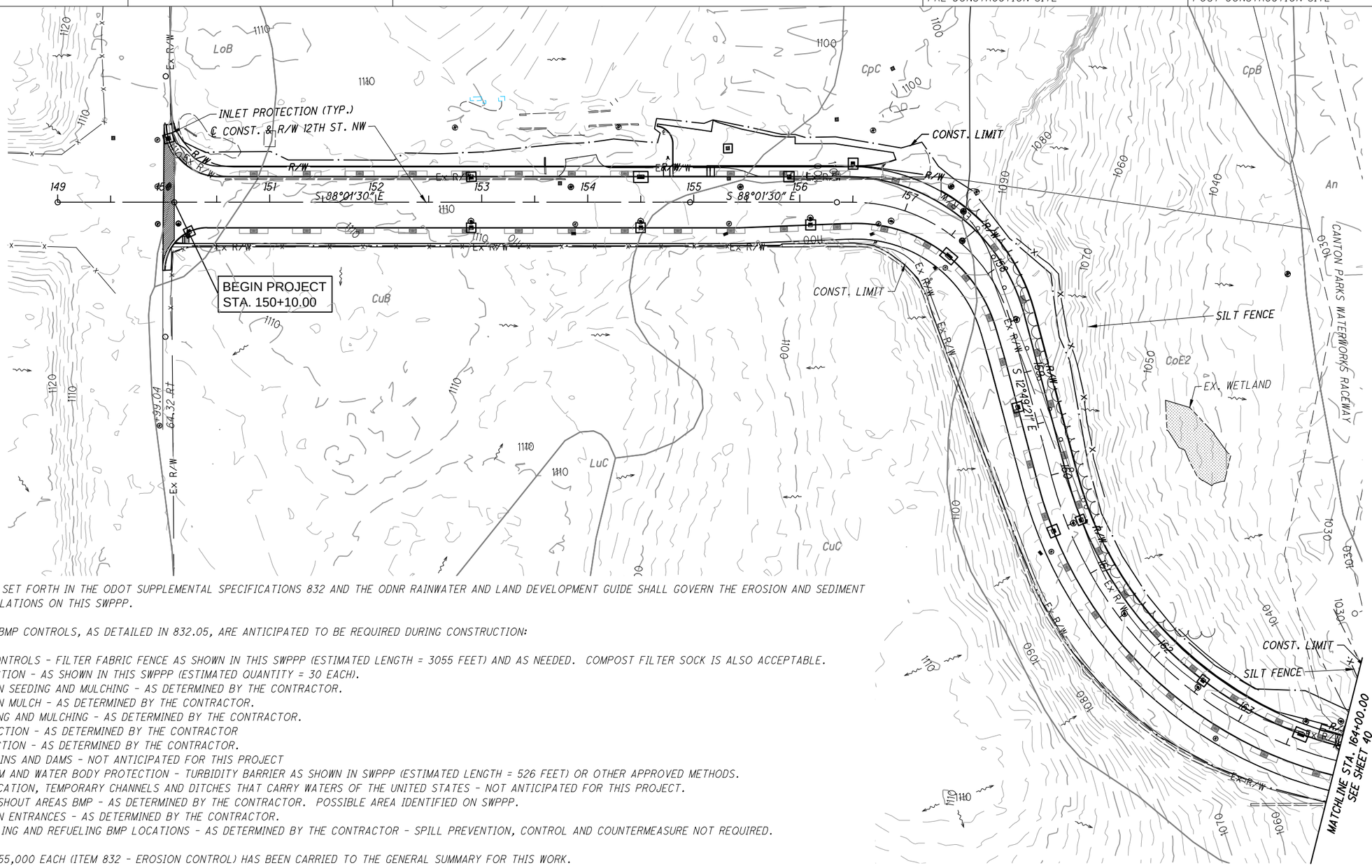
SOIL GROUP BOUNDARY

SOIL TYPES:

An - ALLUVIAL LAND-URBAN LAND COMPLEX
CoE2 - CHILI GRAVELLY LOAM, 18 TO 25 PERCENT SLOPES, MODERATELY ERODED
CpB - CHILI SILT LOAM, 2 TO 6 PERCENT SLOPES
CpC - CHILI SILT LOAM, 6 TO 12 PERCENT SLOPES
CuB - CHILI-URBAN LAND COMPLEX, UNDULATING
CuC - CHILI-URBAN LAND COMPLEX, ROLLING
CuF - CHILI-URBAN LAND COMPLEX, STEEP
W - WATER

PROJECT DATA

TOTAL AREA	8.57 AC.	LONGITUDE:	W 81°23'39"
		LATITUDE:	N 40°48'38"
PROJECT EARTH DISTURBED AREA	7.57 AC.	IMMEDIATE RECEIVING WATERS	WEST BRANCH NIMISHILLEN CREEK CANTON PARKS WATERWORKS RACEWAY
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	1.00 AC.		
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	3.55 AC.	SUBSEQUENT RECEIVING WATERS	NIMISHILLEN CREEK
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	3.95 AC.	USGS QUADRANT NAME:	WEST CANTON, OHIO
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.59	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.62



THE PROVISIONS SET FORTH IN THE ODOT SUPPLEMENTAL SPECIFICATIONS 832 AND THE ODNR RAINWATER AND LAND DEVELOPMENT GUIDE SHALL GOVERN THE EROSION AND SEDIMENT CONTROL INSTALLATIONS ON THIS SWPPP.

THE FOLLOWING BMP CONTROLS, AS DETAILED IN 832.05, ARE ANTICIPATED TO BE REQUIRED DURING CONSTRUCTION:

A. PERIMETER CONTROLS - FILTER FABRIC FENCE AS SHOWN IN THIS SWPPP (ESTIMATED LENGTH = 3055 FEET) AND AS NEEDED. COMPOST FILTER SOCK IS ALSO ACCEPTABLE.
B. INLET PROTECTION - AS SHOWN IN THIS SWPPP (ESTIMATED QUANTITY = 30 EACH).
C. CONSTRUCTION SEEDING AND MULCHING - AS DETERMINED BY THE CONTRACTOR.
D. CONSTRUCTION MULCH - AS DETERMINED BY THE CONTRACTOR.
E. WINTER SEEDING AND MULCHING - AS DETERMINED BY THE CONTRACTOR.
F. SLOPE PROTECTION - AS DETERMINED BY THE CONTRACTOR
G. DITCH PROTECTION - AS DETERMINED BY THE CONTRACTOR.
H. SEDIMENT BASINS AND DAMS - NOT ANTICIPATED FOR THIS PROJECT
I. RIVER, STREAM AND WATER BODY PROTECTION - TURBIDITY BARRIER AS SHOWN IN SWPPP (ESTIMATED LENGTH = 526 FEET) OR OTHER APPROVED METHODS.
J. STREAM RELOCATION, TEMPORARY CHANNELS AND DITCHES THAT CARRY WATERS OF THE UNITED STATES - NOT ANTICIPATED FOR THIS PROJECT.
K. CONCRETE WASHOUT AREAS BMP - AS DETERMINED BY THE CONTRACTOR. POSSIBLE AREA IDENTIFIED ON SWPPP.
L. CONSTRUCTION ENTRANCES - AS DETERMINED BY THE CONTRACTOR.
M. PROJECT FUELING AND REFUELING BMP LOCATIONS - AS DETERMINED BY THE CONTRACTOR - SPILL PREVENTION, CONTROL AND COUNTERMEASURE NOT REQUIRED.

A QUANTITY OF 55,000 EACH (ITEM 832 - EROSION CONTROL) HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED NES
CHECKED EMC

STORM WATER POLLUTION PREVENTION PLAN

STA - 12TH STREET IMPROVEMENTS

39
210

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DE001.dwg 31-Aug-16 1:10 PM

LEGEND

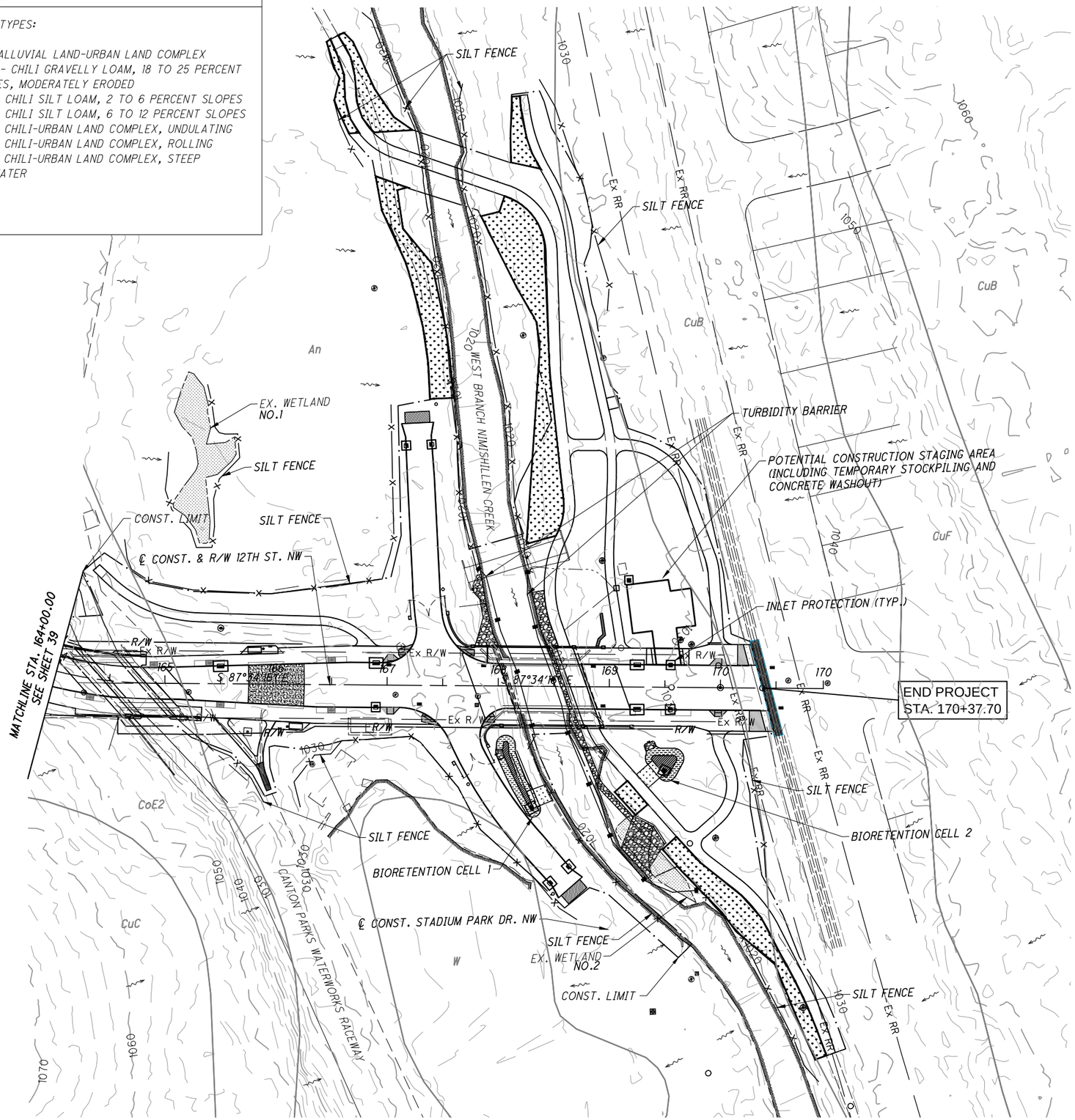
- CATCH BASIN
- MANHOLE
- INLET PROTECTION
- SILT FENCE
- TURBIDITY CURTAIN
- SOIL GROUP BOUNDARY
- ROCK CHANNEL PROTECTION

SOIL TYPES:

An - ALLUVIAL LAND-URBAN LAND COMPLEX
CoE2 - CHILI GRAVELLY LOAM, 18 TO 25 PERCENT SLOPES, MODERATELY ERODED
CpB - CHILI SILT LOAM, 2 TO 6 PERCENT SLOPES
CpC - CHILI SILT LOAM, 6 TO 12 PERCENT SLOPES
CuB - CHILI-URBAN LAND COMPLEX, UNDULATING
CuC - CHILI-URBAN LAND COMPLEX, ROLLING
CuF - CHILI-URBAN LAND COMPLEX, STEEP
W - WATER

POST CONSTRUCTION BMPS

- VEGETATED FILTER STRIPS
- BIORETENTION CELL 1
- BIORETENTION CELL 2



N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED NES
CHECKED EMC

STORM WATER POLLUTION PREVENTION PLAN

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DE001.dwg 31-Aug-16 1:10 PM

BENCHMARK No. 3
STA. 57+06.5, 112.0' LT.
ELEV. 1101.09'
TOP OF THE SOUTHERLY BOLT OF A "VEER RIGHT" SIGN BASE.

BENCHMARK No. 4
STA. 45+65, 112.0' RT.
ELEV. 1105.06'
TOP OF A BLACK METAL FENCE CORNER POST.

℄ INTERSTATE 77
MERCY DRIVE NW
+00.51, 73.23' LT.
149+00.00
+99.04, 64.32' RT.
DO NOT DISTURB (SIGN, LANDSCAPE, LIGHTS, IRRIGATION IN LANDSCAPED BED)
ASPHALT
CONC
HOSPITAL SIGN
YARD LIGHT
IRR.BOX
TELE DUCT
EX. 15" SAN
EX. 12" WTR
EX. 8" WTR (PRIVATE)
EX. 10" SAN
6" ø TRUNK
HYD.
IRR. BOX(3)
CONST. LIMIT
TMP
R/W
EX R/W
CONC. WALL
UTIL.BOX
OH UTIL
TRAF.
CONC. WALK
CHAIN LINK FENCE
DO NOT DISTURB
PROP. DECORATIVE LIGHT POLE (TYP.)
PROP. TREE GRATE & FRAME (TYP.)
℄ CONST. 12TH ST. NW
℄ EXISTING R/W
S 88°01'30" E
12" STM
15" STM
MATCHLINE STA. 153+50.00
SEE SHEET 42
PROPOSED SAWCUT STA. 150+10.00
EX. MON.
12.63' (TYP.)
12.97' (TYP.)
R50'
R40'
BEGIN PROJECT STA. 150+10.00
BEGIN WORK STA. 150+00.00

NE CURB RETURN
Δ = 89° - 09' - 19"
R = 50.0'
L = 77.80'
STA. 150+52.50, 74' LT. (CENTER PNT.)

SE CURB RETURN
Δ = 90° - 26' - 42"
R = 40.0'
L = 63.14'
STA. 150+41.04, 64' RT. (CENTER PNT.)

ELEVATIONS AT EDGE OF PAVEMENT

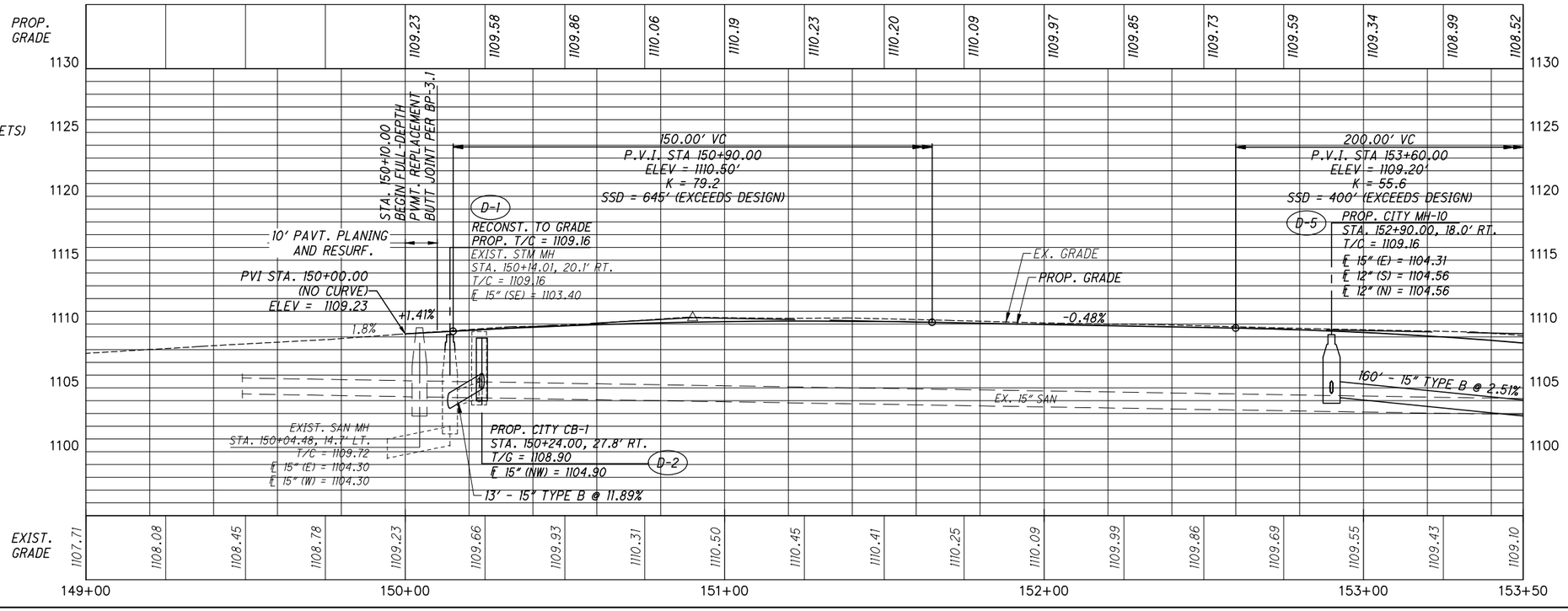
A=1109.57'	H=1109.42'
B=1109.42'	I=1109.19'
C=1109.17'	J=1108.78'
D=1108.90'	K=1108.34'
E=1108.64'	L=1107.91'
F=1108.48'	M=1107.47'
G=1108.68'	

D-3
RECONST. TO GRADE
STA. 150+04.57, 60.3' LT.
T/G = 1108.33
EXIST. STM
T/C = 1108.33
℄ 12" (W) = 1103.10

FOR LIGHTING AND LANDSCAPE PLANS, SEE SHEETS 122-127.

FOR SIGNAL PLAN, SEE SHEET 108.

LEGEND
- PAVEMENT PLANING AND RESURFACING
- EXIST. SPRINKLER HEAD (PRIVATE), U.G. SUPPLY LINE NOT SHOWN
- B-#⊕ BORING (SEE SOIL BORING SHEETS)
- (X-#) QUANTITY PAY ITEM
  R = REMOVAL
  D = DRAINAGE
  SA = SANITARY
  CR = CURB RAMP
  W = WATERWORK
  DR = DRIVE
  BS = BUS STOP

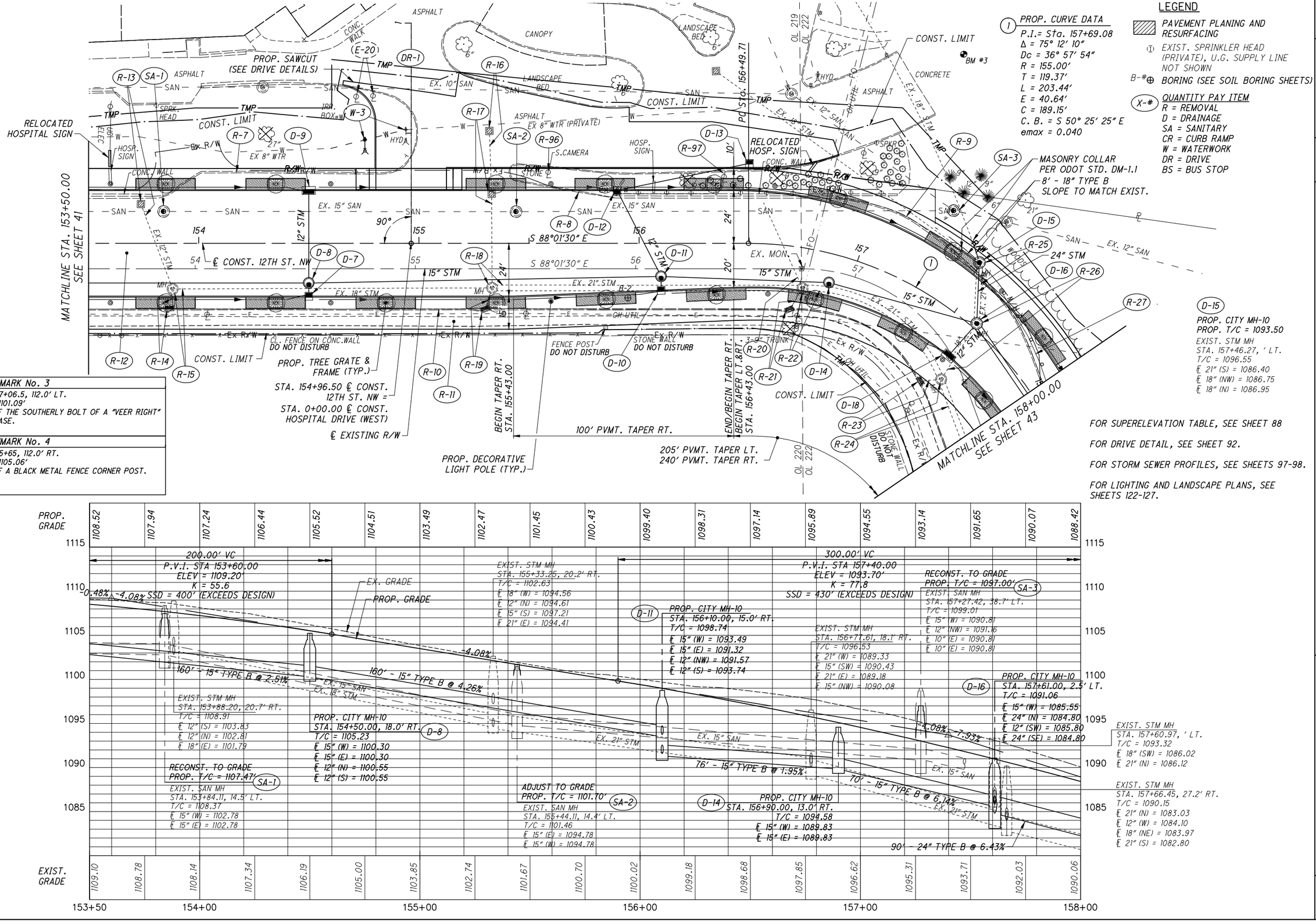


HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED MAL
CHECKED SMG

12TH STREET PLAN & PROFILE
STA. 149+00 TO STA. 153+50.00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP01.dwg 31-Aug-16 1:13 PM



G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP01.dwg 31-Aug-16 1:14 PM

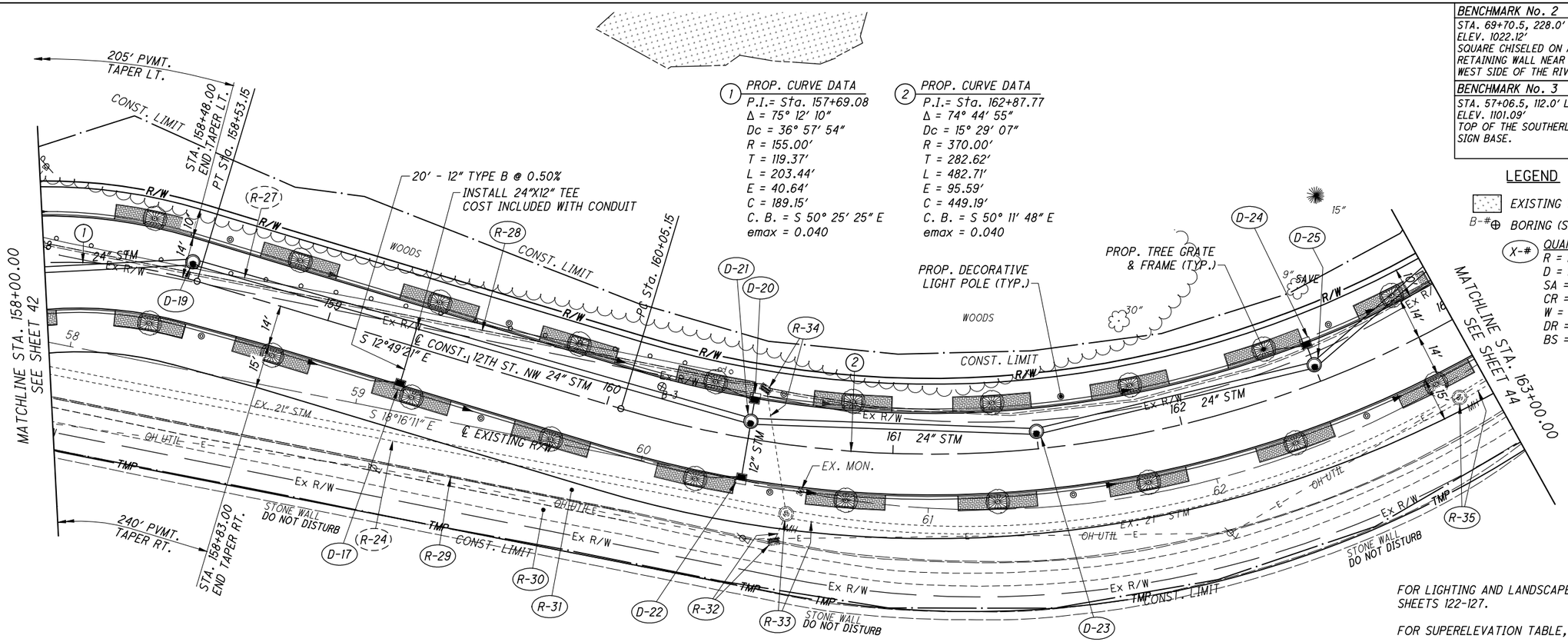
BENCHMARK No. 2
STA. 69+70.5, 228.0' RT. ELEV. 1022.12' SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.
BENCHMARK No. 3
STA. 57+06.5, 112.0' LT. ELEV. 1101.09' TOP OF THE SOUTHERLY BOLT OF A "VEER RIGHT" SIGN BASE.

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

CALCULATED MAL | CHECKED SMG

LEGEND

- EXISTING WETLAND
- B-# BORING (SEE SOIL BORING SHEETS
- (X-#) QUANTITY PAY ITEM
  - R = REMOVAL
  - D = DRAINAGE
  - SA = SANITARY
  - CR = CURB RAMP
  - W = WATERWORK
  - DR = DRIVE
  - BS = BUS STOP



FOR LIGHTING AND LANDSCAPE PLANS, SEE SHEETS 122-127.

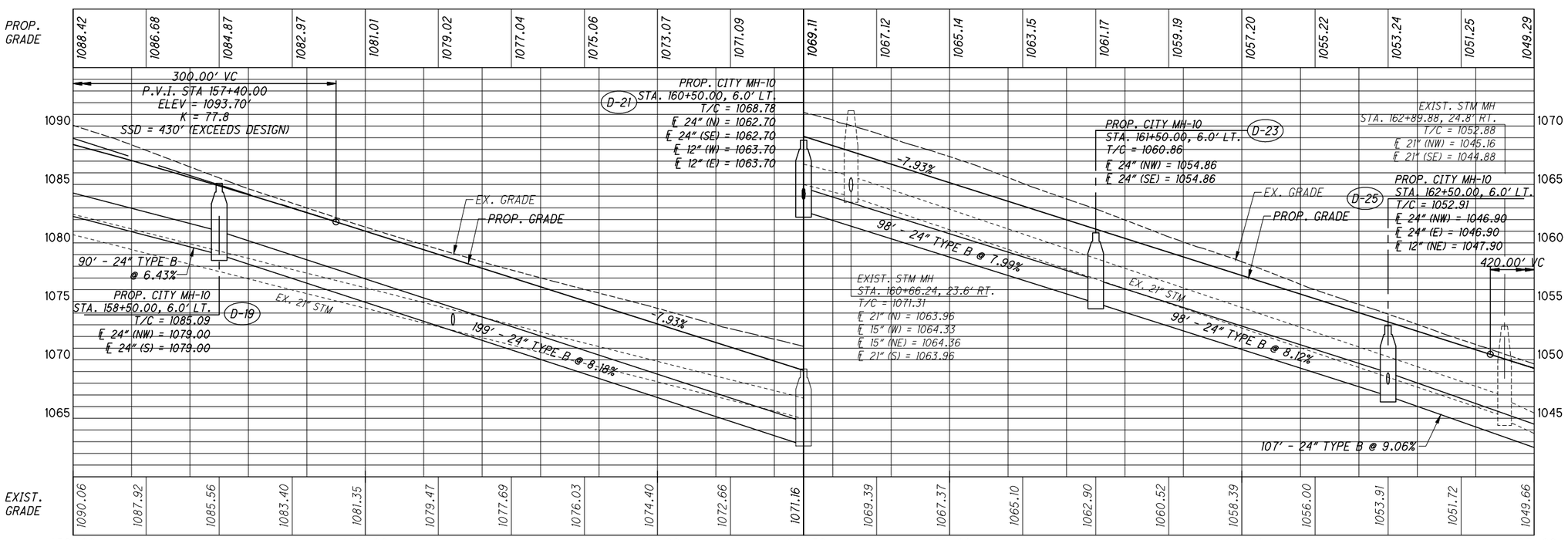
FOR SUPERELEVATION TABLE, SEE SHEET 88

① PROP. CURVE DATA

P.I.= Sta. 157+69.08
Δ = 75° 12' 10"
Dc = 36° 57' 54"
R = 155.00'
T = 119.37'
L = 203.44'
E = 40.64'
C = 189.15'
C. B. = S 50° 25' 25" E
emax = 0.040

② PROP. CURVE DATA

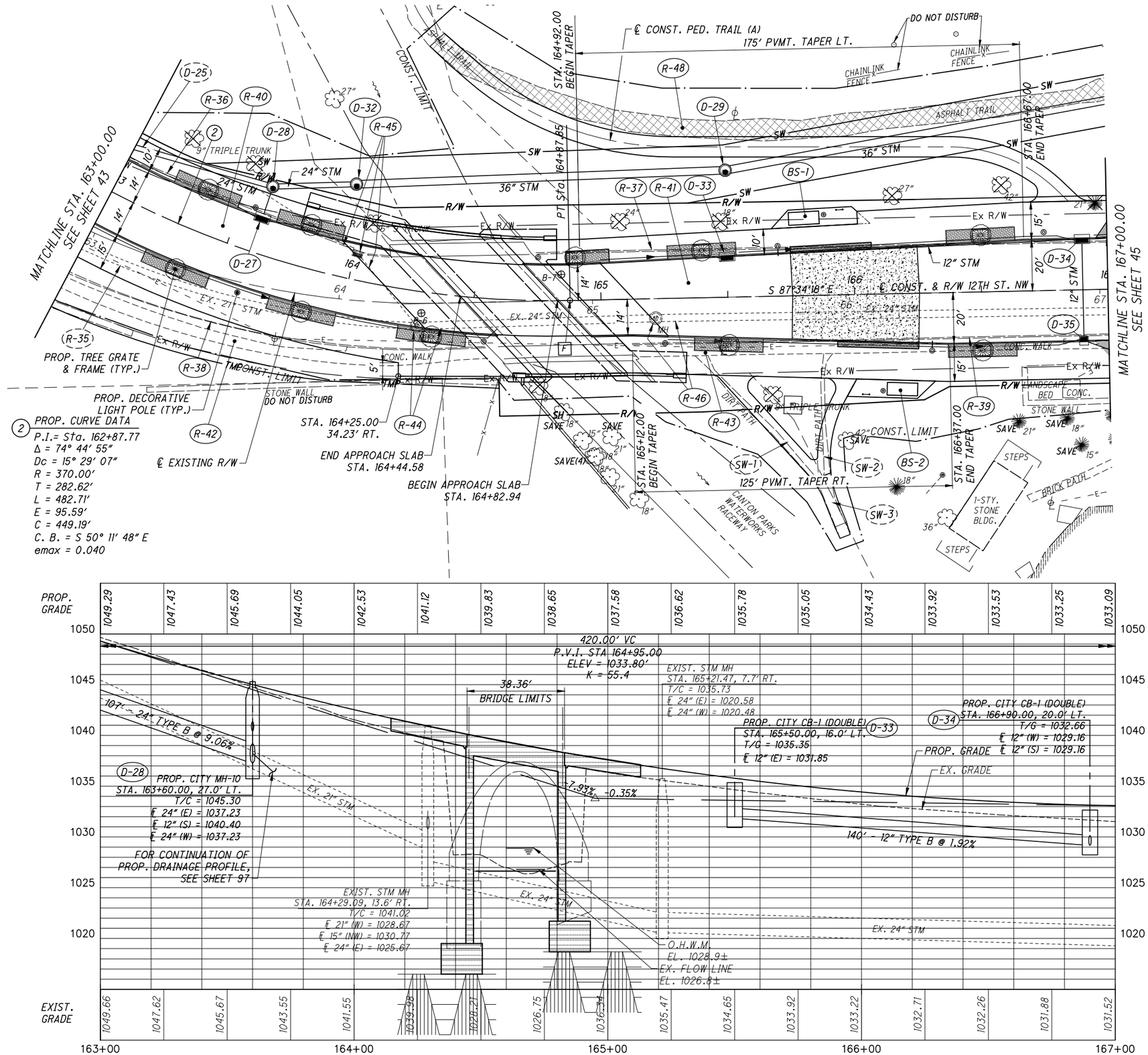
P.I.= Sta. 162+87.77
Δ = 74° 44' 55"
Dc = 15° 29' 07"
R = 370.00'
T = 282.62'
L = 482.71'
E = 95.59'
C = 449.19'
C. B. = S 50° 11' 48" E
emax = 0.040



12TH STREET PLAN & PROFILE
STA. 158+00.00 TO STA. 163+00.00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP01.dwg 31-Aug-16 1:15 PM



BENCHMARK No. 1
STA. 70+85.71, 41.7' RT. ELEV. 1034.48' SQUARE CUT IN THE NORTHWEST CORNER OF A TRAFFIC SIGNAL BOX AT THE SOUTHWEST CORNER OF 12TH STREET AND MONUMENT ST.
BENCHMARK No. 2
STA. 69+70.5, 228.0' RT. ELEV. 1022.12' SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MAL | CHECKED SMG

LEGEND

- EXISTING WETLAND
- EXIST. TRAIL TO BE REMOVED
- PROPOSED CONCRETE BUS PAD
- B-# BORING (SEE SOIL BORING SHEETS)
- (X-#) QUANTITY PAY ITEM
  - R = REMOVAL
  - D = DRAINAGE
  - SA = SANITARY
  - CR = CURB RAMP
  - W = WATERWORK
  - DR = DRIVE
  - BS = BUS STOP
  - SW = SIDEWALK

[F] PT STA. 164+87.85 ℄ CONST. 12TH ST. NW = STA. 64+91.22 ℄ EXIST. R/W 12TH ST.

FOR PEDESTRIAN TRAIL (A) PLAN AND PROFILE, SEE SHEETS 83.

FOR STORM SEWER PROFILES, SEE SHEET 97.

FOR SUPERELEVATION TABLE, SEE SHEET 88.

FOR LIGHTING AND LANDSCAPE PLANS, SEE SHEETS 122-127.

FOR RACEWAY BRIDGE SITE PLAN, SEE SHEET 164.

FOR RELOCATED MONUMENT AND MEMORIAL WALK, SEE SHEET 94.

FOR BUS STOP DETAILS, SEE SHEETS 113-115.

12TH STREET PLAN & PROFILE
STA. 163+00.00 TO STA. 167+00.00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP01.dwg 31-Aug-16 1:15 PM

(A) STA. 167+50.64 ℄ CONST. 12TH ST. NW = STA. 4+26.85 ℄ CONST. STADIUM PARK DR. NW

(B) END APPROACH SLAB STA. 168+07.83

(C) BEGIN APPROACH SLAB STA. 168+81.75

(D) STA. 168+72.25 ℄ CONST. 12TH ST. NW = STA. 4+58.33 ℄ CONST. MULTI-PURPOSE TRAIL

(E) STA. 169+55.96 ℄ CONST. 12TH ST. NW = STA. 0+00.00 ℄ CONST. DRIVE

(F) 8' - 60" CONDUIT, TYPE B, SLOPE TO MATCH EXISTING. CONNECT TO EXISTING, INCLUDE MASONRY COLLAR PER ODOT STD. DM-1.1

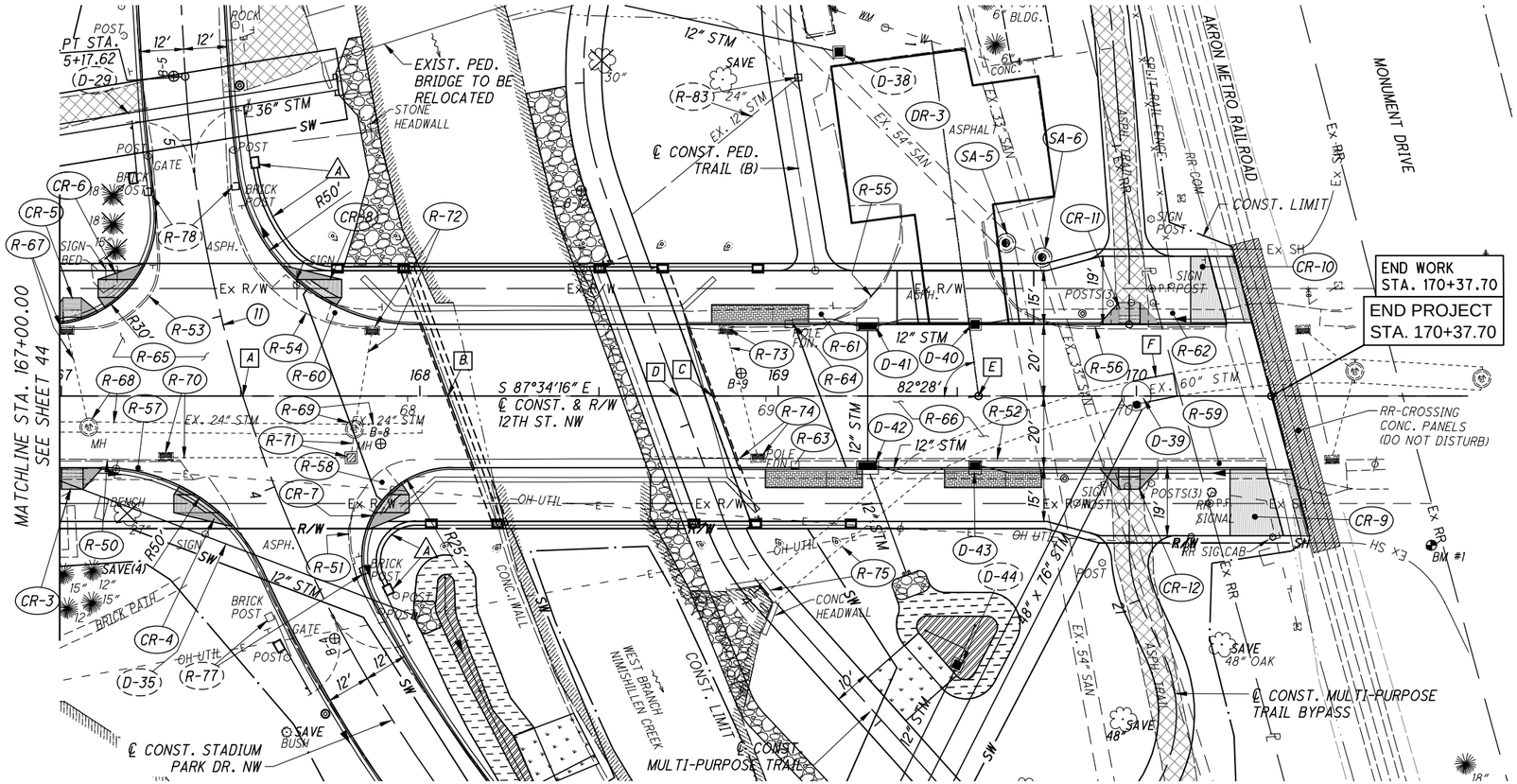
℄ CONST. STADIUM PARK DR. CURVE DATA

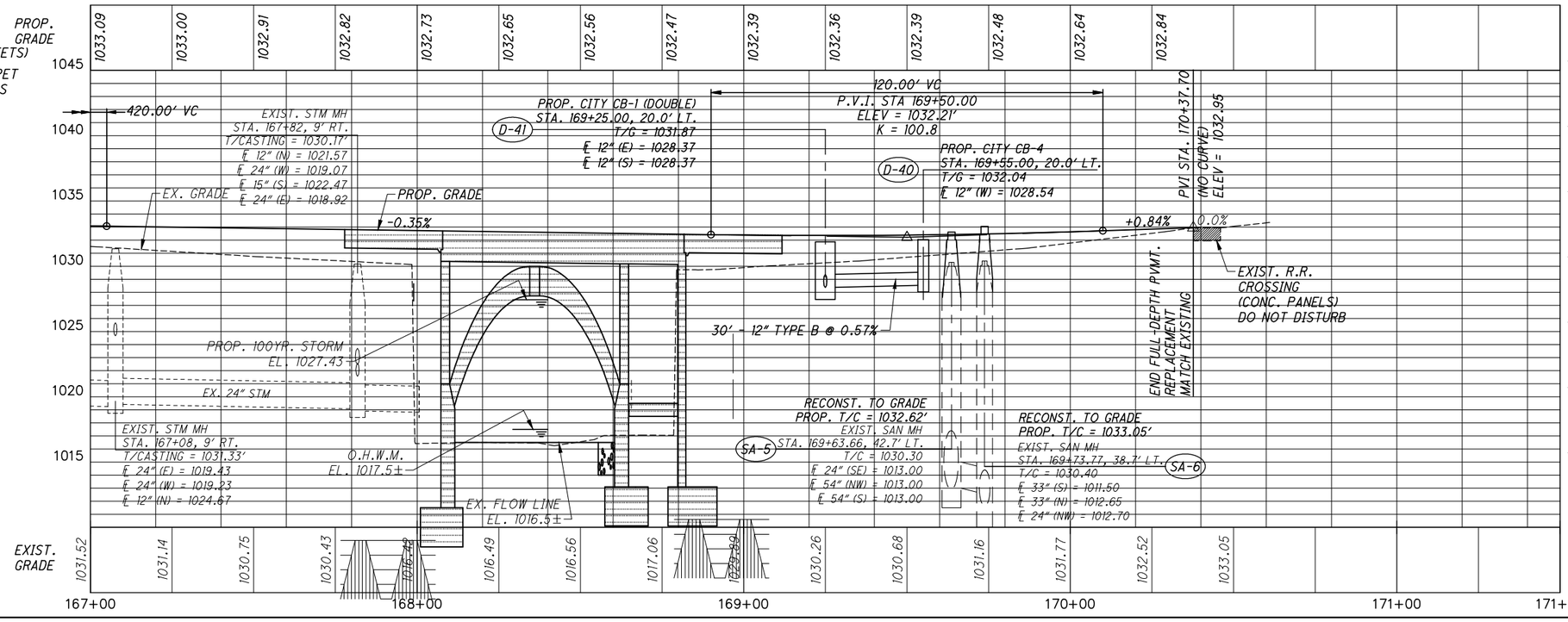
(11)
- P.I.= Sta. 3+96.44
- Δ = 38° 33' 11"
- Dc = 15° 16' 44"
- R = 375.00'
- T = 131.15'
- L = 252.33'
- E = 22.27'
- C = 247.60'
- C. B. = N 20° 08' 16" W
- emax = N/C

LEGEND

- EXISTING WETLAND
- EXIST. TRAIL TO BE REMOVED
- EXISTING RAILROAD CROSSING CONCRETE PANELS
- PROPOSED ROCK CHANNEL PROTECTION
- EXISTING WATER EDGE
- B-# BORING (SEE SOIL BORING SHEETS)
- (A) PROPOSED DECORATIVE PARAPET WALL AND SWING GATE DETAILS SEE SHEETS 157-160

(X-#) QUANTITY PAY ITEM
- R = REMOVAL
- D = DRAINAGE
- SA = SANITARY
- CR = CURB RAMP
- W = WATERWORK
- DR = DRIVE
- BS = BUS STOP





BENCHMARK No. 1
STA. 70+85.71, 41.7' RT. ELEV. 1034.48' SQUARE CUT IN THE NORTHWEST CORNER OF A TRAFFIC SIGNAL BOX AT THE SOUTHWEST CORNER OF 12TH STREET AND MONUMENT ST.
BENCHMARK No. 2
STA. 69+70.5, 228.0' RT. ELEV. 1022.12' SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

CALCULATED MAL | CHECKED SMG

FOR STADIUM PARK DRIVE PLAN AND PROFILE, SEE SHEET 65.

FOR MULTI-PURPOSE TRAIL PLAN AND PROFILE, SEE SHEETS 70-71.

FOR PEDESTRIAN TRAIL (B) PLAN AND PROFILE, SEE SHEETS 71, 84.

FOR MULTI-PURPOSE TRAIL BY-PASS PLAN AND PROFILE, SEE SHEETS 70-72.

FOR NIMISHILLEN CREEK BRIDGE SITE PLAN, SEE SHEET 134.

FOR RETAINING WALL REPAIR DETAILS, SEE SHEET 161.

FOR INTERSECTION DETAIL, SEE SHEET 89.

FOR DRIVE AND PAVEMENT DETAILS, SEE SHEET 93.

FOR STORM SEWER PROFILES, SEE SHEET 98.

FOR BIORETENTION CELL DETAILS, SEE SHEET 102.

FOR LIGHTING AND LANDSCAPE PLANS, SEE SHEETS 122-127.

12TH STREET PLAN & PROFILE
STA. 167+00.00 TO STA. 170+37.70

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP01.dwg 31-Aug-16 1:16 PM

SEEDING	
END WIDTH	SQ. YDS.
11	49
11	0
0	0
31	

CROSS SECTION LEGEND

XXX* ITEM 204 - EXCAVATION OF SUBGRADE (EXCAVATION OF SUBGRADE AREAS TO BE BACKFILLED WITH ITEM 204, GRANULAR MATERIAL, TYPE B)

<XXX> ITEM 204 - GEOTEXTILE FABRIC

'XXX' ITEM SPECIAL - GEOGRID

PROP. R/W

EX. R/W

4:1

4:1

EX. 12" WM

EX. 15" SAN

1109.86
150+50.00
1109.93

1109.23
150+00.00
1109.23
BEGIN WORK - MEET EXIST. PAVT.

149+50.00
1108.45

EX. 15" SAN

EX. 12" WM

EX. 12" WM

EX. 15" SAN

AH STA. 150+10
BK

STA. 150+10 AH
BK

1120
1115
1110
1105
1100
1095

60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA	
CUT	FILL
41	1
0	0

VOLUME	
CUT	FILL
127	1
0	0
127	1

CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS
STA. 149+50 TO STA. 150+50

STA - 12TH STREET IMPROVEMENTS

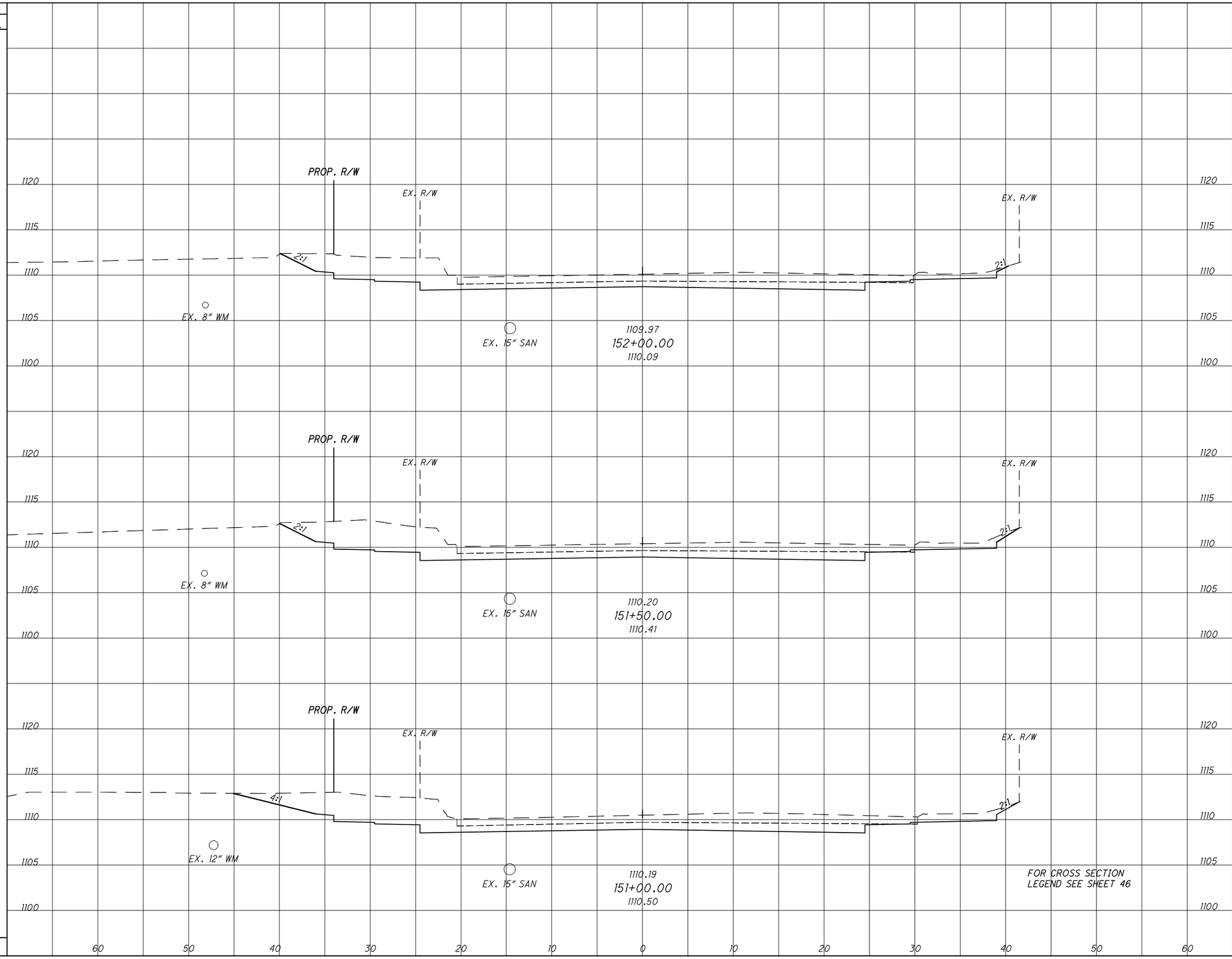
46
210

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:17 PM

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
7	42	80	0	159	0
8	61	92	0	181	0
14	69	103	0	133	1
	31			473	1

CALCULATED BRO

CHECKED AKM



FOR CROSS SECTION LEGEND SEE SHEET 46

12th STREET CROSS SECTIONS STA. 151+00 TO STA. 152+00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:17 PM

SEEDING	
END WIDTH	SQ. YDS.
10	10
8	33
7	39
	82

END AREA	
CUT	FILL
103	1
96	1
92	1

VOLUME	
CUT	FILL
37	1
139	1
159	1
335	3

CALCULATED BRO
CHECKED AKM

PROP. R/W
EX. R/W
4:1
25:1
12:1
EX. 8" WM
EX. 15" SAN
1109.34
153+00.00
1109.55
15" CONDUIT, TYPE B
D-6
D-5
D-4
PROP. CITY CB-1
STA. 152+90.00, 24.0 LT.
T/G = 1108.89'
℄ 12" (S) = 1105.64'
PROP. CITY MH-10
STA. 152+90.00, 18.0 RT.
T/C = 1109.16'
℄ 15" (E) = 1104.31'
℄ 12" (S) = 1104.56'
℄ 12" (N) = 1104.56'
PROP. CITY CB-1
STA. 152+90.00, 24.0' RT.
T/G = 1108.89'
℄ 12" (N) = 1104.89'
6"± CLEARANCE
42'-12" CONDUIT, TYPE B @ 2.57%
6'-12" CONDUIT, TYPE B @ 5.50%
1109.44
152+89.98
1109.61
1109.73
152+50.00
1109.86
FOR CROSS SECTION LEGEND SEE SHEET 46
1120
1115
1110
1105
1100
1095
60 50 40 30 20 10 0 10 20 30 40 50 60

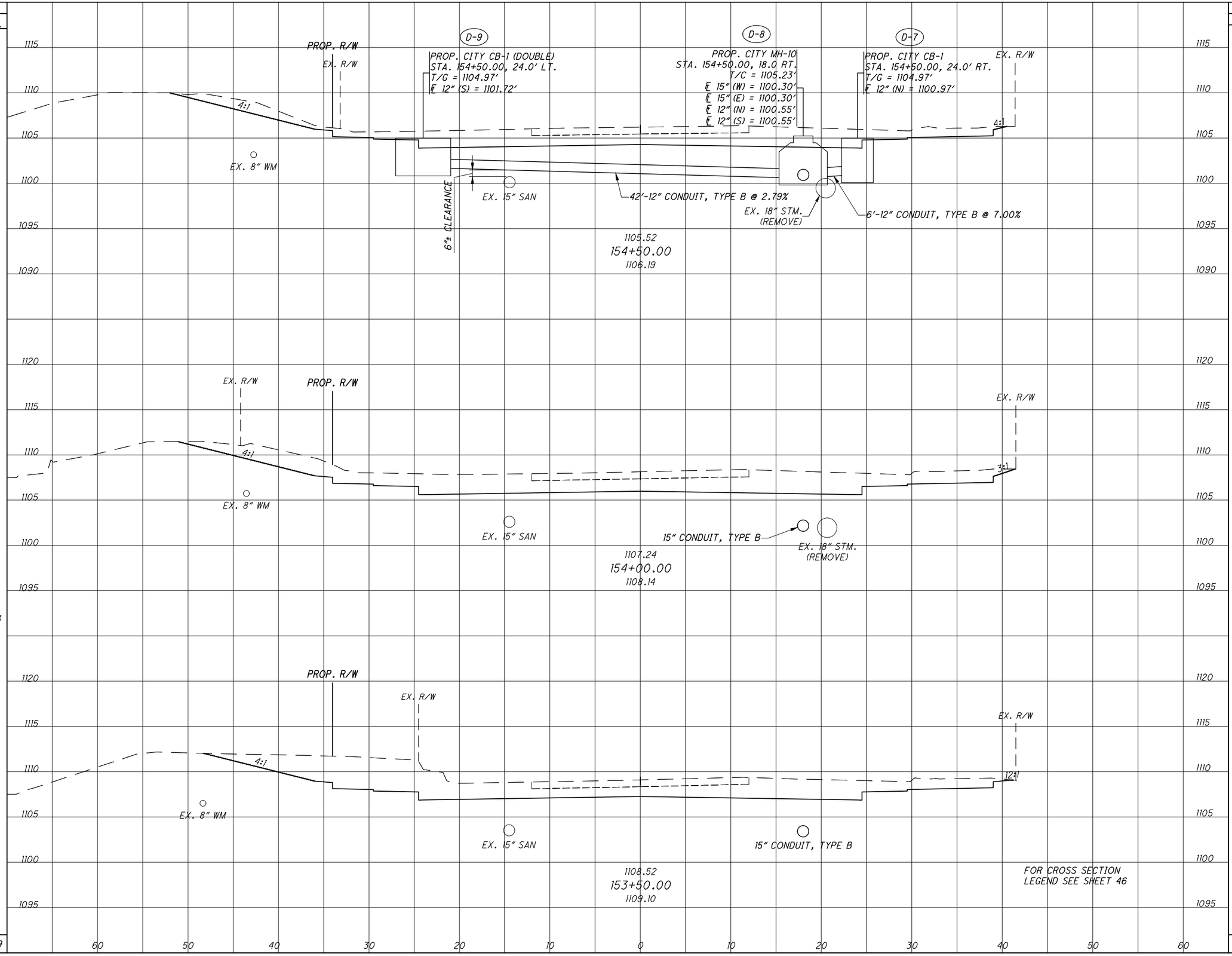
12th STREET CROSS SECTIONS STA. 152+50 TO STA. 153+00

STA - 12TH STREET IMPROVEMENTS

48
210

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:18 PM

SEEDING	
END WIDTH	SQ. YDS.
20	111
20	103
17	75
	289



END AREA	
CUT	FILL
117	0
150	0
157	0

VOLUME	
CUT	FILL
247	0
284	0
241	1
772	1

CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS
STA. 153+50 TO STA. 154+50

STA - 12TH STREET IMPROVEMENTS

C:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:18 PM

SEEDING	
END WIDTH	SQ. YDS.
2	9
2	6
0	56
	71

END AREA	
CUT	FILL
113	2
55	2
109	10

VOLUME	
CUT	FILL
113	2
152	11
209	9
474	22

CALCULATED BRO

CHECKED AKM

12th STREET CROSS SECTIONS
STA. 155+00 TO STA. 155+90

STA - 12TH STREET IMPROVEMENTS

50
210

PROP. R/W
EX. R/W
D-12
PROP. CITY CB-1
STA. 155+90.00, 24.0' LT.
T/G = 1099.88'
℄ 12" (E) = 1095.55'
℄ 12" (SE) = 1091.74'
EX. STONE WALL
12:1
EX. 8" WM
EX. 10" SAN
61' - 12" CONDUIT, TYPE C @ 1.0%
TO CATCH BASIN D-13
EX. 15" SAN
15" CONDUIT, TYPE B
EX. 21" STM.
(REMOVE)
1099.82
155+90.00
1100.36

PROP. R/W
EX. R/W
EX. R/W
EX. 8" WM
EX. 10" SAN
EX. 15" SAN
15" CONDUIT, TYPE B
EX. 21" STM.
(REMOVE)
1101.45
155+50.00
1101.67

PROP. R/W
EX. R/W
EX. R/W
MERCY DRIVE (WEST)
EX. 8" WM
EX. 15" SAN
15" CONDUIT, TYPE B
EX. 18" STM.
(REMOVE)
1103.49
155+00.00
1103.85
FOR CROSS SECTION
LEGEND SEE SHEET 46

1110 1105 1100 1095 1090 1085 1115

60 50 40 30 20 10 0 10 20 30 40 50 60

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:18 PM

SEEDING END WIDTH	SEEDING SQ. YDS.
21	69
4	19
3	3
	91

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
207	0	349	1
170	1	256	2
106	1	38	1
		643	4

CALCULATED BRO
CHECKED AKM

PROP. R/W
EX. R/W
EX. STONE WALL
3:1
8:1
EX. 12" SAN
EX. 15" SAN
EX. 18" STM.
15" CONDUIT, TYPE B
EX. 21" STM. (REMOVE)
1094.55
157+00.00
1096.62

D-13
PROP. CITY CB-4
STA. 156+50.00, 36.30' LT.
T/G = 1098.79
E 12" (SW) = 1097.16
12:1
EX. 8" WM
EX. 10" SAN
EX. 18" STM.
1097.14
156+50.00
1098.68

PROP. R/W
EX. R/W
EX. STONE WALL
12:1
EX. 8" WM
EX. 10" SAN
EX. 15" SAN
12" CONDUIT, TYPE B
1099.40
156+00.00
1100.02

FOR CROSS SECTION LEGEND SEE SHEET 46

1105 1100 1095 1090 1085 1080 1110

60 50 40 30 20 10 0 10 20 30 40 50 60

12th STREET CROSS SECTIONS STA. 156+00 TO STA. 157+00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:18 PM

SEEDING	
END WIDTH	SQ. YDS.
40	152
30	136
28	35
	323

END AREA	
CUT	FILL
95	42
153	33
162	20

VOLUME	
CUT	FILL
179	54
64	11
342	19
585	84

CALCULATED BRO

CHECKED AKM

PROP. R/W
EX. R/W
4:1
24" CONDUIT, TYPE B
1088.42
158+00.00
1090.06
EX. 21" STM. (REMOVE)
EX. STONE WALL
25:1
EX. MH - (REMOVE)
STA. 157+46.27, 25' LT.
T/C = 1096.55
℄ = 18" (N) 1086.95
℄ = 18" (NE) 1086.75
℄ = 21" (S) 1086.40
3:1
D-16
PROP. CITY MH-10
STA. 157+61.00, 2.5' LT.
T/G = 1091.06'
℄ 15" (W) = 1085.55'
℄ 24" (N) = 1084.80'
℄ 12" (SW) = 1085.80'
℄ 24" (SE) = 1084.80'
D-18
PROP. CITY CB-1 (DOUBLE)
STA. 157+61.00, 17.0' RT.
T/G = 1090.11'
℄ 12" (NE) = 1086.00'
EX. MH - (REMOVE)
STA. 157+60.97, 2.5 LT.
T/C = 1093.32'
℄ 18" (SW) = 1086.02'
℄ 21" (N) = 1086.12'
D-15
PROP. CITY MH-10
STA. 157+46.00, 25.0' LT.
T/G = 1093.50
℄ = 24" (SE) 1086.25
℄ = EX.18" (NW) 1086.95
28' - 24" CONDUIT, TYPE B @ 5.22%
20'-12" CONDUIT, TYPE B @ 1.02%
1090.97
157+61.00
1093.08
EX. 21" STM. (REMOVE)
EX. 12" STM. (REMOVE)
EX. 12" SAN
EX. 21" STM. (REMOVE)
24" CONDUIT, TYPE B
15" CONDUIT, TYPE B
1091.65
157+50.00
1093.71
EX. 21" STM. (REMOVE)
FOR CROSS SECTION LEGEND SEE SHEET 46

1100 1095 1090 1085 1080 1075

60 50 40 30 20 10 0 10 20 30 40 50 60

12th STREET CROSS SECTIONS STA. 157+50 TO STA. 158+00

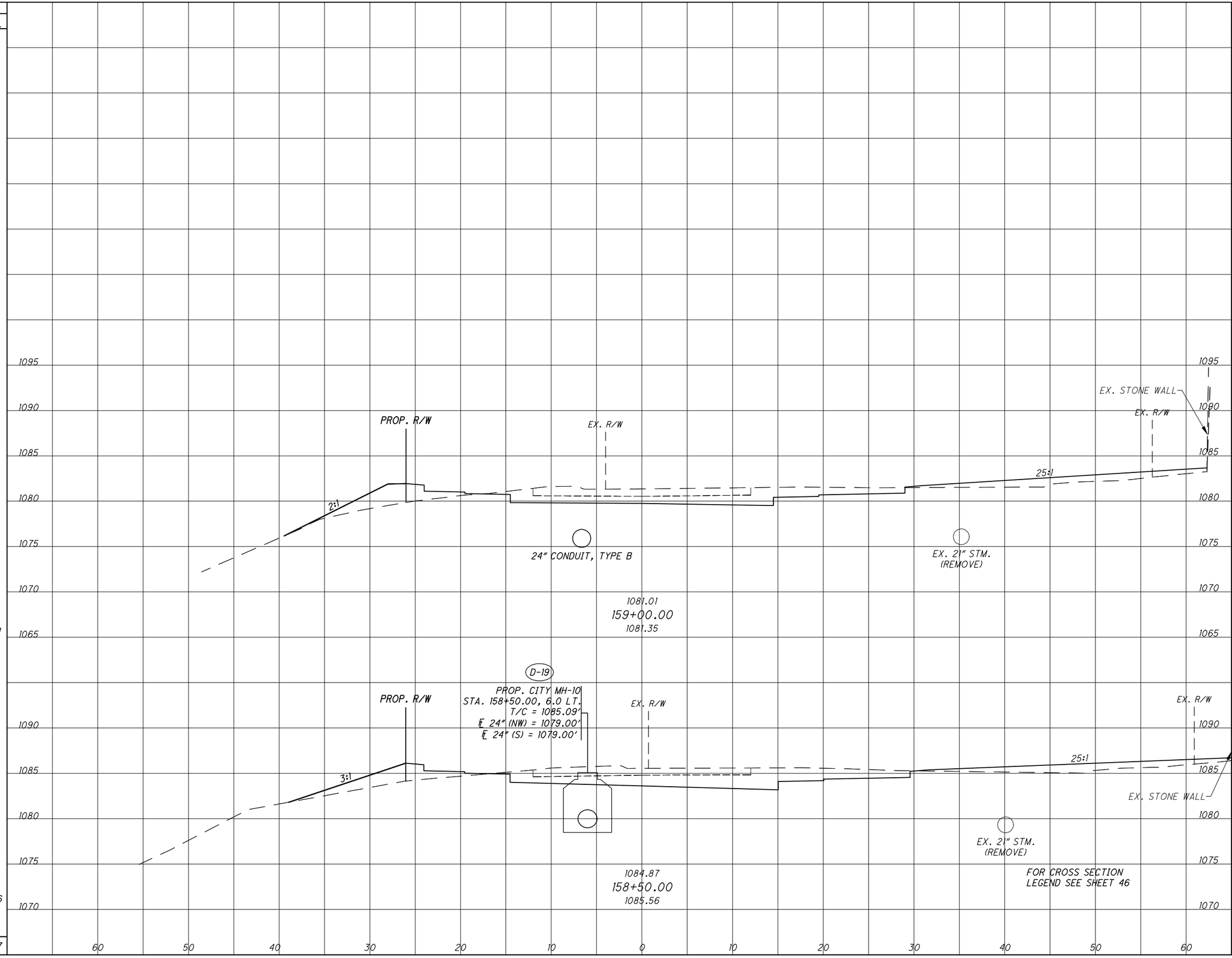
STA - 12TH STREET IMPROVEMENTS

52
210

C:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:19 PM

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
49		42	41		
	281			90	76
52		55	41		
	256			139	77
	537			229	153

CALCULATED BRO
CHECKED AKM

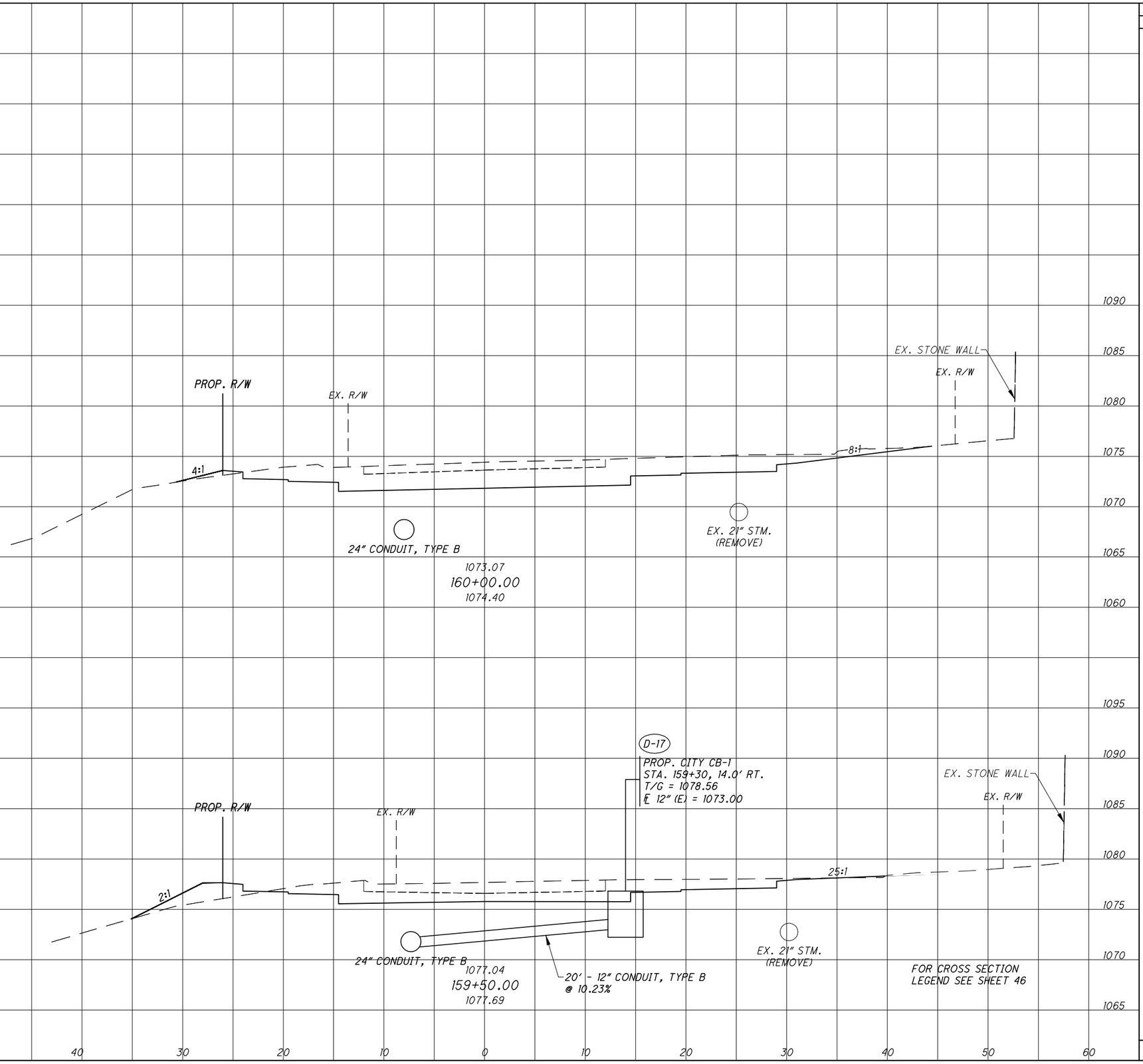


12th STREET CROSS SECTIONS
STA. 158+50 TO STA. 159+00

STA - 12TH STREET IMPROVEMENTS

C:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:19 PM

SEEDING	
END WIDTH	SQ. YDS.
22	122
22	197
	319



END AREA	
CUT	FILL
100	2
55	13
90	50
234	64

VOLUME	
CUT	FILL
144	14

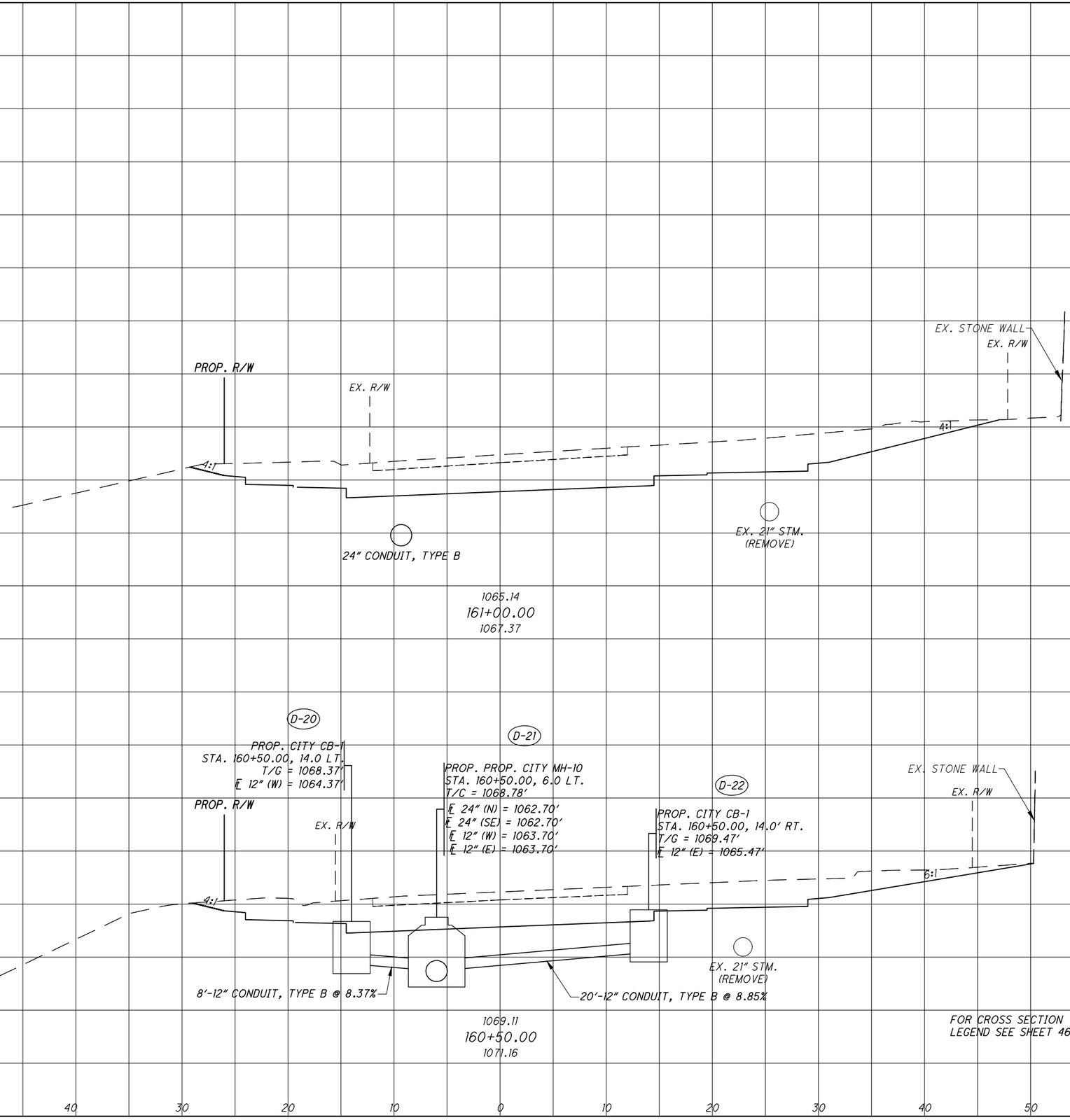
CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS
STA. 159+50 TO STA. 160+00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:19 PM

SEEDING	
END WIDTH	SQ. YDS.
23	
	136
26	
	139
	275



END AREA	
CUT	FILL
185	0
159	0

VOLUME	
CUT	FILL
319	0
240	2
559	2

CALCULATED BRO
CHECKED AKM

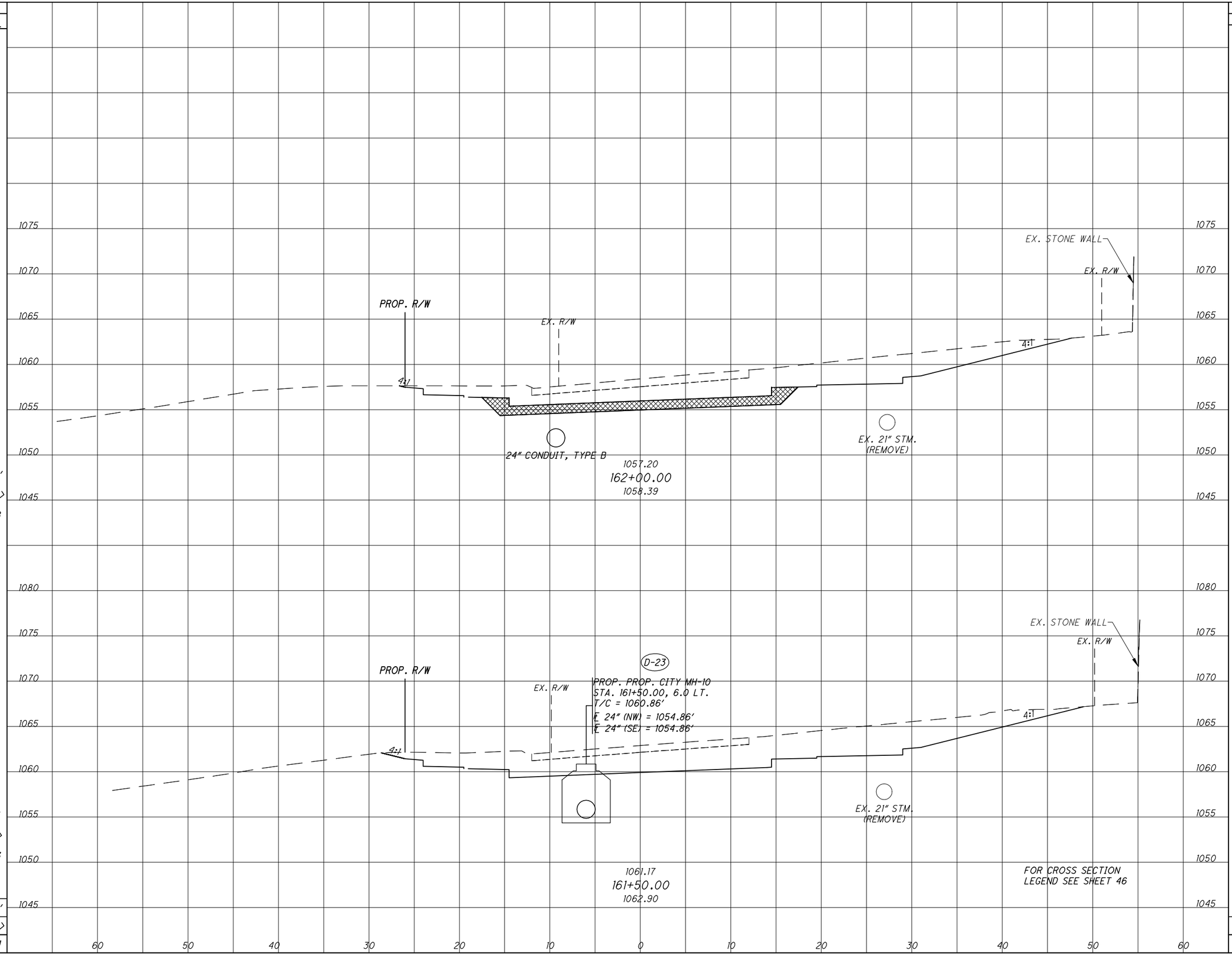
12th STREET CROSS SECTIONS STA. 160+50 TO STA. 161+00

STA - 12TH STREET IMPROVEMENTS

55
210

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:19 PM

SEEDING	
END WIDTH	SQ. YDS.
'32'	
<31>	
21	
	'89'
	<86>
	128
'0'	
<0>	
25	
	'0'
	<0>
	133
	'89'
	<86>
	261



END AREA	
CUT	FILL
37*	
130	0
0*	
166	0
0*	
325	0
34*	
599	0

VOLUME	
CUT	FILL
34*	
274	0

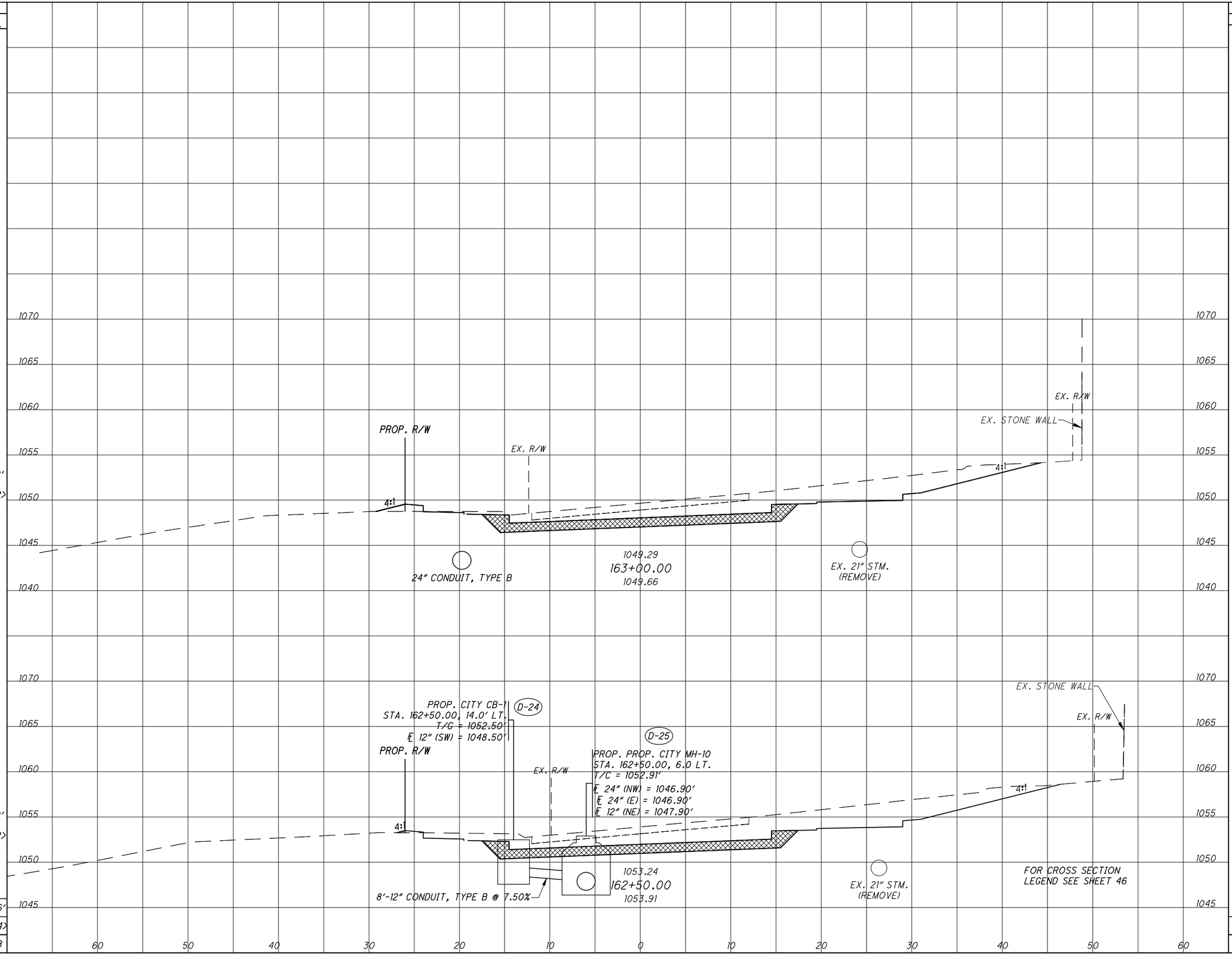
CALCULATED	CHECKED
BRO	AKM

12th STREET CROSS SECTIONS STA. 161+50 TO STA. 162+00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:20 PM

SEEDING	
END WIDTH	SQ. YDS.
'32'	
<31>	
21	
	'178'
	<172>
	114
'32'	
<31>	
20	
	'178'
	<172>
	114
	'356'
	<344>
	228



END AREA	
CUT	FILL
37*	
80	3
37*	
102	1

VOLUME	
CUT	FILL
69*	
169	4
69*	
215	1
138*	
384	5

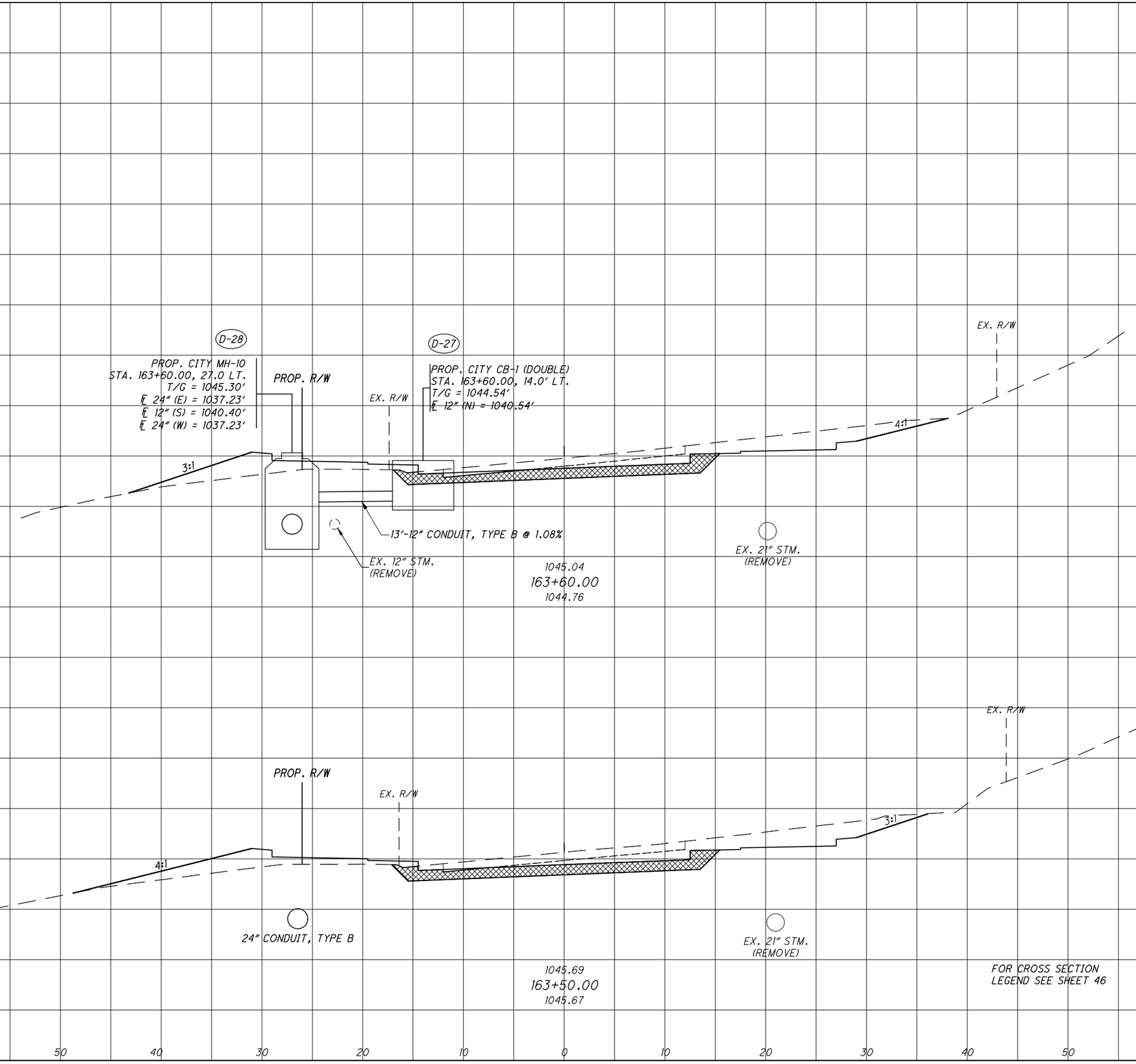
CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS
STA. 162+50 TO STA. 163+00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:20 PM

SEEDING	
END WIDTH	SQ. YDS.
'30'	
<29>	
25	
	'33'
	<32>
	30
'30'	
<29>	
29	
	'172'
	<167>
	139
	'205'
	<199>
	169



END AREA	
CUT	FILL
31*	
40	29
33*	
45	28

VOLUME	
CUT	FILL
12*	
16	11
65*	
116	29
77*	
132	40

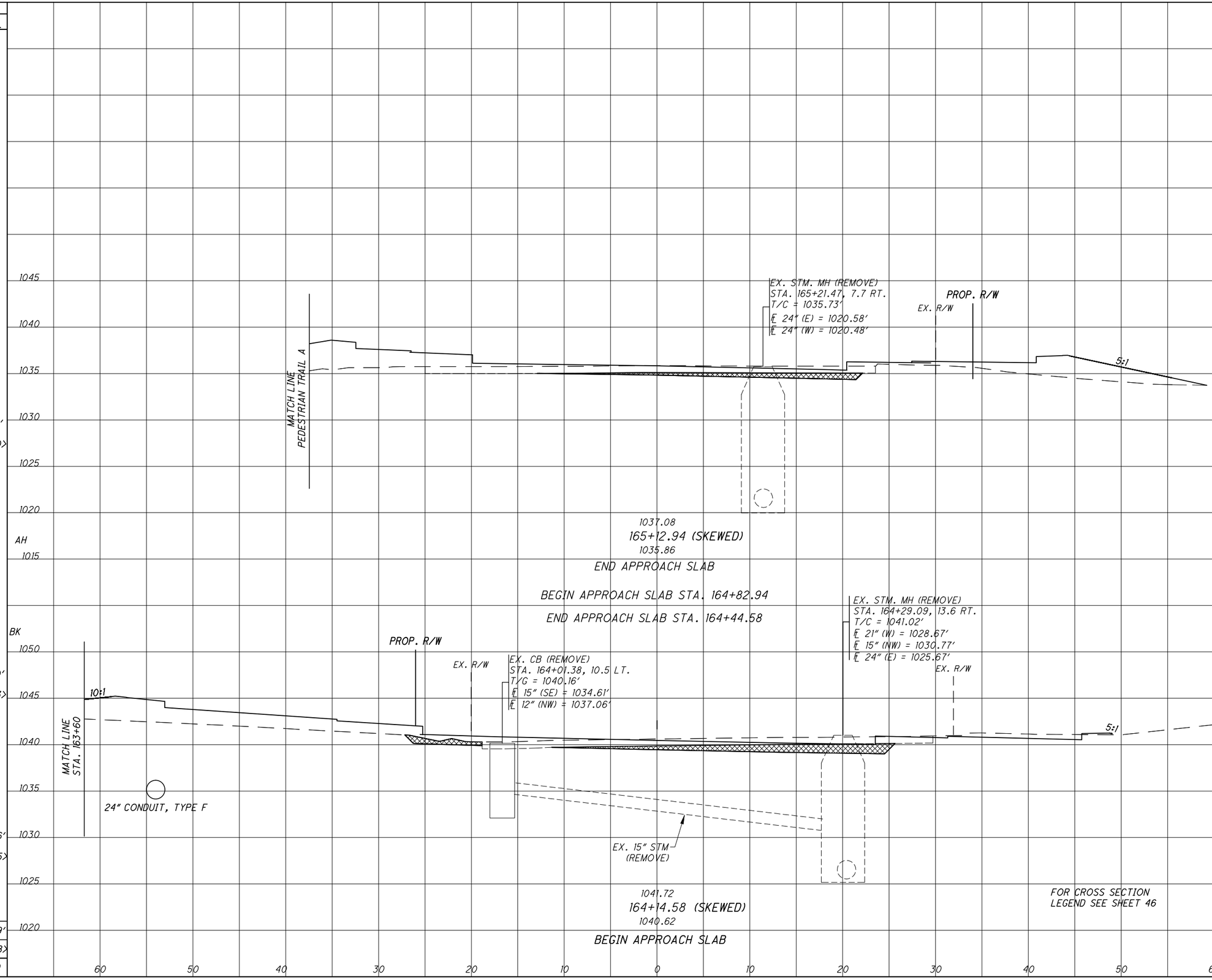
CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS STA. 163+50 TO STA. 163+60

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:20 PM

SEEDING	
END WIDTH	SQ. YDS.
'34'	
<36>	
20	
	'113'
	<120>
	67
'34'	
<36>	
20	
'51'	
<55>	
12	
	'170'
	<183>
	40
'51'	
<55>	
12	
	'246'
	<255>
	112
	'529'
	<558>
	219



END AREA	
CUT	FILL
12*	
0	78
AH	
12*	
0	78
BK	
26*	
19	66
26*	
19	66

VOLUME	
CUT	FILL
13*	
0	87
29*	
21	73
58*	
60	96
100*	
81	256

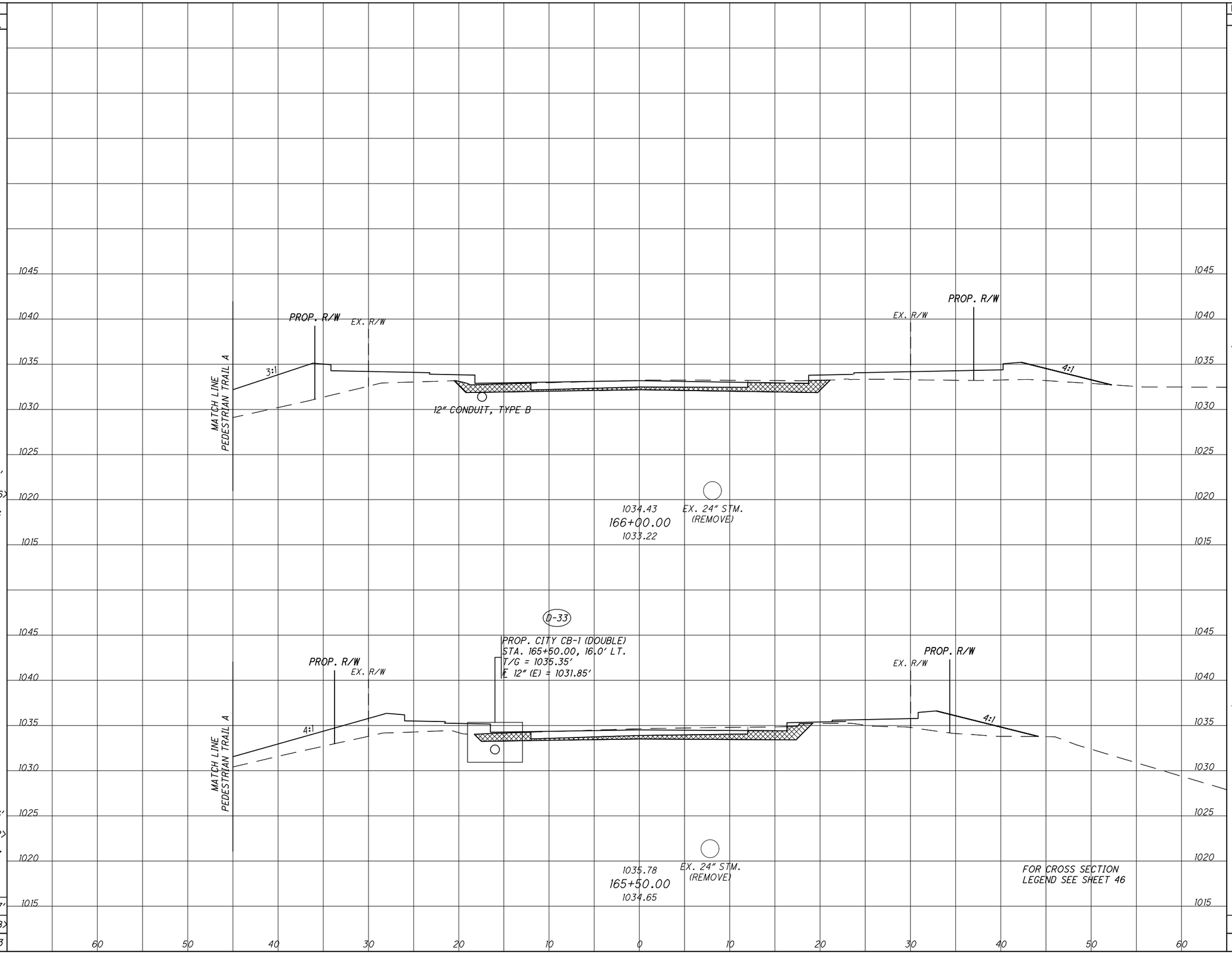
CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS
STA. 164+14.58 TO STA. 165+12.94

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:20 PM

SEEDING	
END WIDTH	SQ. YDS.
'40'	
<39>	
23	
'211'	
<206>	
153	
'36'	
<35>	
32	
'146'	
<142>	
107	
'357'	
<348>	
343	



END AREA	
CUT	FILL
23*	
2	92
22*	
2	68

VOLUME	
CUT	FILL
42*	
4	148
23*	
1	100
65*	
5	322

CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS
STA. 165+50 TO STA. 166+00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:21 PM

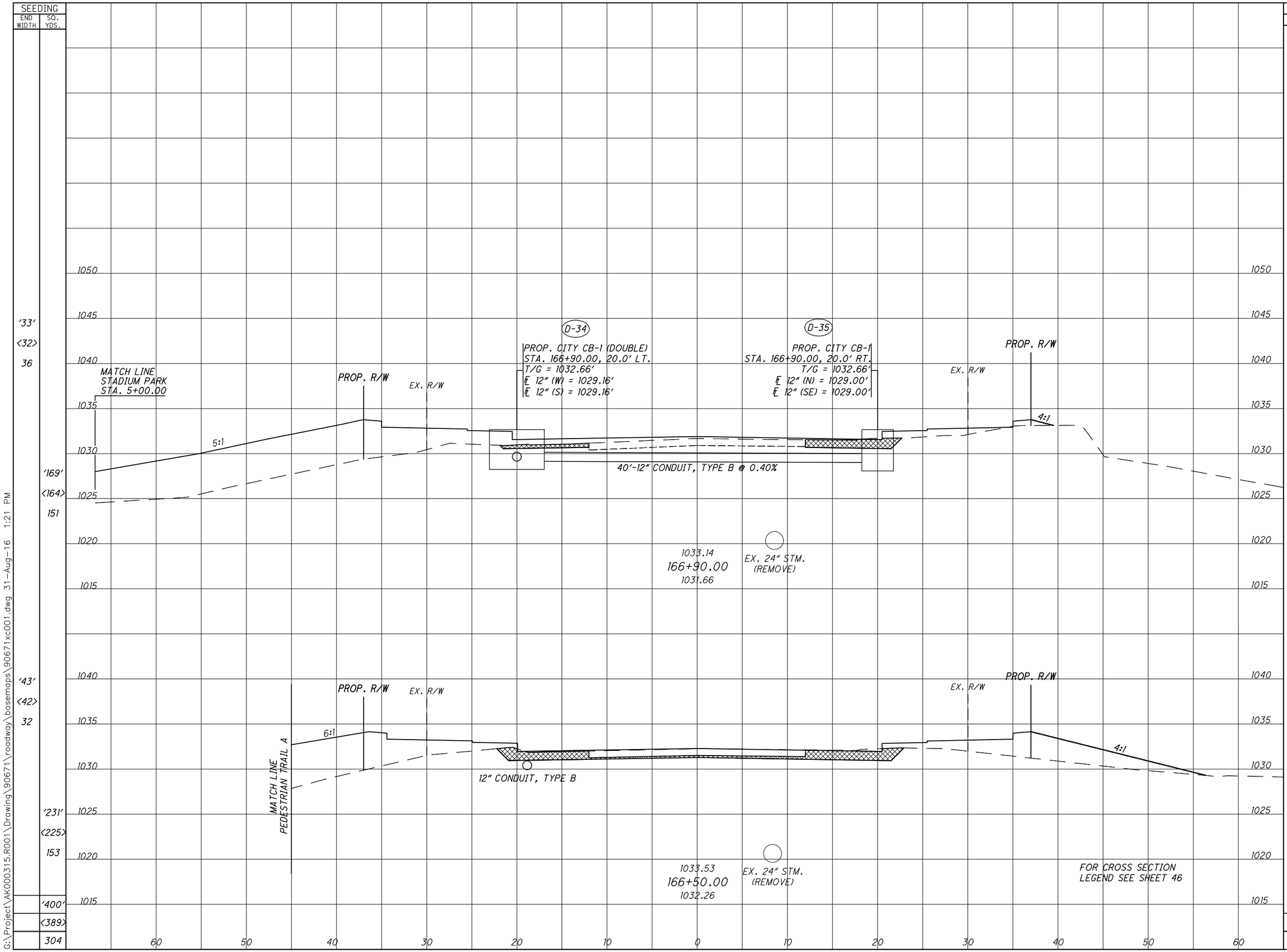
SEEDING	
END WIDTH	SQ. YDS.
'33'	
<32>	
36	
	'169'
	<164>
	151
'43'	
<42>	
32	
	'231'
	<225>
	153
	'400'
	<389>
	304

END AREA	
CUT	FILL
14*	
1	191
26*	
1	117

VOLUME	
CUT	FILL
30*	
1	228
45*	
3	194
75*	
4	422

CALCULATED BRO

CHECKED AKM



12th STREET CROSS SECTIONS
STA. 166+50 TO STA. 166+90.00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:21 PM

SEEDING END WIDTH	SEEDING SQ. YDS.
'5'	
<4>	
47	
	'17'
	<13>
	157
'5'	
<4>	
47	
'0'	
<0>	
47	
'0'	
<0>	
47	
	'86'
	<82>
	376
-200	
'20'	
<19>	
40	
	'29'
	<28>
	42
	'132'
	<123>
	532

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1*			
0	169		
		3*	
		0	563
1*			
0	169		
0*			
0	261		
		10*	
		0	870
0*			
0	261		
		16*	
		0	649
			-19
11*			
0	190		
		5*	
		0	71
		24*	
		0	2,13

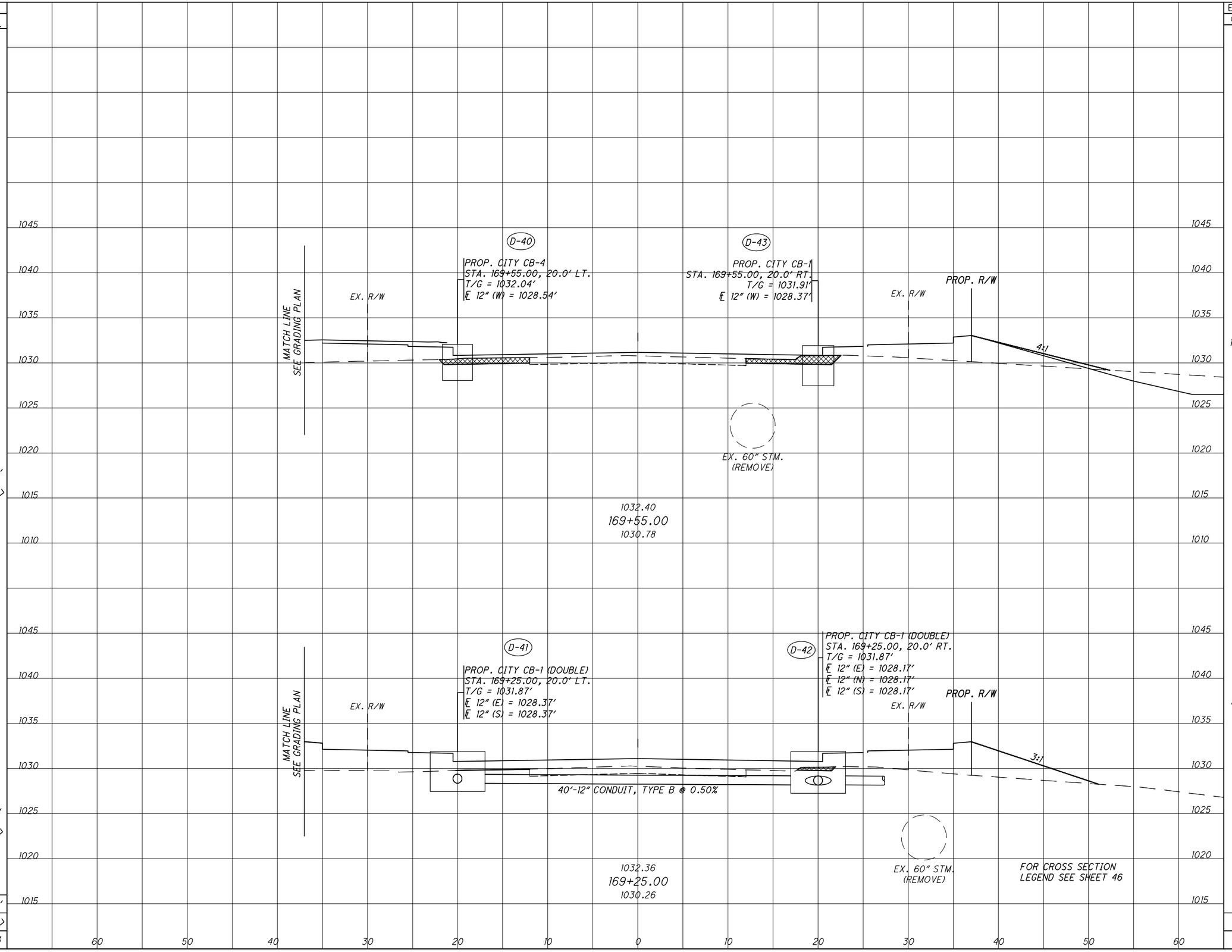
CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS STA. 167+00 TO STA. 169+11.75

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:21 PM

SEEDING	
END WIDTH	SQ. YDS.
'20'	'55'
<19>	<52>
15	55
'13'	'13'
<12>	<12>
18	48
	'68'
	<64>
	103



END AREA	
CUT	FILL
13*	
0	90
2*	
0	139

VOLUME	
CUT	FILL
8*	
0	127
1*	
0	76
9*	
0	203

CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS STA. 169+25 TO STA. 169+55

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:22 PM

SEEDING	
END WIDTH	SQ. YDS.
'0'	
<0>	
0	
	'0'
	<0>
	0
'0'	
<0>	
0	
'44'	
<43>	
19	
	'184'
	<180>
	80
'44'	
<43>	
19	
	'123'
	<155>
	85
'307'	
<335>	TOTALS THIS SHEET
165	
'2441'	
<2450>	12TH ST. TOTAL CARRIED TO SHEET 10
4526	

1045
1040
1035
1030
1025
1020
1015

EX. R/W
EX. R/W
EX. 12" STM
EX. 60" STM
170+50.00
1033.05
AH
STA. 170+37.70 END WORK
- MEET EXIST. PAVT.
BK
D-39
PROP. ODOT MH-5
STA. 170+00.00, 0.0
T/G = 1032.64'
℄ 48" X 76" (SW) = 1021.40'
℄ EX. 60" (E) = 1021.4±
EX. R/W
EX. R/W
PROP. R/W
4:1
MATCH LINE
SEE GRADING PLAN
1032.64
170+00.00
1031.77
FOR CROSS SECTION
LEGEND SEE SHEET 46
EX. 33" SAN

50 40 30 20 10 0 10 20 30 40 50

END AREA	
CUT	FILL
0*	
0	0
0*	
0	0
37*	
5	60
37*	
5	60
TOTALS THIS SHEET	
12TH ST. TOTAL CARRIED TO SHEET 29	

VOLUME	
CUT	FILL
0*	
0	0
52*	
7	84
42*	
4	125
94*	
11	209
616*	
5647	3927

CALCULATED BRO
CHECKED AKM

12th STREET CROSS SECTIONS
STA. 170+00 TO STA. 170+50

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 01-Sep-16 12:30 PM

BENCHMARK No. 1	BENCHMARK No. 2
STA. 70+85.71, 41.7' RT. ELEV. 1034.48' SQUARE CUT IN THE NORTHWEST CORNER OF A TRAFFIC SIGNAL BOX AT THE SOUTHWEST CORNER OF 12TH STREET AND MONUMENT ST.	STA. 69+70.5, 228.0' RT. ELEV. 1022.12' SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.

LEGEND

- PAVEMENT PLANING AND RESURFACING
- EXIST. TRAIL TO BE REMOVED
- EXIST. WETLANDS
- PROPOSED ROCK CHANNEL PROTECTION
- BIORETENTION CELL (SEE SHEET 102 FOR DETAILS)
- B-# BORING (SEE SOIL BORING SHEETS)

NOTE:
* TRANSITION CURB HEIGHT FROM 0" TO 6" OVER 12'

BEGIN WORK STA. 2+00.00

END WORK STA. 6+75.00

PROPOSED SWING GATES SEE SHEET 160 FOR DETAILS (TYP.)

℄ CONST. STADIUM PARK DR. NW

℄ CONST. MULTI-PURPOSE TRAIL

WEST BRANCH NIMISHILLEN CREEK

EXIST. PEDESTRIAN BRIDGE TO BE RELOCATED

STA. 167+77.83 ℄ CONST. 12TH ST. NW BEGIN APPROACH SLAB

DO NOT DISTURB

℄ CONST. STADIUM PARK DR. NW
CURVE DATA (11)
P.I.= Sta. 3+96.44
Δ = 38° 33' 11"
Dc = 15° 16' 44"
R = 375.00'
T = 131.15'
L = 252.33'
E = 22.27'
C = 247.60'
C. B. = N 20° 08' 16" W
emax = N/C

FOR 12TH STREET PLAN & PROFILE, SEE SHEET 45

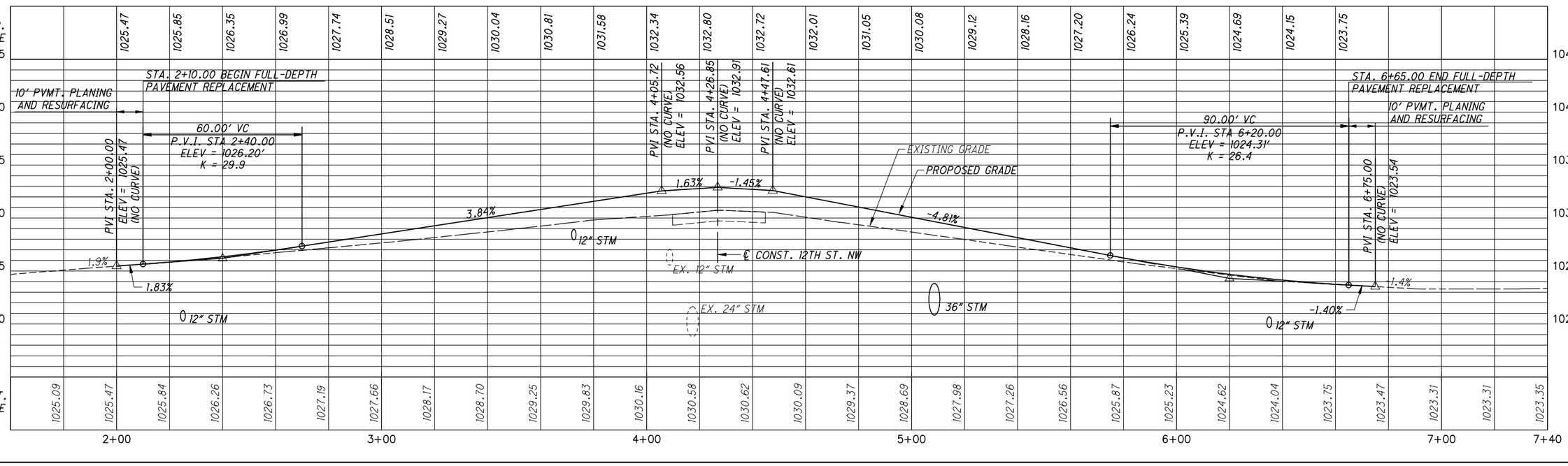
FOR INTERSECTION DETAIL, SEE SHEET 89.

FOR NIMISHILLEN CREEK BRIDGE SITE PLAN, SEE SHEET 134

FOR STORM SEWER PROFILES, SEE SHEETS 97-98.

FOR BIORETENTION CELL DETAILS, SEE SHEET 102.

[A] STA. 4+28.06 ℄ CONST. STADIUM PARK DR. NW = STA. 167+57.74 ℄ CONST. 12TH ST. NW



STADIUM PARK DR. PLAN & PROFILE
STA. 1+50.00 TO STA. 7+50.00

STA - 12TH STREET IMPROVEMENTS

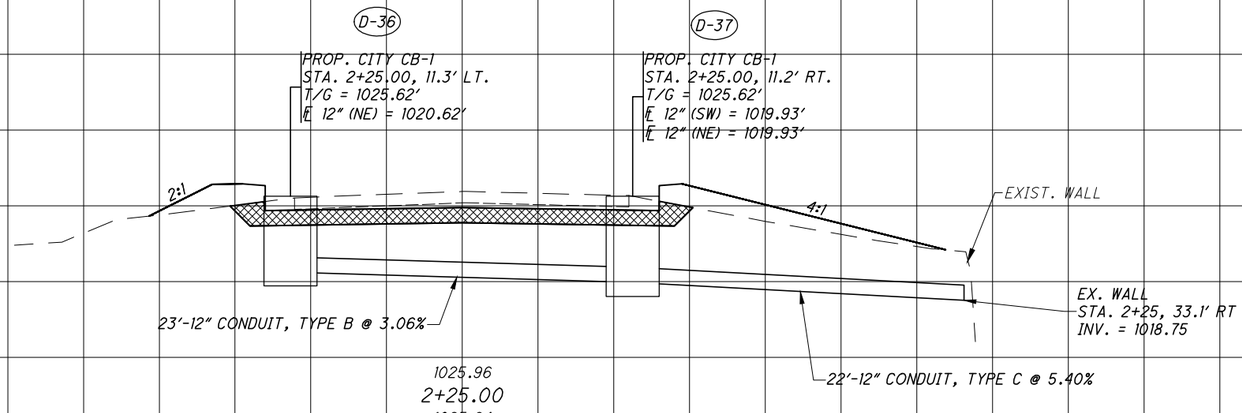
HORIZONTAL SCALE IN FEET

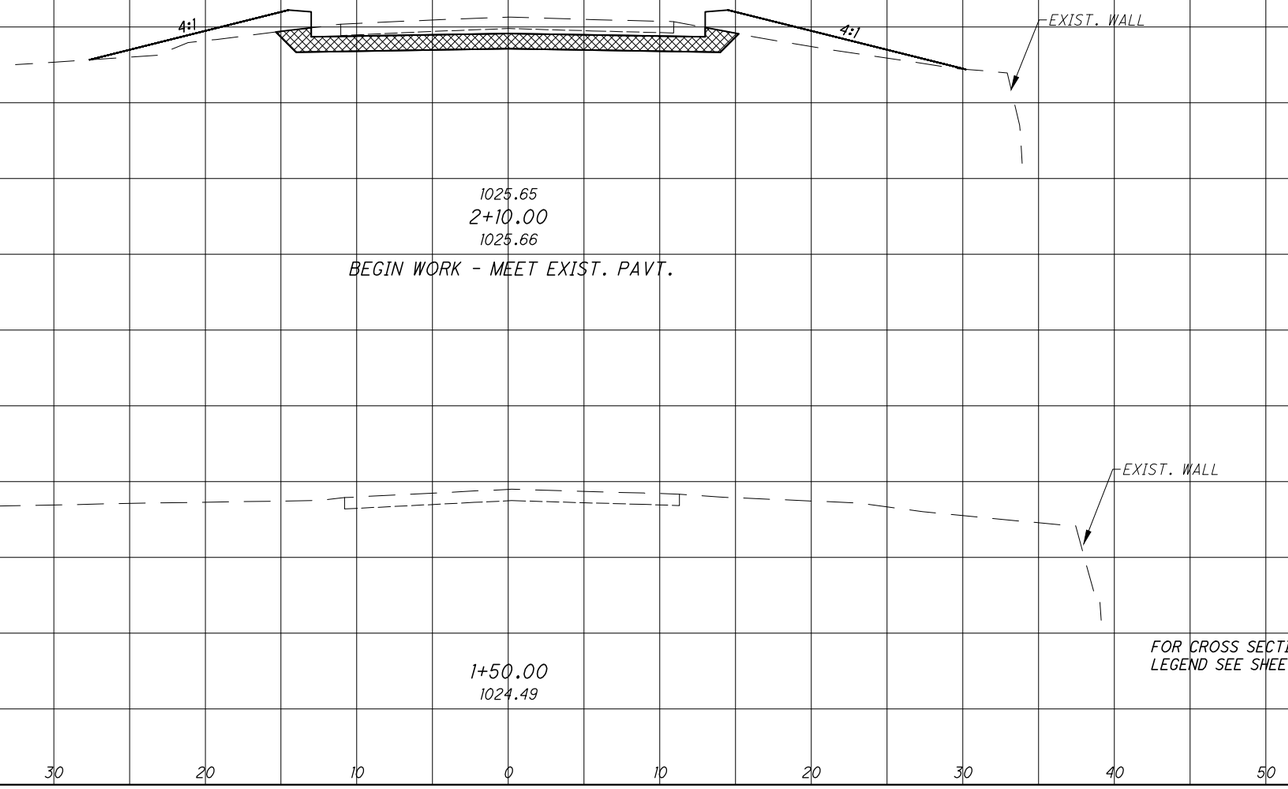
CALCULATED MAL | CHECKED SMG

65
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP02.dwg 31-Aug-16 1:24 PM

SEEDING	
END WIDTH	SQ. YDS.
'27'	
<33>	
27	
	'48'
	<55>
	49
'29'	
<33>	
32	
<0>	
0	
	<0>
	0
<0>	
0	
'48'	
<55>	
49	





END AREA	
CUT	FILL
31*	
8	25
31*	
8	26
0*	
0	0
0*	
0	0
17*	
4	14

VOLUME	
CUT	FILL
17*	
4	14

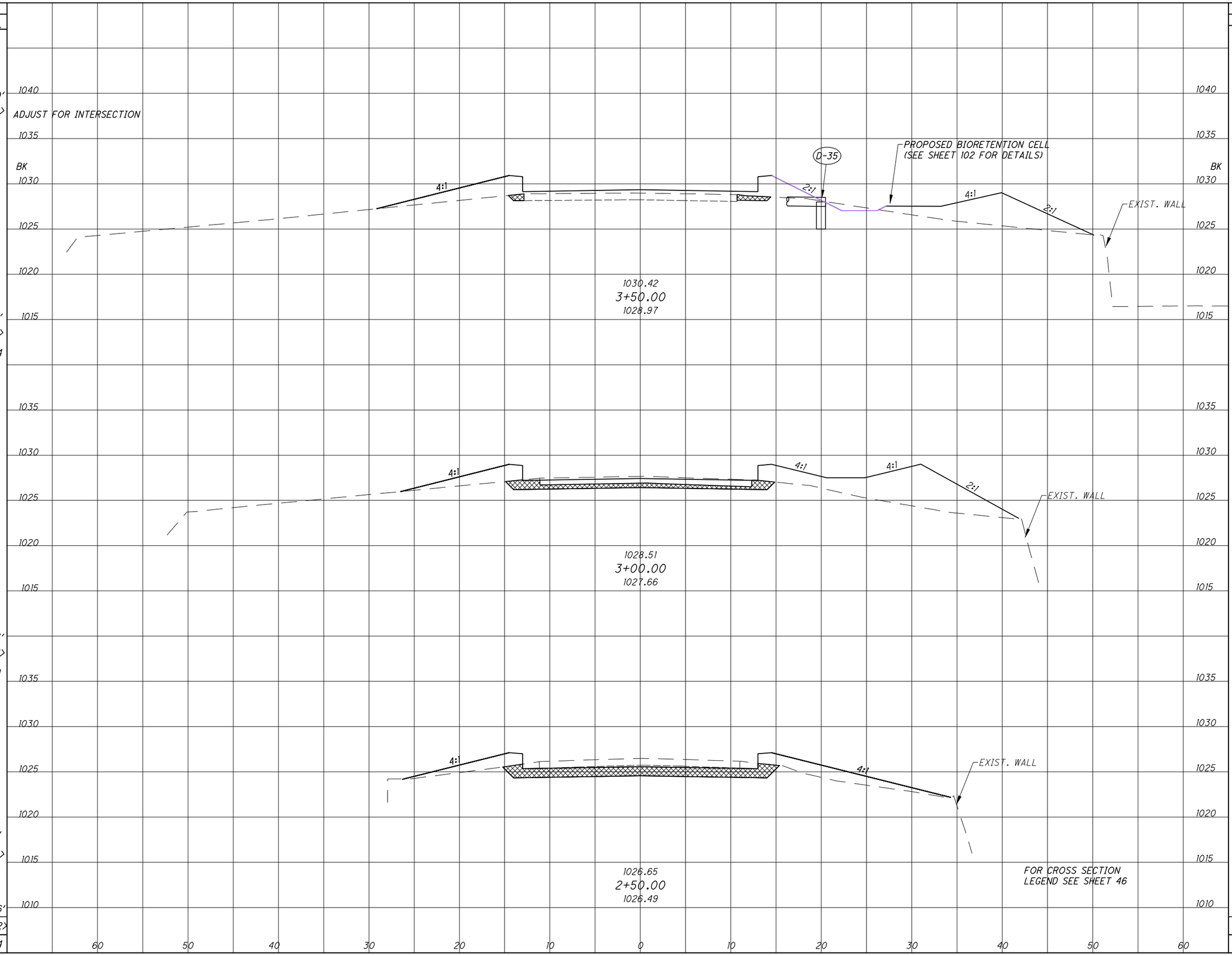
CALCULATED BRO
CHECKED AKM

STADIUM PARK DRIVE CROSS SECTIONS
STA. 1+50.00 TO STA. 2+25.00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:25 PM

SEEDING END WIDTH	SEEDING SQ. YDS.
'40'	
<56>	
<5>	
<7>	
53	
'94'	
<111>	
264	
'29'	
<33>	
42	
'183'	
<161>	
214	
'29'	
<33>	
35	
'81'	
<92>	
86	
'376'	
<442>	
564	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
3*			
2	90		
		18*	
		3	159
16*			
1	82		
		44*	
		6	105
31*			
5	31		
		29*	
		6	26
		91*	
		15	290

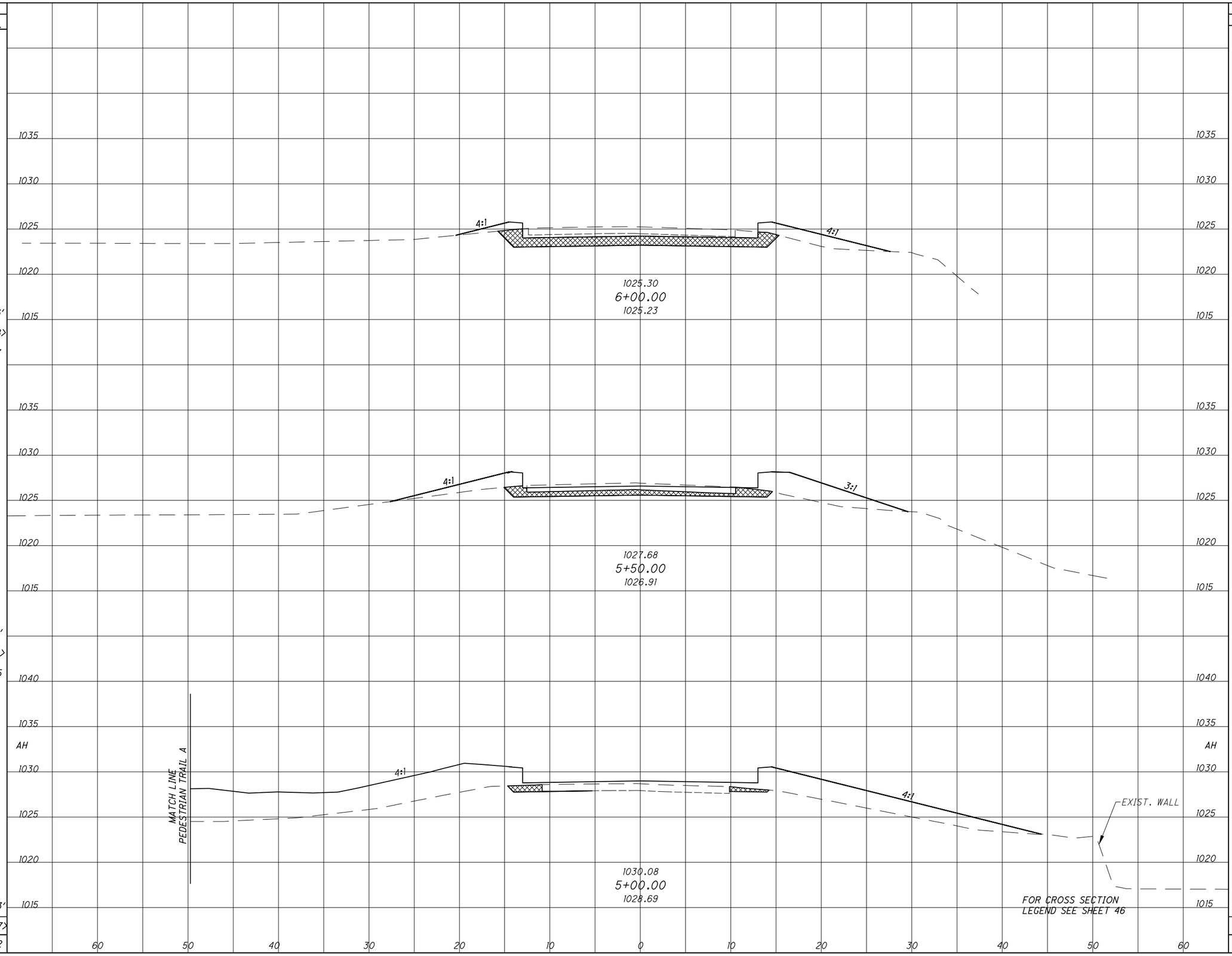
CALCULATED BRO
CHECKED AKM

STADIUM PARK DRIVE CROSS SECTIONS
STA. 2+50.00 TO STA. 3+50.00

STA - 12TH STREET IMPROVEMENTS

C:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:25 PM

SEEDING	
END WIDTH	SQ. YDS.
'28'	
<32>	
22	
	'156'
	<178>
	147
'28'	
<32>	
31	
	'97'
	<119>
	275
'7'	
<11>	
68	
	'253'
	<297>
	422



END AREA	
CUT	FILL
32*	
8	18
17*	
1	40
4*	
0	165

VOLUME	
CUT	FILL
45*	
8	54
19*	
1	190
64*	
9	244

CALCULATED BRO
CHECKED AKM

STADIUM PARK DRIVE CROSS SECTIONS
STA. 5+00.00 TO STA. 6+00.00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:25 PM

SEEDING END WIDTH	SEEDING SQ. YDS.	
<0>		
<0>		
0	'0'	
	<0>	
	0	
'28'		
<32>		
8		
'62'		
<71>		
26		
'28'		
<32>		
15		
'140'		
<160>		
93		
'202'		
<231>		
119	TOTALS THIS SHEET	
'879'		
<1025>	STADIUM PARK TOTAL CARRIED TO SHEET 10	
1154		

1030
1025
1020
1015
1010
1030
1025
1020
1015
1035
1030
1025
1020
1015

7+00.00
1023.31

6+65.00
1023.68
END WORK
MEET EXIST. PAVT.

D-30
PROP. CITY CB-1
STA. 6+45.00, 11.8' LT.
T/G = 1023.67'
℄ 12" (E) = 1019.80'

D-31
PROP. CITY CB-1
STA. 6+45.00, 11.2' RT.
T/G = 1023.68'
℄ 12" (W) = 1019.57'
℄ 12" (E) = 1019.57'

4:1
4:1

PROP. ODOT HW-2.1 OR HW-2.2
STA. 6+45.00, 35.18' RT.
INV. = 1019.10

23'-12" CONDUIT, TYPE B @ 1.00%
24'-12" CONDUIT, TYPE C @ 1.96%

1024.00
6+45.00
1023.96

FOR CROSS SECTION LEGEND SEE SHEET 46

50 40 30 20 10 0 10 20 30 40 50

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0*			
0	0		
		0*	
		0	0
32*			
BK			
11	0		
		24*	
		8	4
33*			
11	10		
		53*	
		16	23
		77*	
TOTALS THIS SHEET		24	27
		249*	
STADIUM PARK TOTAL CARRIED TO SHEET 29		52	717

CALCULATED BRO
CHECKED AKM

STADIUM PARK DRIVE CROSS SECTIONS STA. 6+45.00 TO STA. 7+00.00

STA - 12TH STREET IMPROVEMENTS

69
210

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 01-Sep-16 12:31 PM

MULTI-PURPOSE TRAIL CURVE DATA					
NO.	RADIUS	LENGTH	Δ	PC STATION	PT STATION
3	300.00′	35.12′	6° 42′ 28″	0+77.54	1+12.67
4	60.00′	22.95′	21° 54′ 56″	3+97.95	4+20.90
5	100.00′	81.43′	46° 39′ 12″	5+18.21	5+99.64
24	120.00′	53.36′	25° 28′ 39″	1+74.23	2+27.59
25	60.00′	11.56′	11° 02′ 24″	2+60.66	2+72.23

MULTI-PURPOSE BY-PASS CURVE DATA					
NO.	RADIUS	LENGTH	Δ	PC STATION	PT STATION
12	40.00′	50.90′	72° 54′ 22″	20+32.76	20+83.65
13	40.00′	17.33′	24° 49′ 15″	20+97.56	21+14.89
14	60.00′	17.00′	16° 13′ 59″	30+82.17	30+99.17

PEDESTRIAN TRAIL (B) CURVE DATA					
NO.	RADIUS	LENGTH	Δ	PC STATION	PT STATION
16	200.00′	38.24′	10° 57′ 23″	120+53.24	120+91.48

F STA. 21+18.31 ℄ CONST. MULTI-PURPOSE BYPASS = STA. 169+98.00, 20.00′ RT. ℄ CONST. 12TH ST. NW

G STA. 30+19.00 ℄ CONST. MULTI-PURPOSE BYPASS = STA. 169+98.00, 39.00′ LT. ℄ CONST. 12TH ST. NW

H STA. 120+00.00 ℄ CONST. PED TRAIL (B) = STA. 169+10.42, 35.00′ LT. ℄ CONST. 12TH ST. NW

EXIST. TRAIL TO BE REMOVED

EXIST. WETLANDS

PROPOSED ROCK CHANNEL PROTECTION

BIORETENTION CELL (SEE SHEET 102 FOR DETAILS)

B-# BORING (SEE SOIL BORING SHEETS)

BEGIN WORK STA. 0+50.00

STRUCTURE NO. M12TH CA-05-15

℄ CONST. STADIUM PARK DR. NW

STA. 2+83.00 ℄ CONST. MULTI-PURPOSE TRAIL. STA. 20+00.00 ℄ CONST. MULTI-PURPOSE BYPASS

℄ CONST. MULTI-PURPOSE TRAIL

WEST BRANCH NIMISHILLEN CREEK

PC STA. 3+97.95

PT STA. 4+20.90

CONC. HEADWALL

ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER, AS PER PLAN (2′-6″ THICK)

BEGIN RCP STA. 5+48.53 10.64′ LT.

MATCHLINE STA. 5+70 MULTI-PURPOSE TRAIL

FOR CONTINUATION, SEE SHEET 71

PC STA. 5+18.21

RELOCATED BARNSTONES

℄ CONST. PED TRAIL (B)

MATCHLINE STA. 120+80 PED. TRAIL (B)

PARK SHELTER (DND)

PC STA. 120+53.24

ASPHALT

PT STA. 2+72.23

PC STA. 2+60.66

PC STA. 20+32.76

PT STA. 20+83.65

PC STA. 20+97.56

PT STA. 21+14.89

PC STA. 30+82.17

PT STA. 30+99.17

PC STA. 0+77.54

PT STA. 1+12.67

PC STA. 1+74.23

PT STA. 2+27.59

CONST. LIMIT

℄ CONST. MULTI-PURPOSE BYPASS (SOUTH)

℄ CONST. MULTI-PURPOSE BYPASS (NORTH)

MATCHLINE STA. 31+10 TRAIL BY-PASS (NORTH)

AKRON METRO RAILROAD

RR-CROSSING CONC. PANELS

T-STY BLDG. (DND)

RR COMM.

POST SIGN

RR SIG.

POST

N 18°20′26″ W

N 25°02′54″ W

N 50°21′33″ W

N 50°30′51″ E

N 22°23′31″ W

N 17°54′13″ W

N 39°29′09″ W

N 06°59′17″ W

N 10°51′48″ W

12″ STM

48″X76″ STM

EX. 54″ SAN

EX. 33″ SAN

EX. 60″ SW

EX. RR

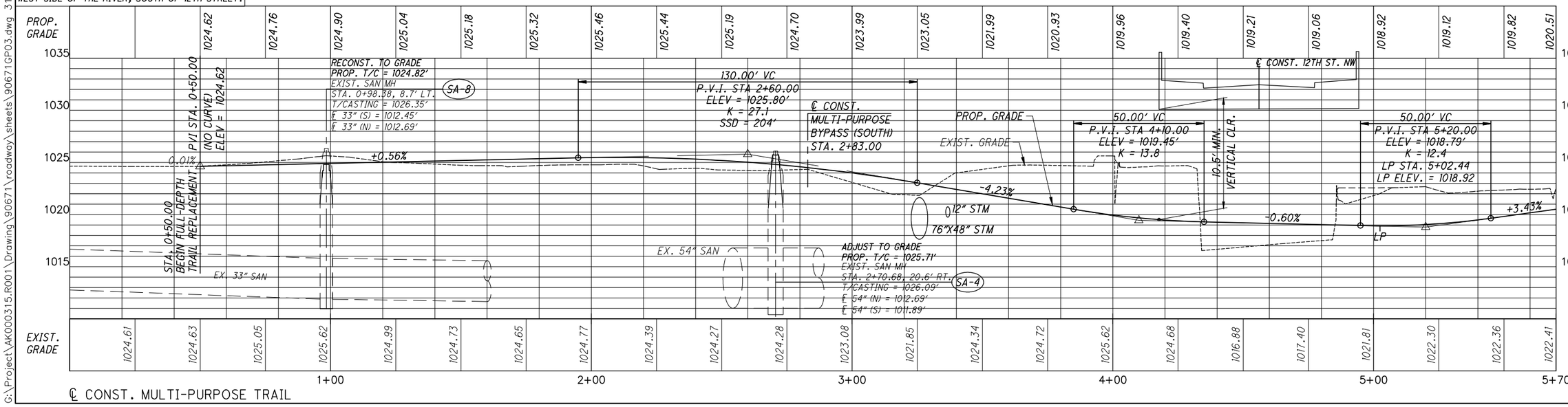
BENCHMARK No. 1

STA. 70+85.71, 41.7′ RT.
ELEV. 1034.48′
SQUARE CUT IN THE NORTHWEST CORNER OF A TRAFFIC SIGNAL BOX AT THE SOUTHWEST CORNER OF 12TH STREET AND MONUMENT ST.

BENCHMARK No. 2

STA. 69+70.5, 228.0′ RT.
ELEV. 1022.12′
SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.

FOR NIMISHILLEN CREEK BRIDGE SITE PLAN, SEE SHEET 134
FOR MULTI-PURPOSE TRAIL BY-PASS PROFILES, SEE SHEET 72
FOR PEDESTRIAN TRAIL (B) PROFILE, SEE SHEET 84
FOR STORM SEWER PROFILES, SEE SHEET 97
FOR GRADING PLAN, SEE SHEETS 90-91



HORIZONTAL SCALE IN FEET
0 10 20 40

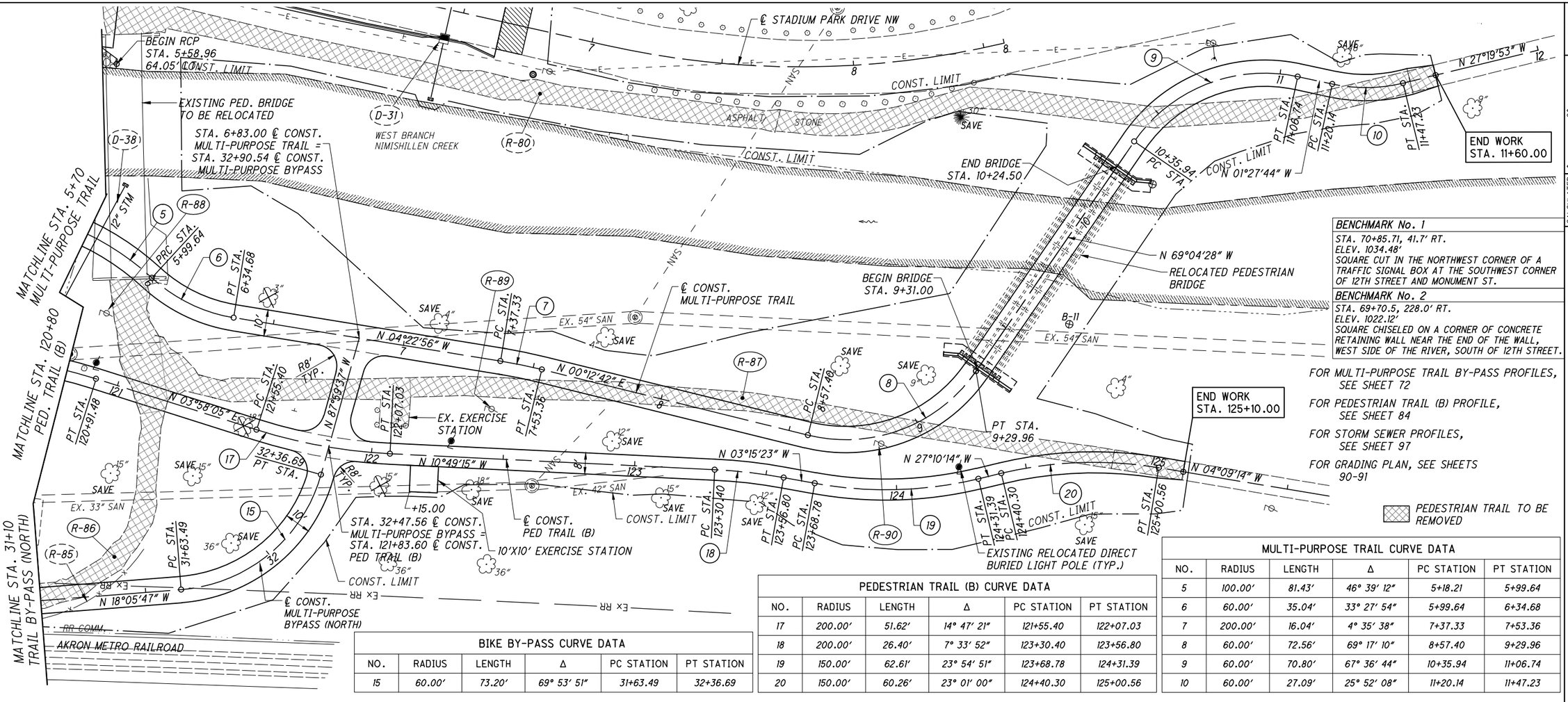
CALCULATED MAL
CHECKED SMG

MULTI-PURPOSE TRAIL PLAN & PROFILE STA. 0+00.00 TO STA. 5+50.00

STA - 12TH STREET IMPROVEMENTS

70
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP03.dwg 31-Aug-16 1:28 PM



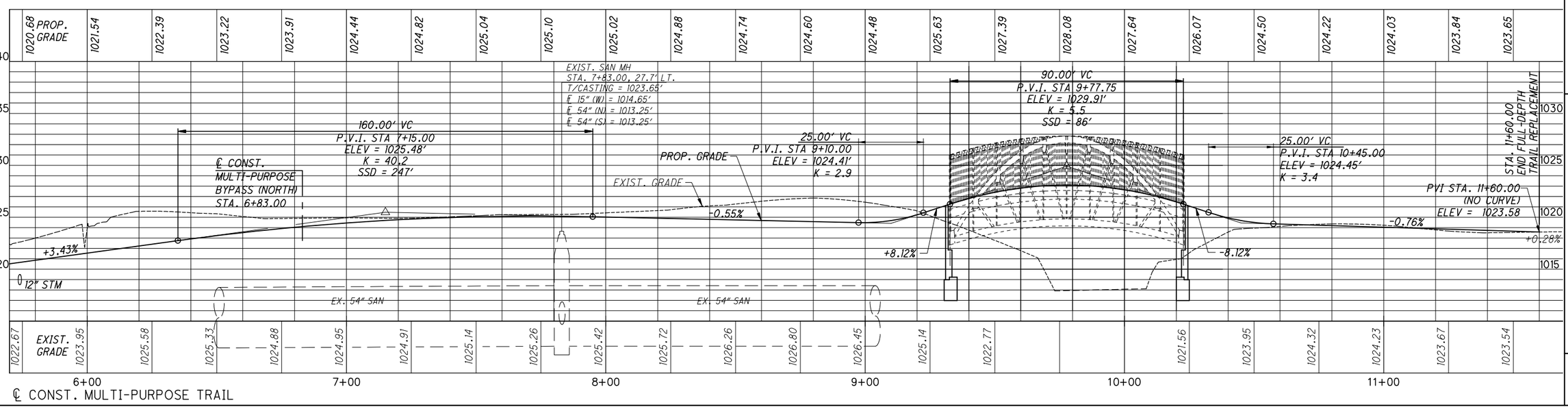
BENCHMARK No. 1
STA. 70+85.71, 41.7' RT. ELEV. 1034.48' SQUARE CUT IN THE NORTHWEST CORNER OF A TRAFFIC SIGNAL BOX AT THE SOUTHWEST CORNER OF 12TH STREET AND MONUMENT ST.

BENCHMARK No. 2
STA. 69+70.5, 228.0' RT. ELEV. 1022.12' SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.

MULTI-PURPOSE TRAIL CURVE DATA					
NO.	RADIUS	LENGTH	Δ	PC STATION	PT STATION
5	100.00'	81.43'	46° 39' 12"	5+18.21	5+99.64
6	60.00'	35.04'	33° 27' 54"	5+99.64	6+34.68
7	200.00'	16.04'	4° 35' 38"	7+37.33	7+53.36
8	60.00'	72.56'	69° 17' 10"	8+57.40	9+29.96
9	60.00'	70.80'	67° 36' 44"	10+35.94	11+06.74
10	60.00'	27.09'	25° 52' 08"	11+20.14	11+47.23

PEDESTRIAN TRAIL (B) CURVE DATA					
NO.	RADIUS	LENGTH	Δ	PC STATION	PT STATION
17	200.00'	51.62'	14° 47' 21"	121+55.40	122+07.03
18	200.00'	26.40'	7° 33' 52"	123+30.40	123+56.80
19	150.00'	62.61'	23° 54' 51"	123+68.78	124+31.39
20	150.00'	60.26'	23° 01' 00"	124+40.30	125+00.56

BIKE BY-PASS CURVE DATA					
NO.	RADIUS	LENGTH	Δ	PC STATION	PT STATION
15	60.00'	73.20'	69° 53' 51"	31+63.49	32+36.69



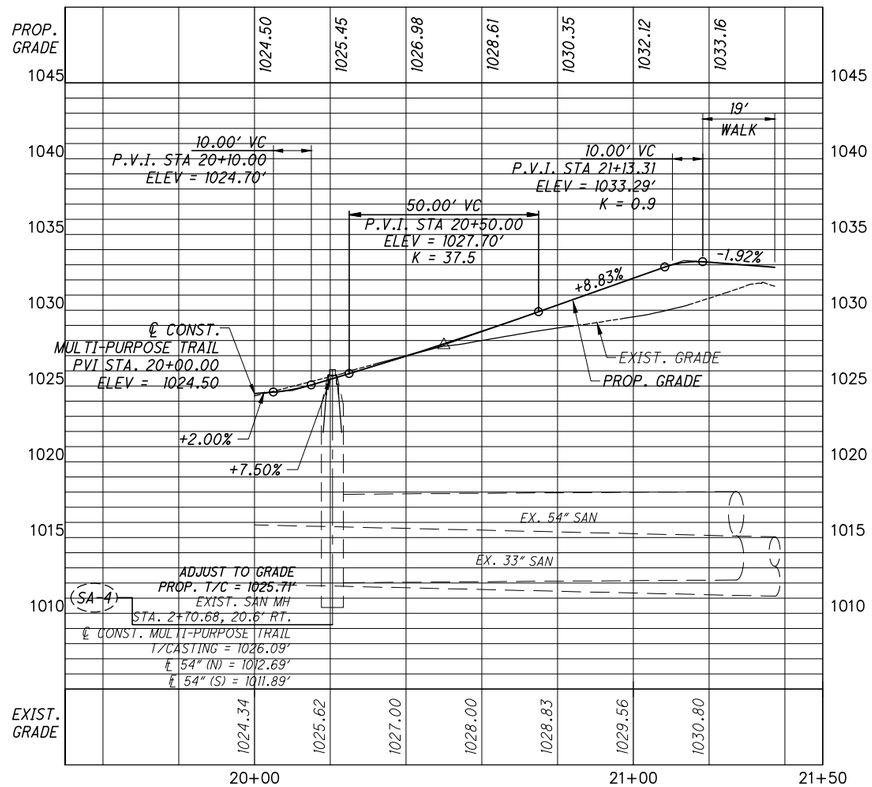
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED MAL
CHECKED SMG

MULTI-PURPOSE TRAIL PLAN & PROFILE
STA. 5+50.00 TO STA. 10+50.00

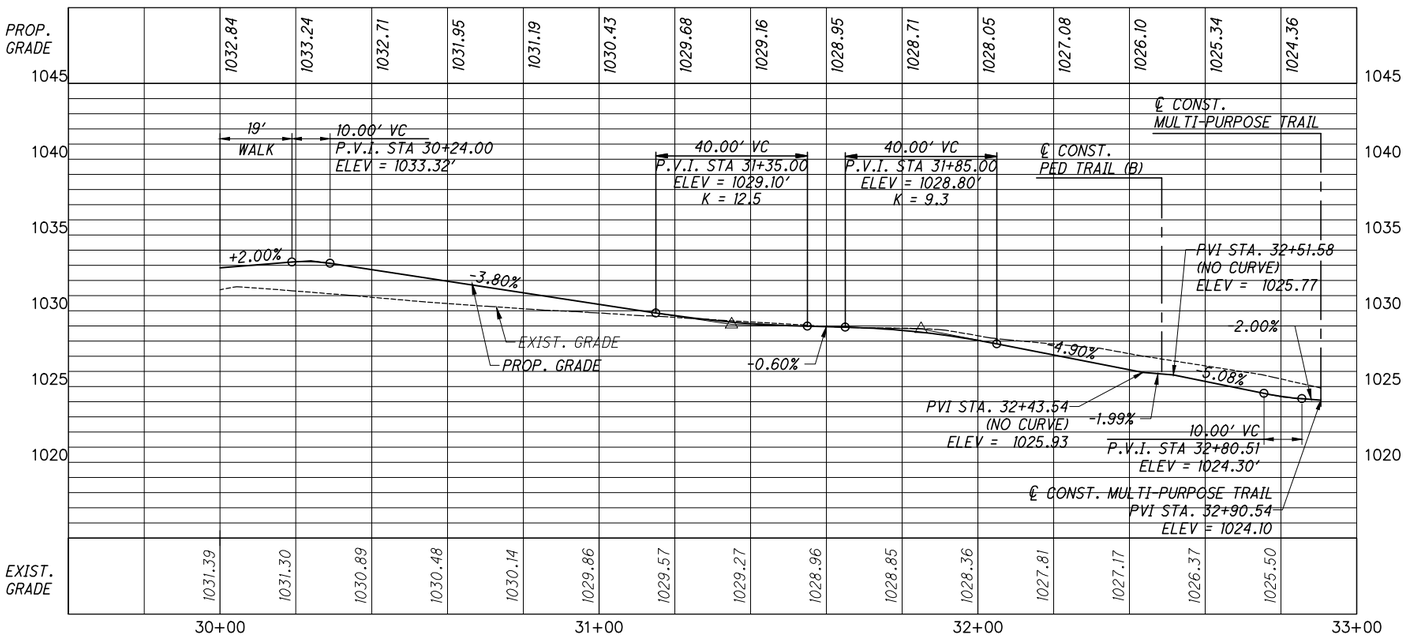
STA - 12TH STREET IMPROVEMENTS

71
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP03.dwg 31-Aug-16 1:29 PM



℄ CONST. MULTI-PURPOSE BYPASS (SOUTH)



℄ CONST. MULTI-PURPOSE BYPASS (NORTH)

FOR MULTI-PURPOSE TRAIL PLAN & PROFILES, SEE SHEETS 70-71

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MAL
CHECKED SMG

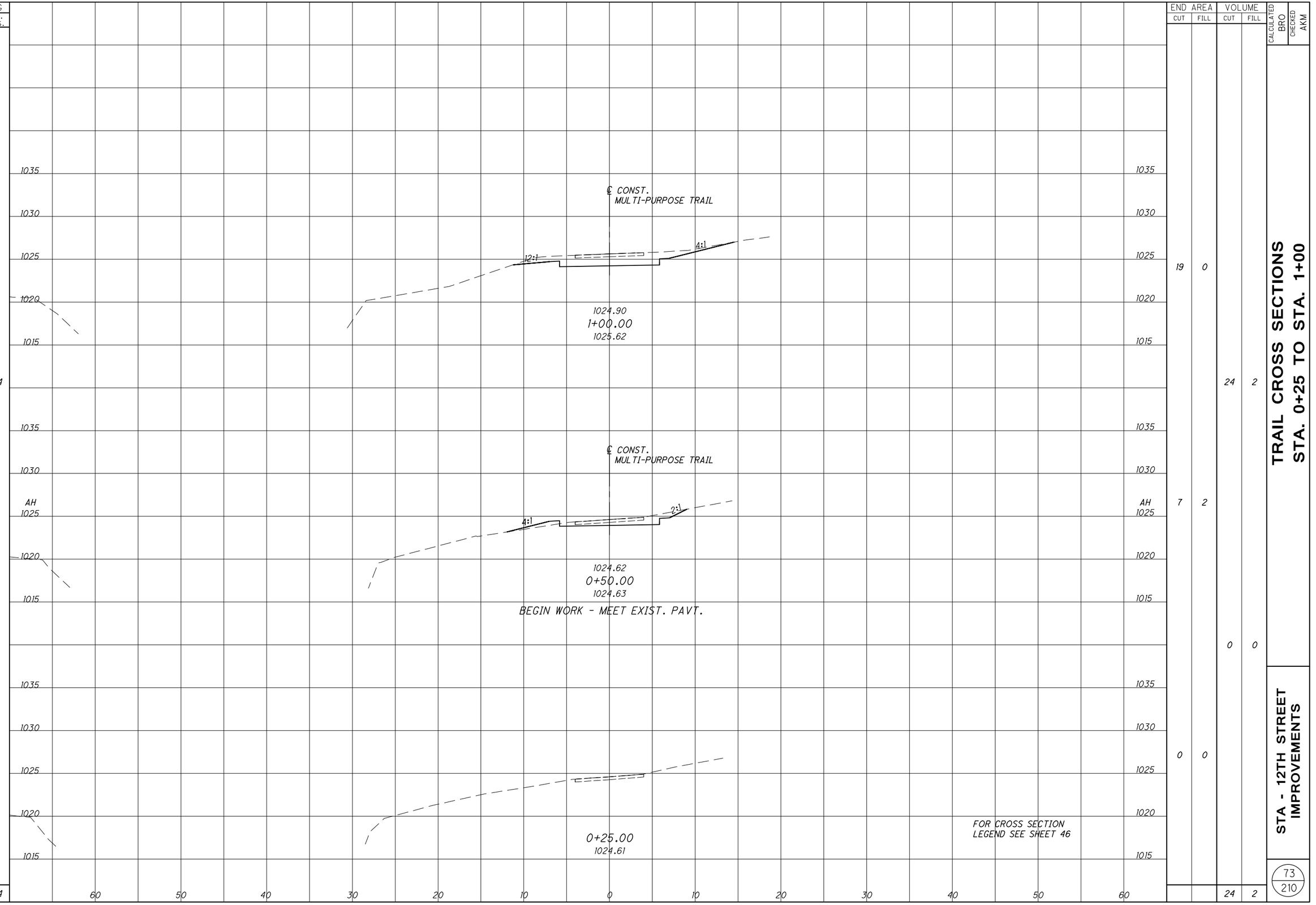
MULTI-PURPOSE TRAIL BY-PASS PROFILES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP03.dwg 31-Aug-16 1:29 PM

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
14	64	19	0	24	2
9	0	7	2	0	0
0		0	0		
	64			24	2

CALCULATED BRO
CHECKED AKM

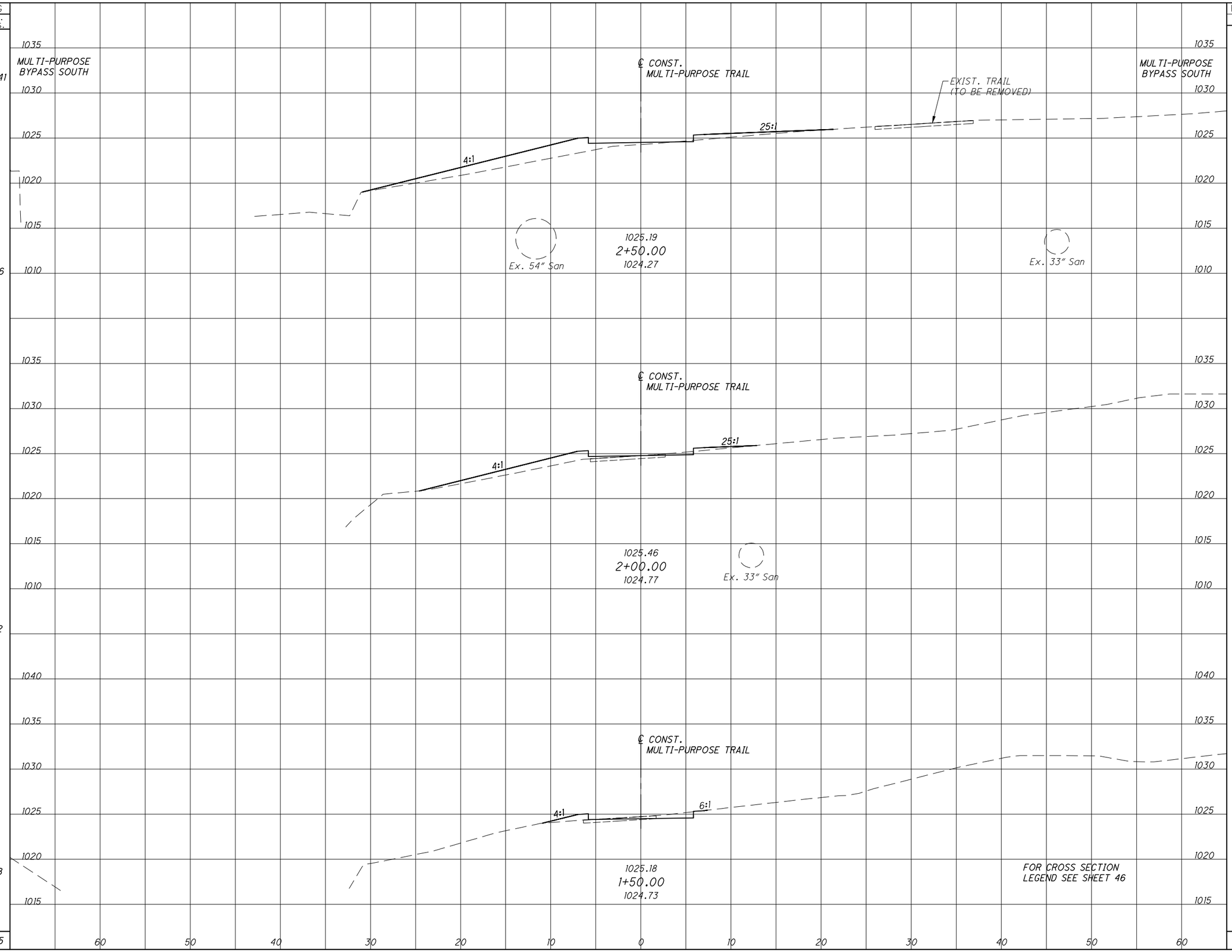


TRAIL CROSS SECTIONS
STA. 0+25 TO STA. 1+00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:31 PM

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	-141			13	40
41		1	31		
	186			2	41
26		1	13		
	92			3	14
7		2	2		
	58			19	2
	195			37	97



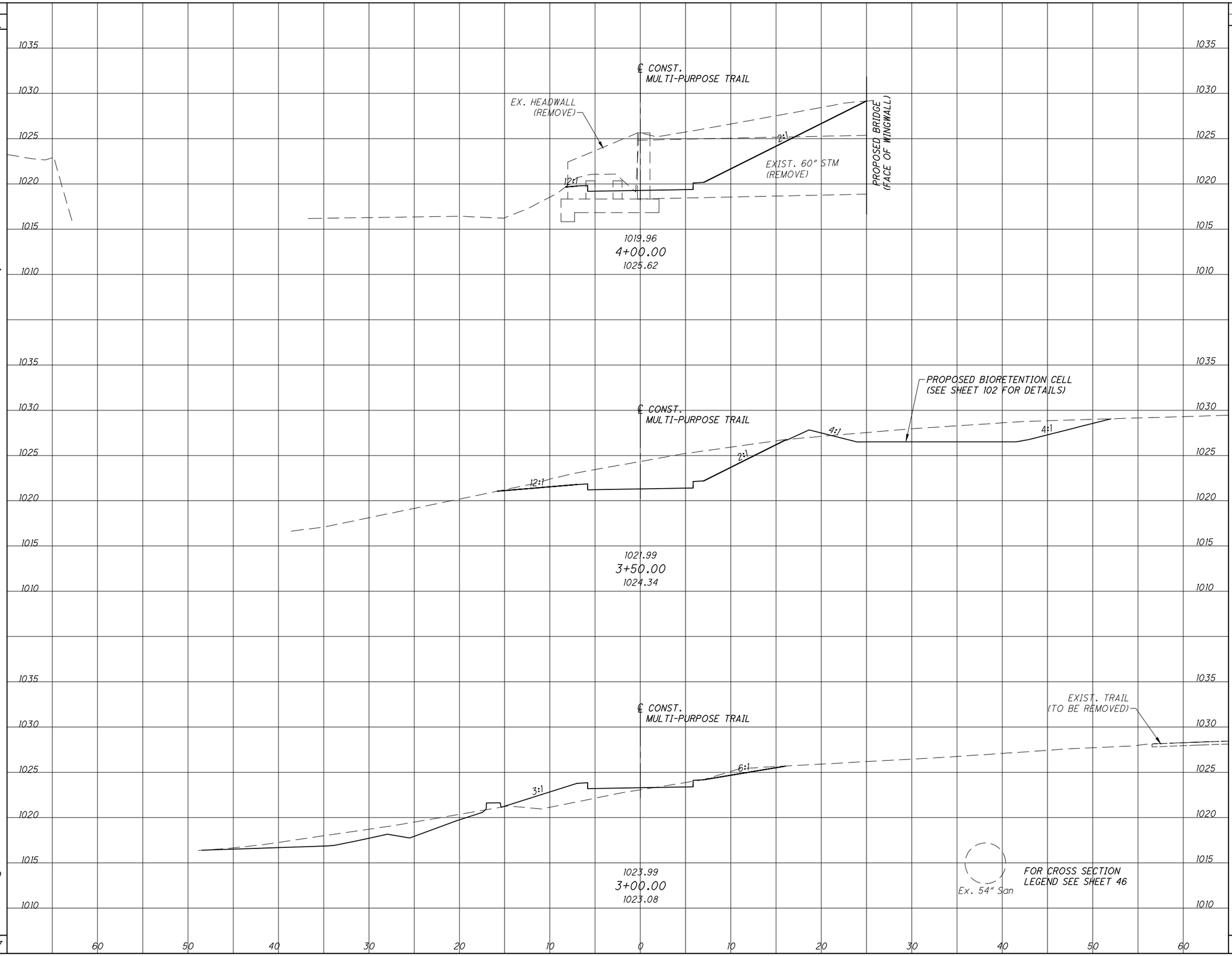
CALCULATED BRO
CHECKED AKM

TRAIL CROSS SECTIONS STA. 1+50 TO STA. 2+50

STA - 12TH STREET IMPROVEMENTS

C:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:31 PM

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22	217	109	0	196	2
56	211	103	2	119	19
20	169	26	19	25	46
	597			340	67



CALCULATED BRO

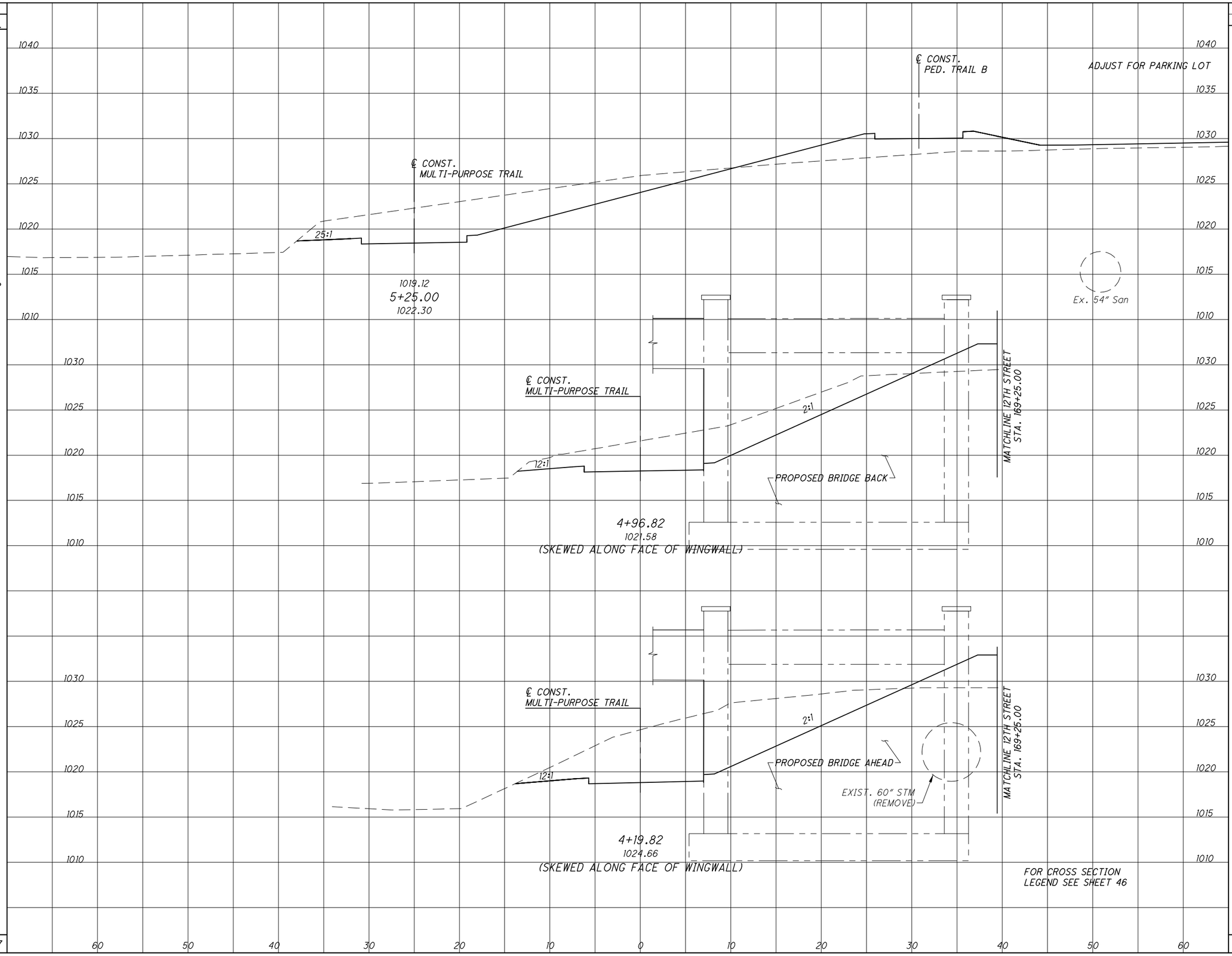
CHECKED AKM

TRAIL CROSS SECTIONS
STA. 3+00 TO STA. 4+00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:31 PM

SEEDING END WIDTH	SEEDING SQ. YDS.
61	
	142
30 AHD 8 BK	
	68
8 AHD 30 BK	
	57
	267



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		3	146
127	49		
		124	26
110 AHD	0 AHD		
54 BK	0 BK		
		204	0
89 AHD	0 AHD		
178 BK	0 BK		
		105	0
		436	172

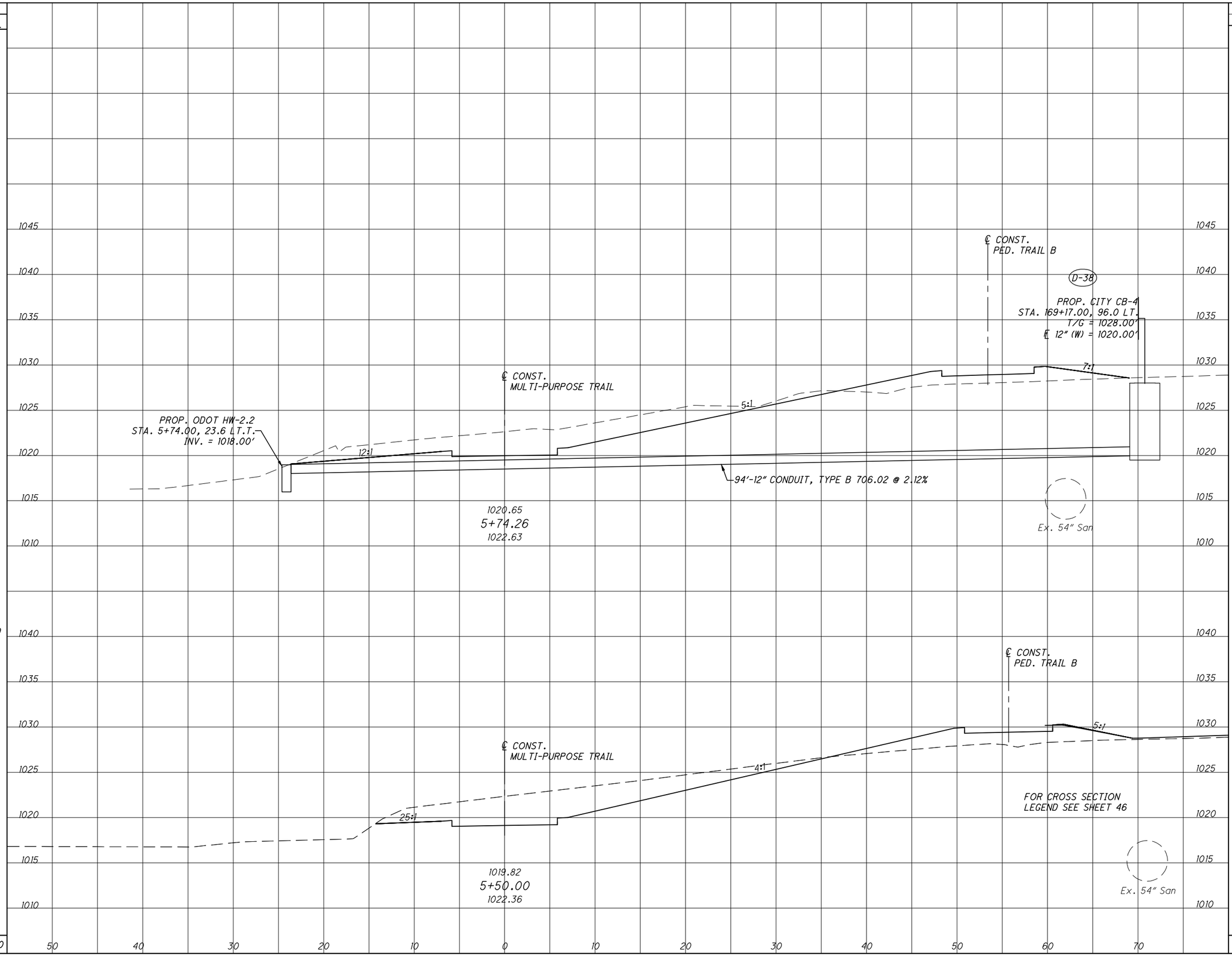
CALCULATED BRO
CHECKED AKM

TRAIL CROSS SECTIONS
STA. 4+19.82 TO STA. 5+25

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:32 PM

SEEDING	
END WIDTH	SQ. YDS.
71	
	179
62	
	171
	350



END AREA	
CUT	FILL
95	31
98	39
104	41

VOLUME	
CUT	FILL
87	31
191	72

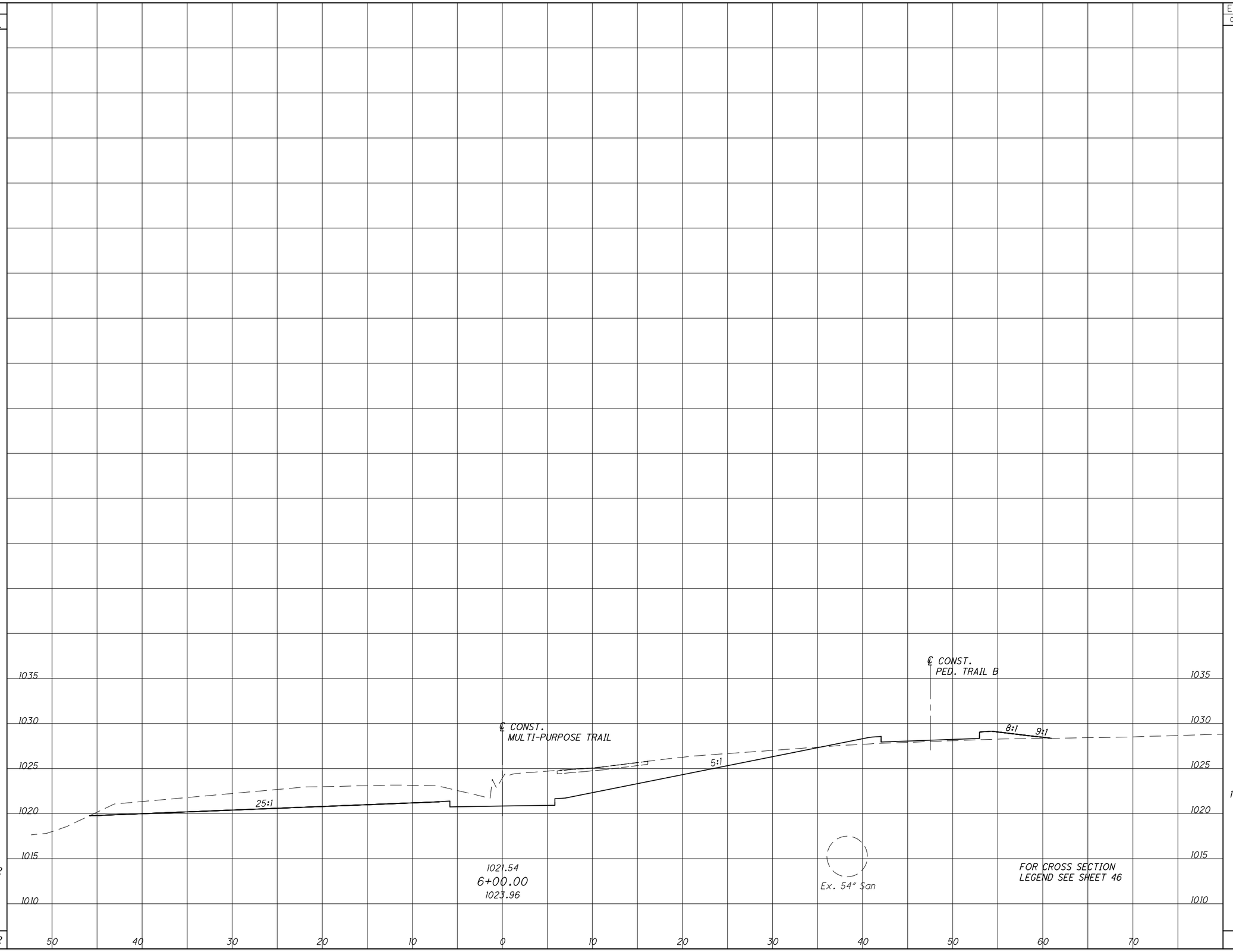
CALCULATED BRO
CHECKED AKM

TRAIL CROSS SECTIONS
STA. 5+50 TO STA. 5+74.26

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:32 PM

SEEDING	
END WIDTH	SQ. YDS.
84	222
	222



END AREA	
CUT	FILL
149	9

VOLUME	
CUT	FILL
118	19
118	19

CALCULATED BRO

CHECKED AKM

TRAIL CROSS SECTIONS
STA. 6+00

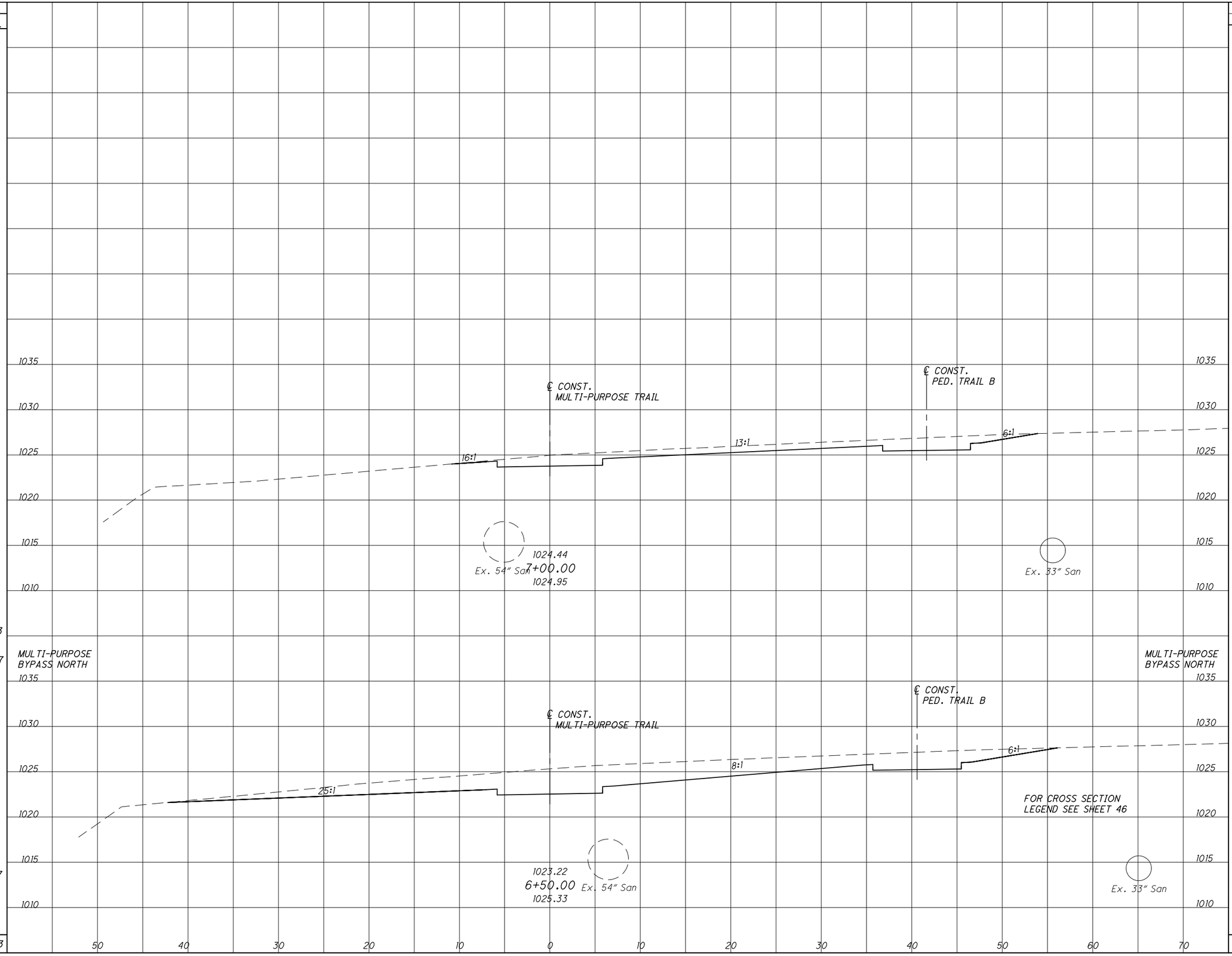
STA - 12TH STREET IMPROVEMENTS

78
210

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:33 PM

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
43		52	0			
	333			278	7	
-217				55	50	
77		148	0			
	447			278	7	
	563			518	57	

CALCULATED BRO
CHECKED AKM



TRAIL CROSS SECTIONS
STA. 6+50 TO STA. 7+00

STA - 12TH STREET IMPROVEMENTS

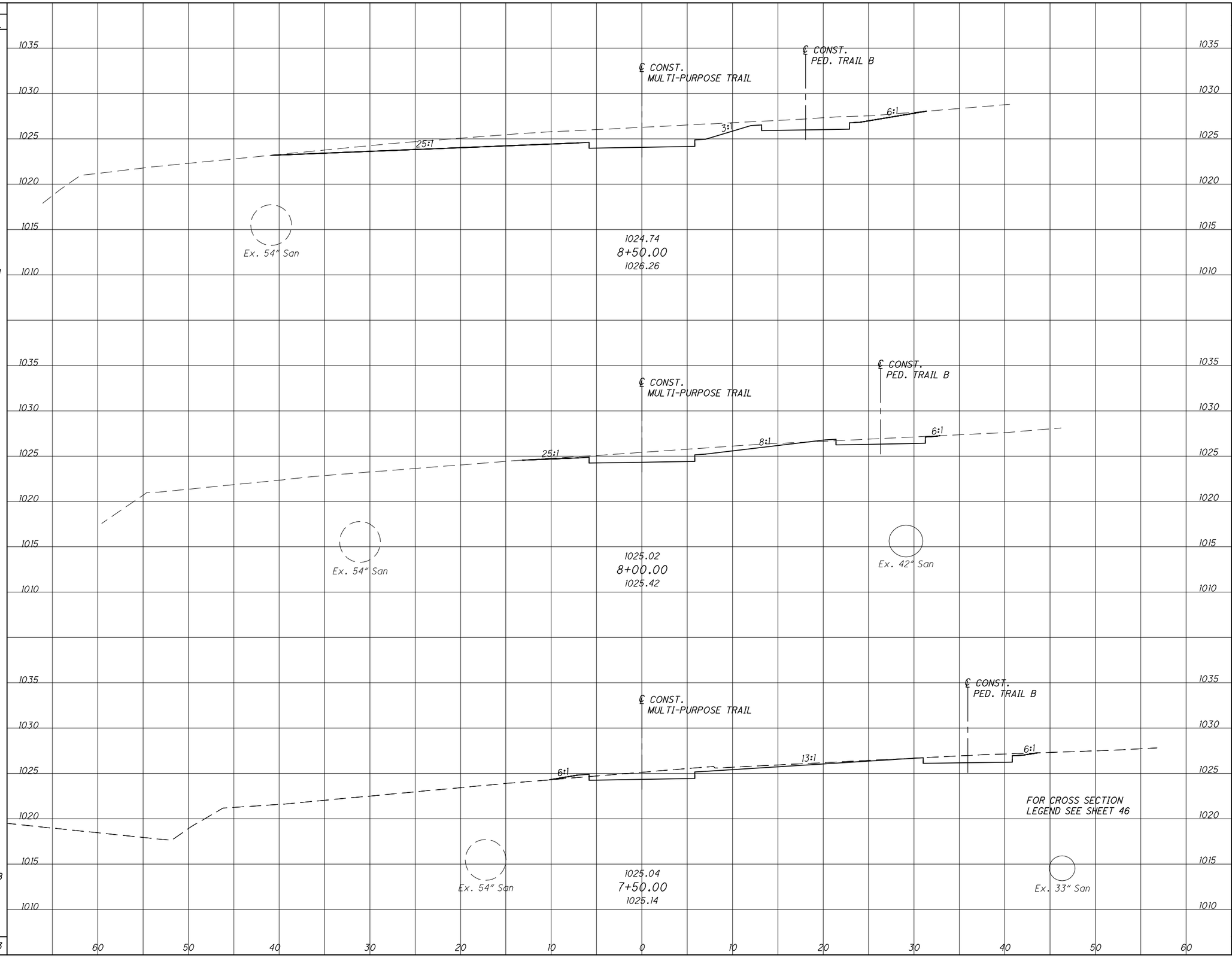
79
210

C:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:33 PM

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51	214	78	0	94	1
26		24	1		
32	161	22	1	43	2
	208			69	1
	583			206	4

CALCULATED BRO

CHECKED AKM

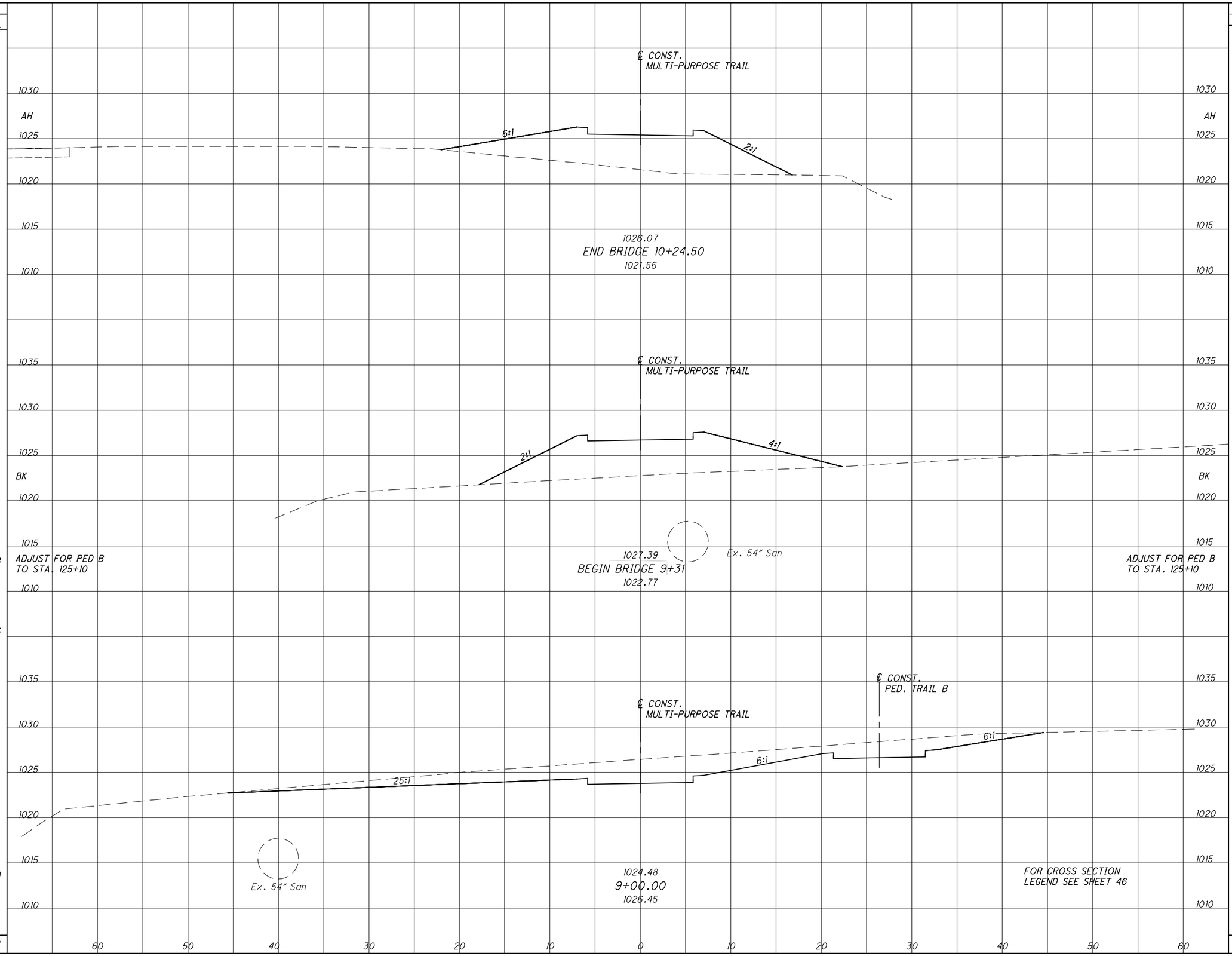


TRAIL CROSS SECTIONS
STA. 7+50 TO STA. 8+50

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:33 PM

SEEDING END WIDTH	SEEDING SQ. YDS.
27	0
28	218
	165
68	331
	714



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	108		
0	117		
		56	5
		69	67
120	0		
		183	0
		308	72

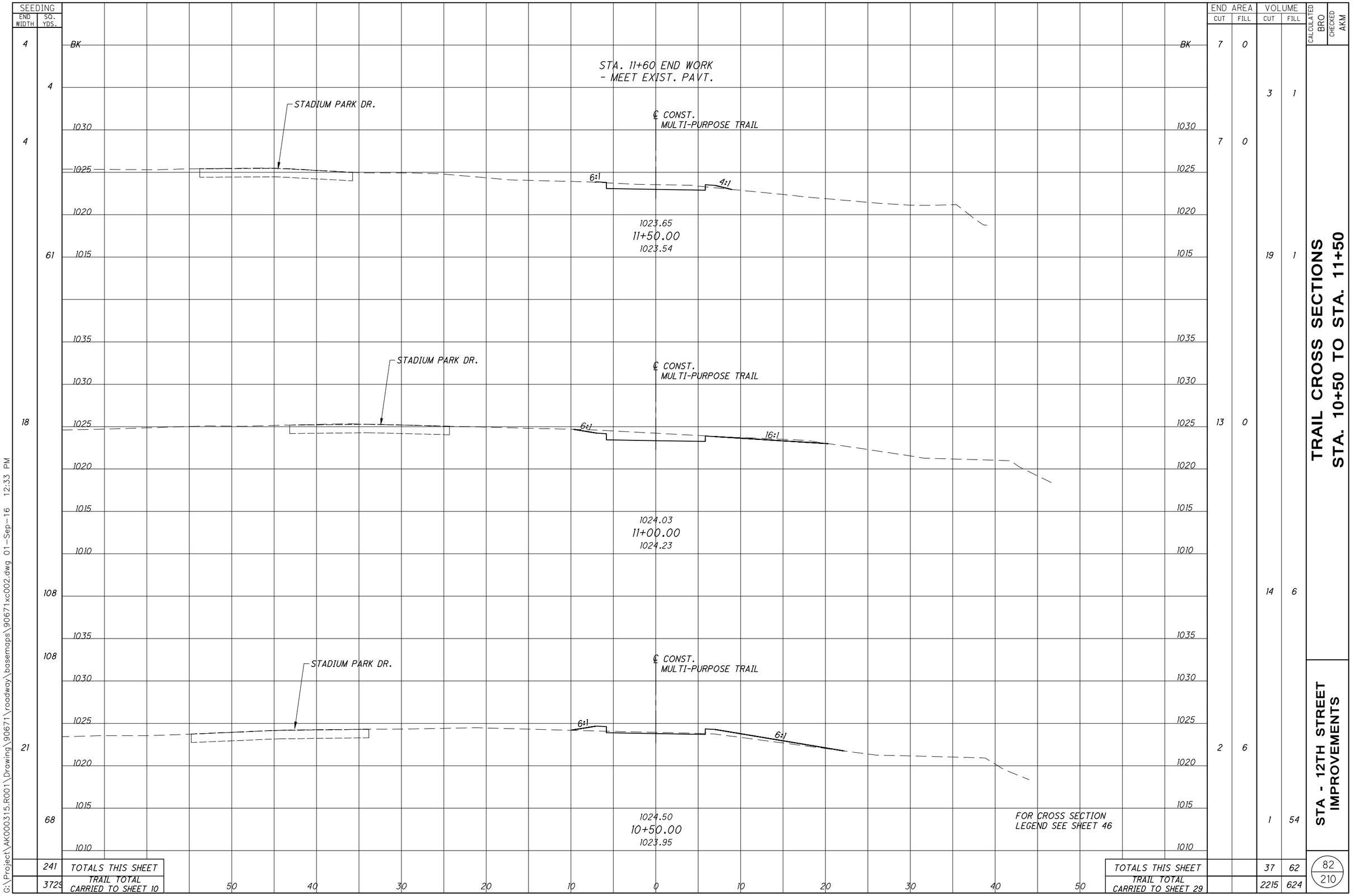
CALCULATED BRO
CHECKED AKM

TRAIL CROSS SECTIONS
STA. 9+00 TO STA. 10+25

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 31-Aug-16 1:34 PM

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
4		BK	7	0		
	4				3	1
4		1030	7	0		
		1025				
		1020				
	61	1015			19	1
		1035				
		1030				
18		1025	13	0		
		1020				
		1015				
	108	1010			14	6
		1035				
	108	1030				
		1025				
21		1020	2	6		
		1015				
	68	1010			1	54
241	TOTALS THIS SHEET				37	62
3729	TRAIL TOTAL CARRIED TO SHEET 10				2215	624

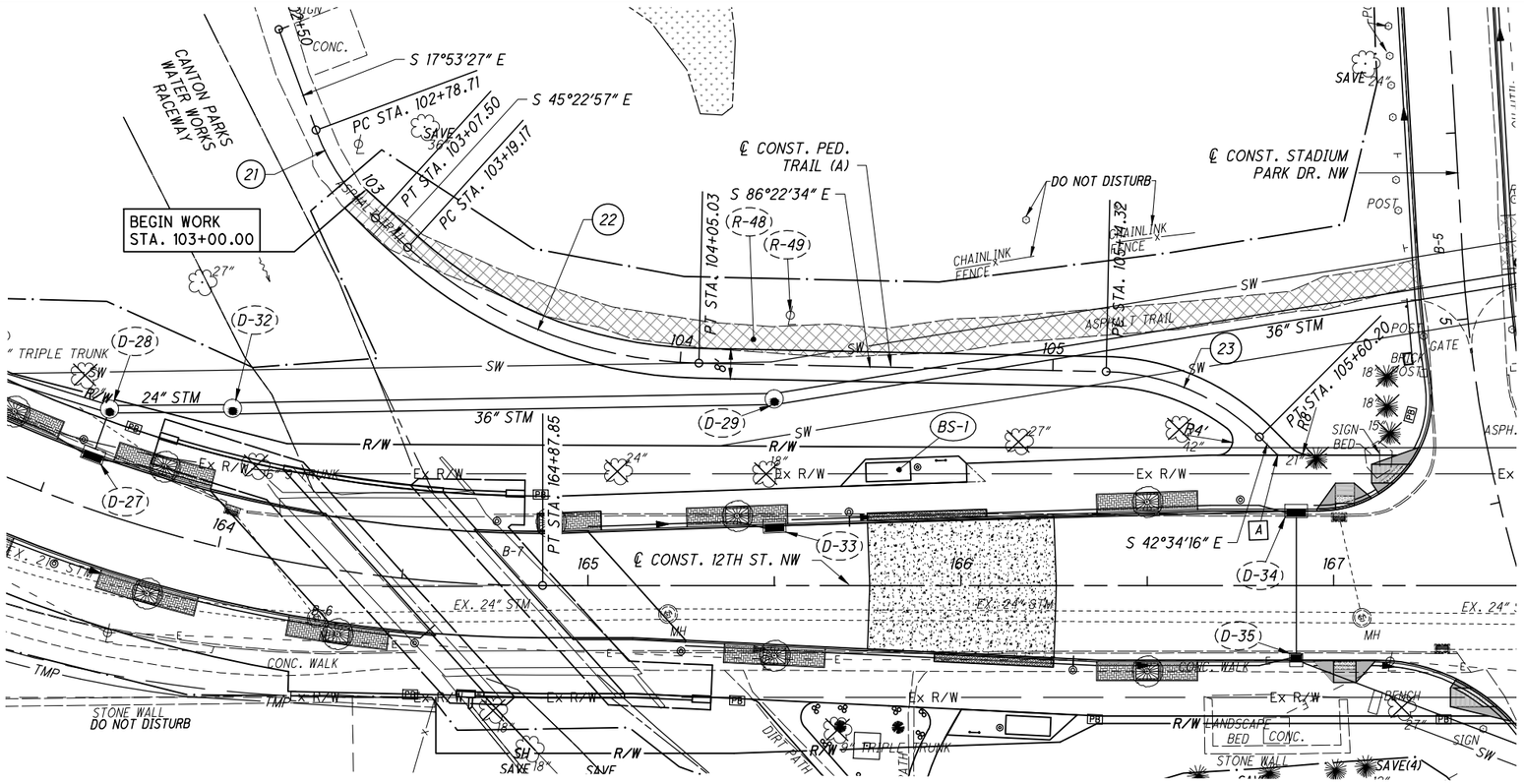


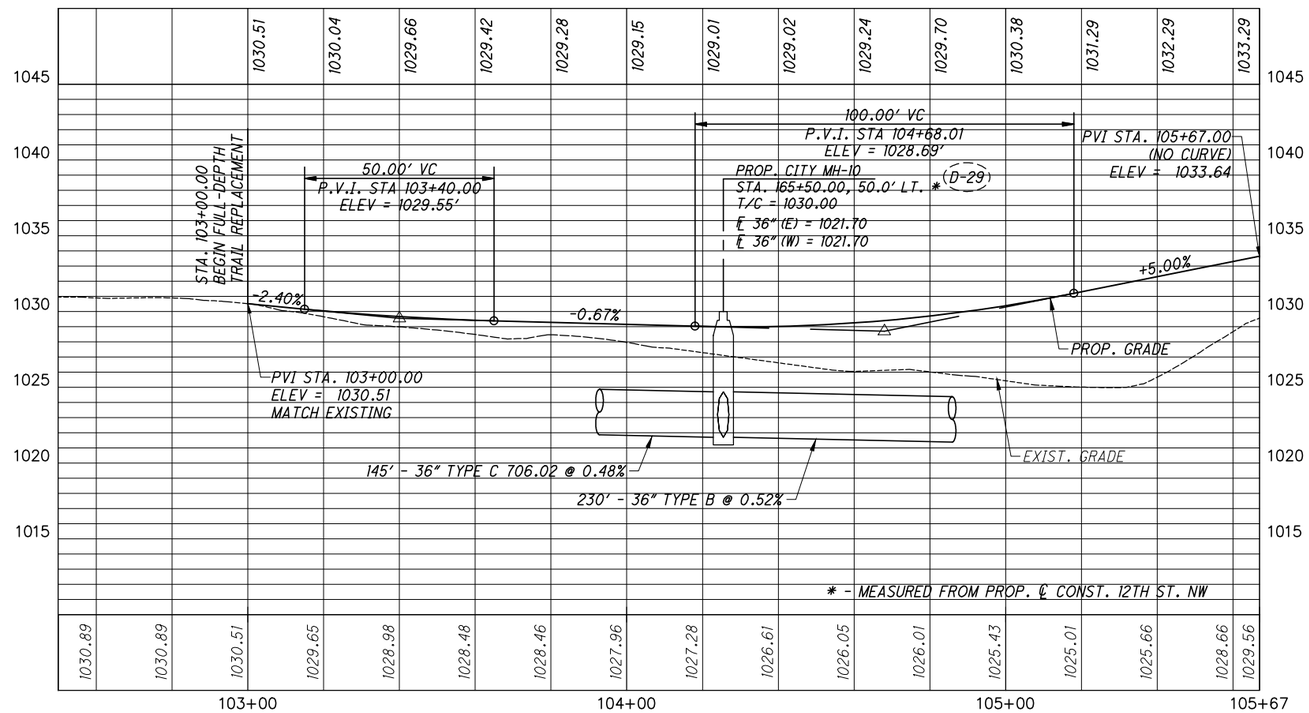
CALCULATED BRO
CHECKED AKM

TRAIL CROSS SECTIONS
STA. 10+50 TO STA. 11+50

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc002.dwg 01-Sep-16 12:33 PM





BENCHMARK No. 1
STA. 70+85.71, 41.7' RT. ELEV. 1034.48' SQUARE CUT IN THE NORTHWEST CORNER OF A TRAFFIC SIGNAL BOX AT THE SOUTHWEST CORNER OF 12TH STREET AND MONUMENT ST.
BENCHMARK No. 2
STA. 69+70.5, 228.0' RT. ELEV. 1022.12' SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MAL
CHECKED SMG

PEDESTRIAN TRAIL (A)

CURVE DATA					
NO.	RADIUS	LENGTH	Δ	PC STATION	PT STATION
21	60.00'	28.79'	27° 29' 30"	102+78.71	103+07.50
22	120.00'	85.86'	40° 59' 37"	103+19.17	104+05.03
23	60.00'	45.87'	43° 48' 18"	105+14.32	105+60.20

[A] STA. 105+67.00 ℄ CONST. PED. TRAIL (A) = STA. 166+85.00, 35.00' LT. ℄ CONST. 12TH ST. NW

PAVEMENT PLANING AND RESURFACING

EXIST. TRAIL TO BE REMOVED

EXIST. WETLANDS

PROPOSED LANDSCAPE BEDS

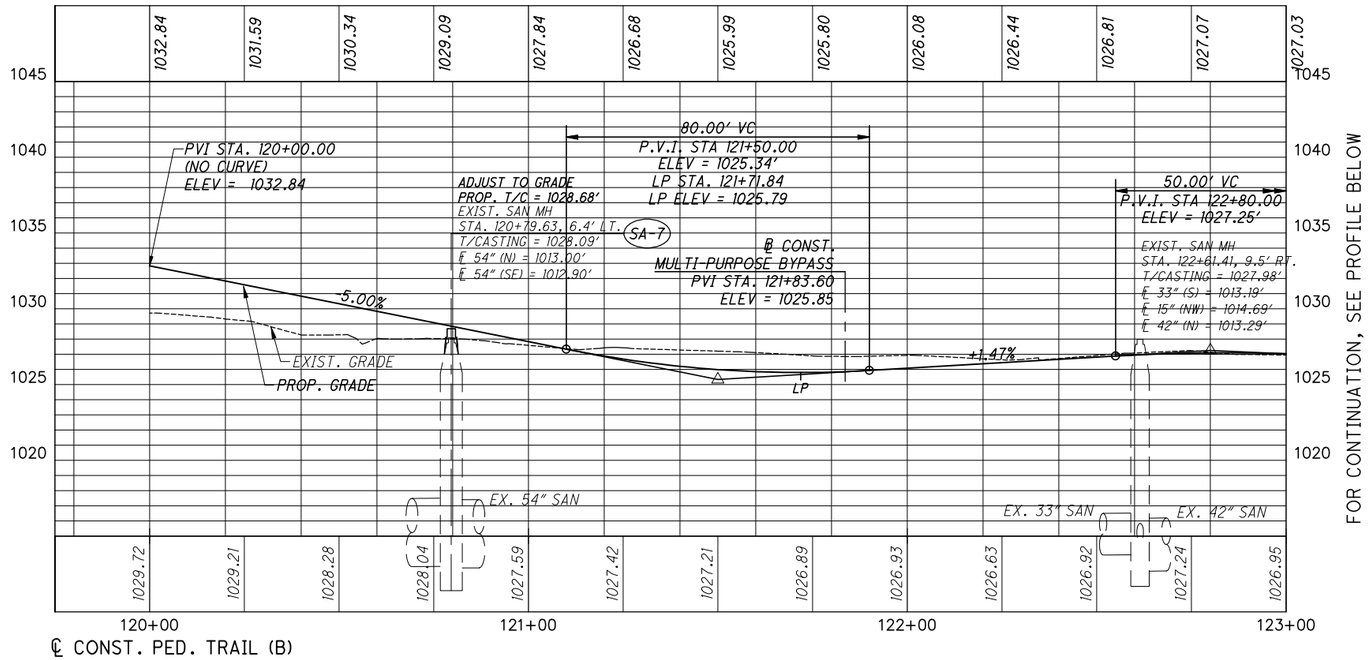
FOR 12TH STREET PLAN & PROFILE, SEE SHEET 44

FOR STORM SEWER PROFILES, SEE SHEET 97

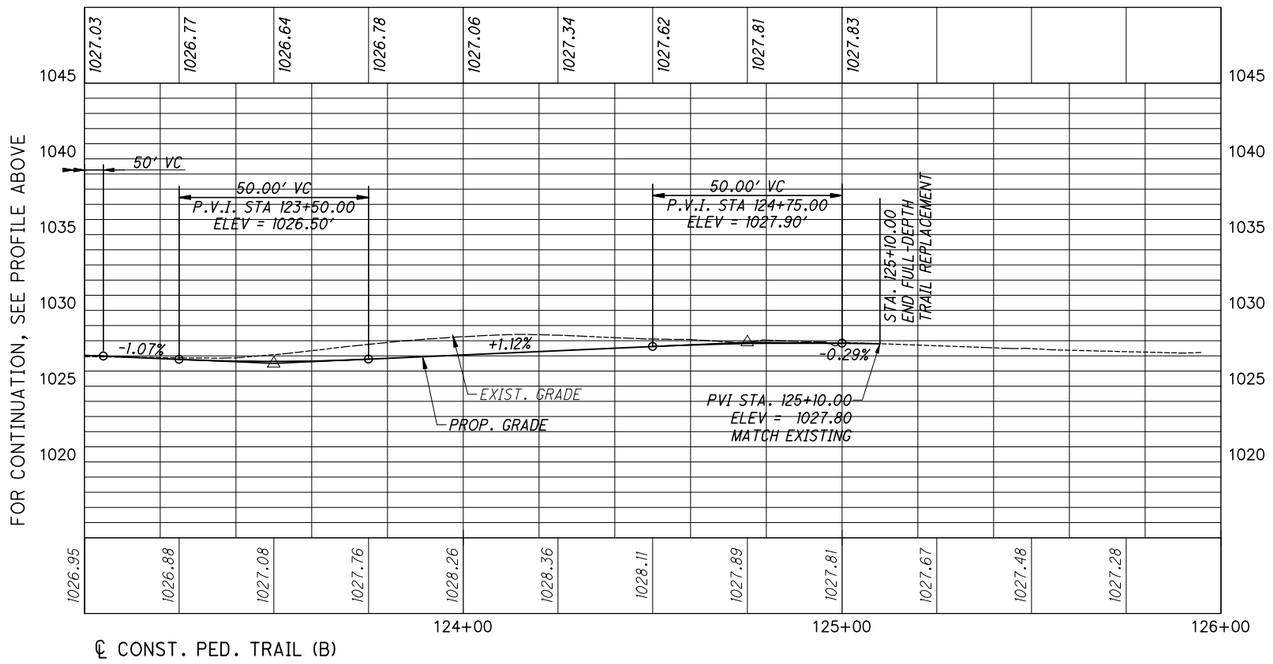
PEDESTRIAN TRAIL (A) PLAN & PROFILE STA. 102+50.00 TO STA. 105+67.00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP04.dwg 31-Aug-16 1:36 PM



FOR MULTI-PURPOSE TRAIL PLAN & PROFILES, SEE SHEETS 70-71



HORIZONTAL SCALE IN FEET
0 10 20 40

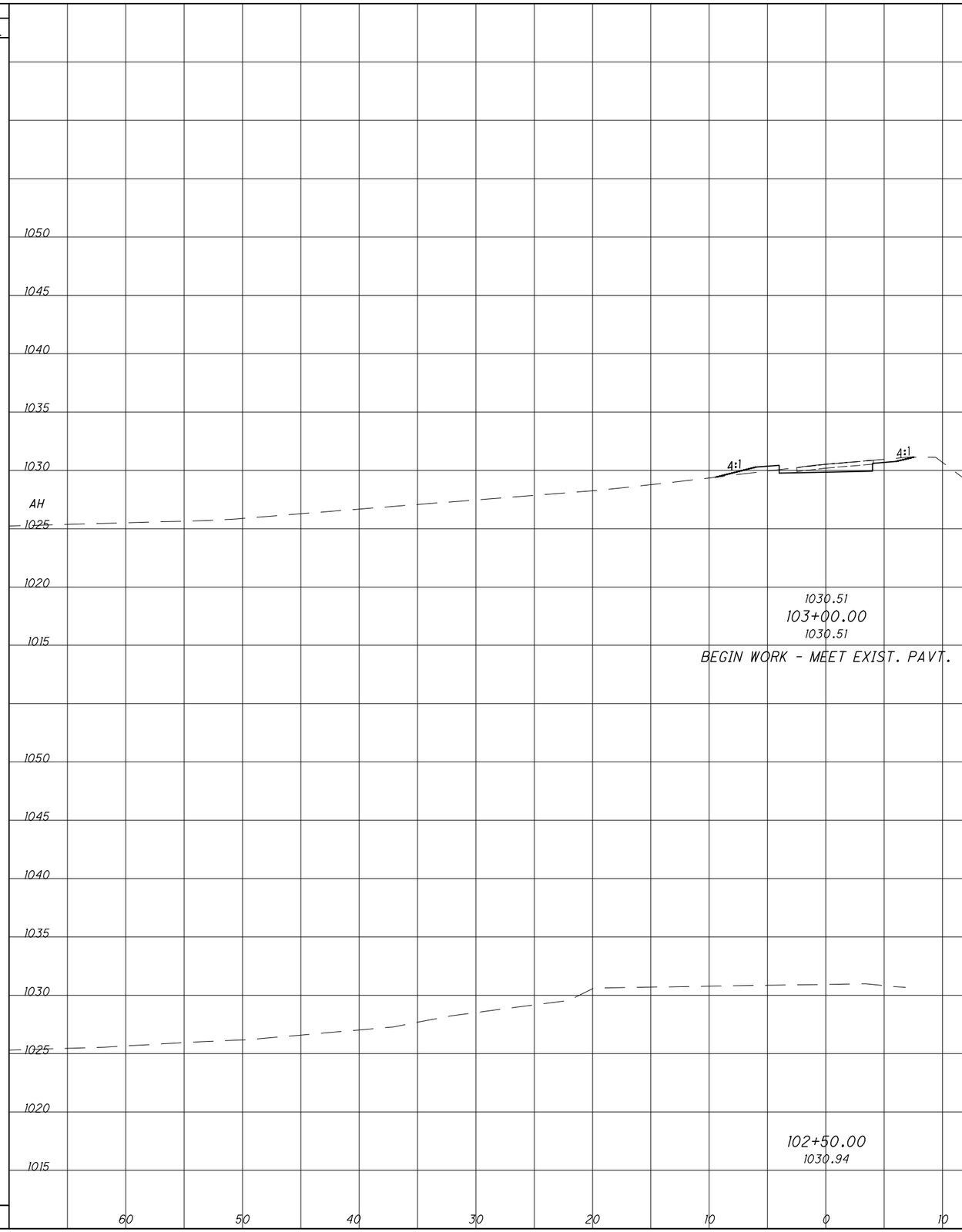
CALCULATED MAL
CHECKED SMG

PEDESTRIAN TRAIL (B) PROFILE
STA. 120+00.00 TO STA. 128+00.00

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GP04.dwg 31-Aug-16 1:36 PM

SEEDING	
END WIDTH	SQ. YDS.
9	0
0	0



END AREA	
CUT	FILL
4	2
0	0
0	0

VOLUME	
CUT	FILL
0	0
0	0

CALCULATED BRO

CHECKED AKM

STA. 102+50 TO STA. 103+00
PED A CROSS SECTIONS

STA - 12TH STREET IMPROVEMENTS

85
210

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:37 PM

SEEDING	
END WIDTH	SQ. YDS.
29	150
25	136
24	92
	378

END AREA	
CUT	FILL
0	75
0	26
1	15

VOLUME	
CUT	FILL
0	94
1	38
5	16
6	148

CALCULATED BRO

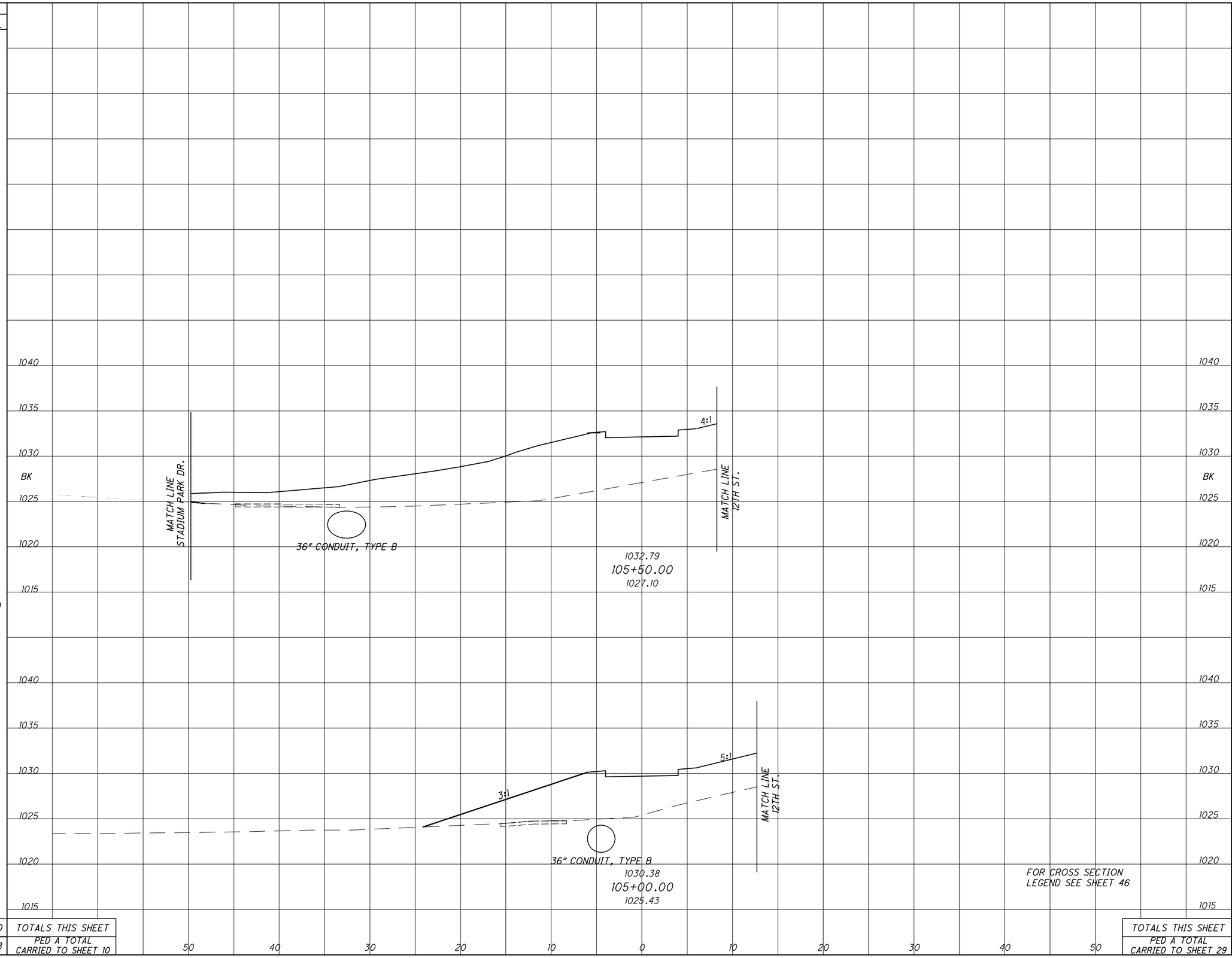
CHECKED AKM

STA. 103+50 TO STA. 104+50
PED A CROSS SECTIONS

STA - 12TH STREET IMPROVEMENTS

C:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 31-Aug-16 1:37 PM

SEEDING	
END WIDTH	SQ. YDS.
50	219
29	161
380	TOTALS THIS SHEET
758	PED A TOTAL CARRIED TO SHEET 10



END AREA	
CUT	FILL
BK	
0	218
0	316
0	123
0	183
TOTALS THIS SHEET	
PED A TOTAL CARRIED TO SHEET 29	

VOLUME	
CUT	FILL
0	499
10	647

CALCULATED BRO
CHECKED AKM

STA. 105+00 TO STA. 105+50
PED A CROSS SECTIONS

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\basemaps\90671xc001.dwg 01-Sep-16 12:33 PM

SUPERELEVATION TABLE

P.I. Station 157+69.08 | Dc = 36° 57′ 54″

LEFT PAVEMENT				PAVEMENT		RIGHT PAVEMENT				
PAVEMENT ELEVATION	TRANSITION RATE	LANE WIDTH	PAVEMENT CROSS SLOPE	PROFILE GRADE	STATION	PAVEMENT CROSS SLOPE	LANE WIDTH	TRANSITION RATE	PAVEMENT ELEVATION	REMARKS
1104.13		24.00	-1.60%	1104.51	154+75.00	-1.60%	24.00		1104.13	
1103.88		24.00	-1.60%	1104.26	154+81.00	-1.60%	24.00		1103.88	NORMAL CROWN
1103.34		24.00	-1.20%	1103.63	154+96.50	-1.60%	24.00		1103.25	MERCY DRIVE WEST
1103.22		24.00	-1.11%	1103.49	155+00.00	-1.60%	24.00		1103.11	
1102.36		24.00	-0.46%	1102.47	155+25.00	-1.60%	24.00		1102.09	
1101.74		24.00	0.00%	1101.74	155+43.00	-1.60%	24.00		1101.35	BEGIN 100′ PAVEMENT TAPER RT./HL
1101.49		24.00	0.18%	1101.45	155+50.00	-1.60%	23.72		1101.07	
1100.63		24.00	0.83%	1100.43	155+75.00	-1.60%	22.72		1100.07	
1099.76		24.00	1.47%	1099.40	156+00.00	-1.60%	21.72		1099.06	
1099.58	161:1	24.00	1.60%	1099.19	156+05.00	-1.60%	21.52		1098.85	CROWN REMOVAL
1098.82		24.00	2.12%	1098.31	156+25.00	-2.12%	20.72		1097.87	
1098.78		24.00	2.14%	1098.26	156+26.05	-2.14%	20.68		1097.82	MERCY DRIVE EAST (STATION @ B/WALK)
1098.68		24.00	2.21%	1098.15	156+28.67	-2.21%	20.57		1097.69	MERCY DRIVE EAST (STATION @ BOT/CURB)
1098.10		24.00	2.58%	1097.48	156+43.00	-2.58%	20.00	189:1	1096.96	BEGIN 205′ PVMT. TAPER LT. AND 240′ PVMT. TAPER RT.
1097.81		23.67	2.76%	1097.15	156+49.71	-2.76%	19.83		1096.61	PC STATION
1097.79		23.66	2.77%	1097.14	156+50.00	-2.77%	19.83		1096.59	
1096.66		22.44	3.46%	1095.89	156+75.00	-3.46%	19.20		1095.22	
1095.74		21.51	4.00%	1094.88	156+94.00	-4.00%	18.73		1094.13	FULL SUPERELEVATION
1093.94		20.00	4.00%	1093.14	157+25.00	-4.00%	17.95		1092.42	
1092.40		18.78	4.00%	1091.65	157+50.00	-4.00%	17.33		1090.95	
1090.78		17.56	4.00%	1090.07	157+75.00	-4.00%	16.70		1089.41	
1089.07		16.34	4.00%	1088.42	158+00.00	-4.00%	16.08		1087.78	
1087.80		15.46	4.00%	1087.18	158+18.00	-4.00%	15.63		1086.55	FULL SUPERELEVATION
1085.43		14.00	2.91%	1085.02	158+48.00	-2.91%	14.88		1084.59	END 205′ PAVEMENT TAPER LT.
1085.27		14.00	2.84%	1084.87	158+50.00	-2.84%	14.83		1084.45	
1085.02		14.00	2.72%	1084.64	158+53.15	-2.72%	14.75		1084.23	PT STATION
1083.25		14.00	1.93%	1082.97	158+75.00	-1.93%	14.20		1082.70	
1082.58	197:1	14.00	1.64%	1082.35	158+83.00	-1.64%	14.00	194:1	1082.12	END 240′ PAVEMENT TAPER RT.
1082.50		14.00	1.60%	1082.27	158+84.00	-1.60%	13.98		1082.05	CROWN REMOVAL
1081.15		14.00	1.02%	1081.01	159+00.00	-1.02%	14.00		1080.86	
1079.04		14.00	0.11%	1079.02	159+25.00	-0.11%	14.00		1079.01	
1078.79		14.00	0.00%	1078.78	159+28.00	0.00%	14.00		1078.78	FLAT

SUPERELEVATION TABLE

P.I. Station 162+87.77 | Dc = 15° 29′ 07″

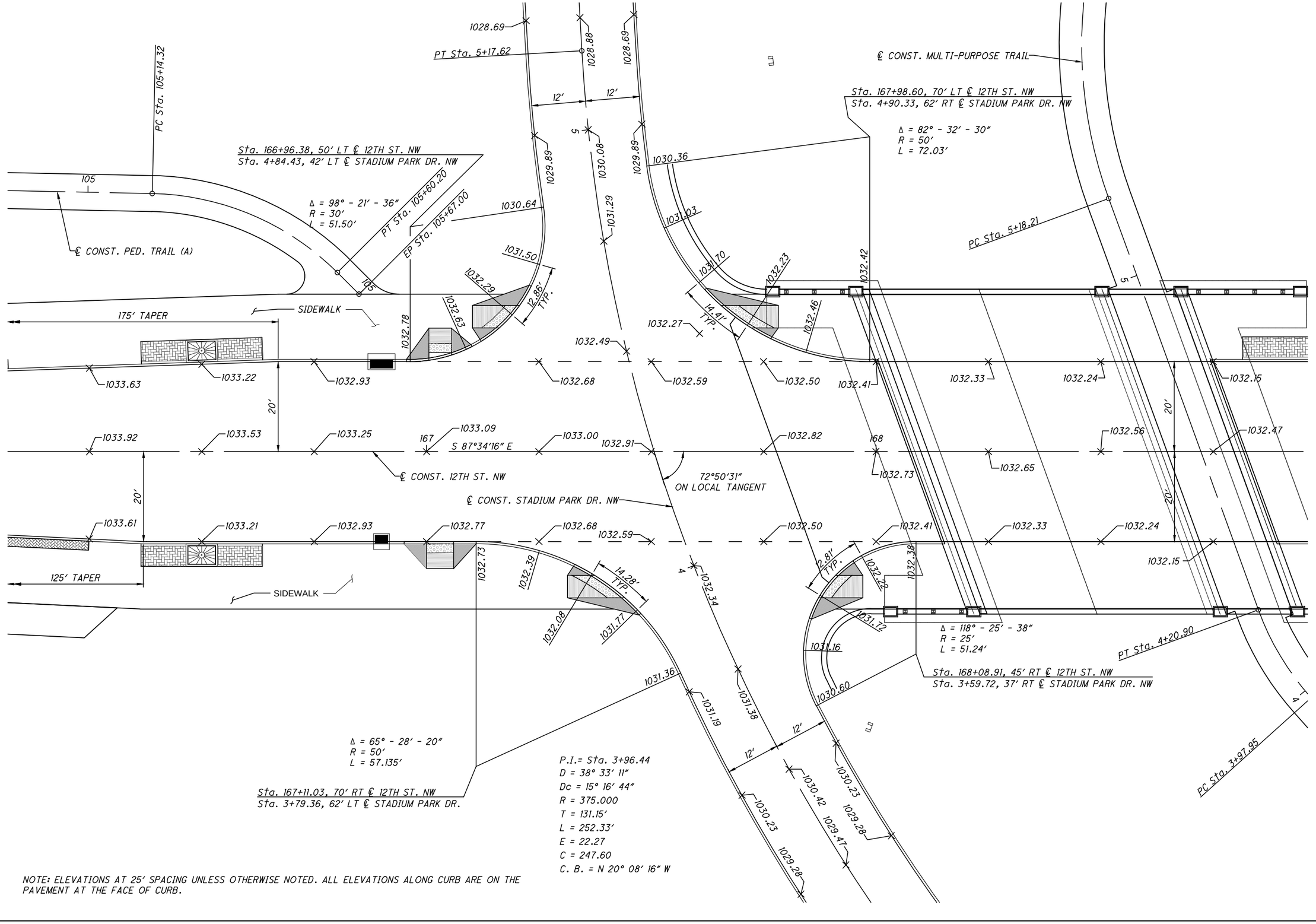
LEFT PAVEMENT				PAVEMENT		RIGHT PAVEMENT				
PAVEMENT ELEVATION	TRANSITION RATE	LANE WIDTH	PAVEMENT CROSS SLOPE	PROFILE GRADE	STATION	PAVEMENT CROSS SLOPE	LANE WIDTH	TRANSITION RATE	PAVEMENT ELEVATION	REMARKS
1078.79		14.00	0.00%	1078.78	159+28.00	0.00%	14.00		1078.78	FLAT
1076.93		14.00	-0.80%	1077.04	159+50.00	0.80%	14.00		1077.15	
1076.84		14.00	-0.83%	1076.96	159+51.00	0.83%	14.00		1077.08	
1075.07		14.00	-1.60%	1075.29	159+72.00	1.60%	14.00		1075.52	CROWN REMOVAL
1074.82		14.00	-1.71%	1075.06	159+75.00	1.71%	14.00		1075.29	
1073.80	197:1	14.00	-2.14%	1074.10	159+87.00	2.14%	14.00	194:1	1074.40	
1072.71		14.00	-2.62%	1073.07	160+00.00	2.62%	14.00		1073.44	
1072.27		14.00	-2.80%	1072.66	160+05.15	2.80%	14.00		1073.06	PC STATION
1070.60		14.00	-3.52%	1071.09	160+25.00	3.52%	14.00		1071.58	
1069.50		14.00	-4.00%	1070.06	160+38.00	4.00%	14.00		1070.62	FULL SUPERELEVATION
1068.55		14.00	-4.00%	1069.11	160+50.00	4.00%	14.00		1069.67	
1064.58		14.00	-4.00%	1065.14	161+00.00	4.00%	14.00		1065.70	
1062.60		14.00	-4.00%	1063.15	161+25.00	4.00%	14.00		1063.71	
1060.61		14.00	-4.00%	1061.17	161+50.00	4.00%	14.00		1061.73	
1058.63		14.00	-4.00%	1059.19	161+75.00	4.00%	14.00		1059.75	
1056.65		14.00	-4.00%	1057.20	162+00.00	4.00%	14.00		1057.76	
1054.66		14.00	-4.00%	1055.22	162+25.00	4.00%	14.00		1055.78	
1052.68		14.00	-4.00%	1053.24	162+50.00	4.00%	14.00		1053.80	
1050.69		14.00	-4.00%	1051.25	162+75.00	4.00%	14.00		1051.81	
1048.73		14.00	-4.00%	1049.29	163+00.00	4.00%	14.00		1049.85	
1047.16		14.00	-4.00%	1047.72	163+21.00	4.00%	14.00		1048.28	FULL SUPERELEVATION
1046.90	161:1	14.00	-3.82%	1047.43	163+25.00	3.82%	14.00	161:1	1047.97	
1045.31		14.00	-2.71%	1045.69	163+50.00	2.71%	14.00		1046.07	
1043.83		14.00	-1.60%	1044.05	163+75.00	1.60%	14.00		1044.28	CROWN REMOVAL
1042.31		14.00	-1.60%	1042.53	164+00.00	1.60%	14.00		1042.76	
1041.47		14.00	-1.60%	1041.70	164+14.58	1.60%	14.00		1041.92	BEGIN APPROACH SLAB
1040.90		14.00	-1.60%	1041.12	164+25.00	1.60%	14.00		1041.35	
1039.88		14.00	-1.60%	1040.10	164+44.58	1.60%	14.00		1040.32	END APPROACH SLAB/BEGIN BRIDGE
1039.60		14.00	-1.60%	1039.83	164+50.00	1.60%	14.00		1040.05	
1038.42		14.00	-1.60%	1038.65	164+75.00	1.60%	14.00		1038.87	
1038.07		14.00	-1.60%	1038.29	164+82.94	1.60%	14.00		1038.52	BEGIN APPROACH SLAB/END BRIDGE
1037.86		14.00	-1.60%	1038.08	164+87.85	1.60%	14.00		1038.31	PT STATION
1037.68		14.00	-1.60%	1037.91	164+92.00	1.60%	14.00		1038.13	BEGIN 175′ PVMT. TAPER LT.
1037.35		14.27	-1.60%	1037.58	165+00.00	1.60%	14.00		1037.80	
1036.87		14.69	-1.60%	1037.10	165+12.00	1.60%	14.00		1037.33	BEGIN 125′ PVMT. TAPER RT.
1036.83		14.72	-1.60%	1037.07	165+12.94	1.60%	14.05		1037.29	END APPROACH SLAB
1036.38		15.13	-1.60%	1036.62	165+25.00	1.60%	14.62		1036.85	
1035.59		15.92	-1.60%	1035.84	165+48.00	1.60%	15.73		1036.09	CROWN REMOVAL
1035.52		15.99	-1.60%	1035.78	165+50.00	1.52%	15.82		1036.02	
1034.78		16.85	-1.60%	1035.05	165+75.00	0.53%	17.02		1035.14	
1034.40		17.34	-1.60%	1034.67	165+89.50	0.00%	17.72	161:1	1034.67	TANGENT RUNOUT
1034.15		17.70	-1.60%	1034.43	166+00.00	-0.36%	18.22		1034.36	
1033.63		18.56	-1.60%	1033.92	166+25.00	-1.22%	19.42		1033.69	
1033.42		18.97	-1.60%	1033.72	166+37.00	-1.60%	20.00		1033.40	END 125′ PVMT. TAPER RT./NORMAL CROWN
1033.22		19.42	-1.60%	1033.53	166+50.00	-1.60%	20.00		1033.21	

CALCULATED SMG | CHECKED AKM

SUPERELEVATION TABLE

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GE01.dwg 31-Aug-16 1:38 PM



N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED SMG
CHECKED AKM

INTERSECTION DETAIL

STA - 12TH STREET IMPROVEMENTS

89
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671G101.dwg 31-Aug-16 1:41 PM

WEST BRANCH NIMISHILLEN CREEK

CONST. LIMIT

EXIST. PED. BRIDGE TO BE RELOCATED

℄ CONST. MULTI-PURPOSE TRAIL

PROPOSED BIORETENTION CELL NO. 2

PROP. RELOCATED BARNSTONE

℄ CONST. PED TRAIL (B)

℄ CONST. 12TH ST. NW

PARKING LOT

PARK SHELTER DO NOT DISTURB

PARK BLDG. DO NOT DISTURB

MATCHLINE SEE BELOW

MATCHLINE SEE SHEET 91

MATCHLINE SEE ABOVE

℄ CONST. MULTI-PURPOSE BY-PASS (SOUTH)

℄ CONST. MULTI-PURPOSE BY-PASS (NORTH)

AKRON METRO RAILROAD

SAVE

48" OAK

LEGEND

EXIST. TRAIL TO BE REMOVED

EXIST. WETLANDS

PROPOSED ROCK CHANNEL PROTECTION

HORIZONTAL SCALE IN FEET

CALCULATED MAL

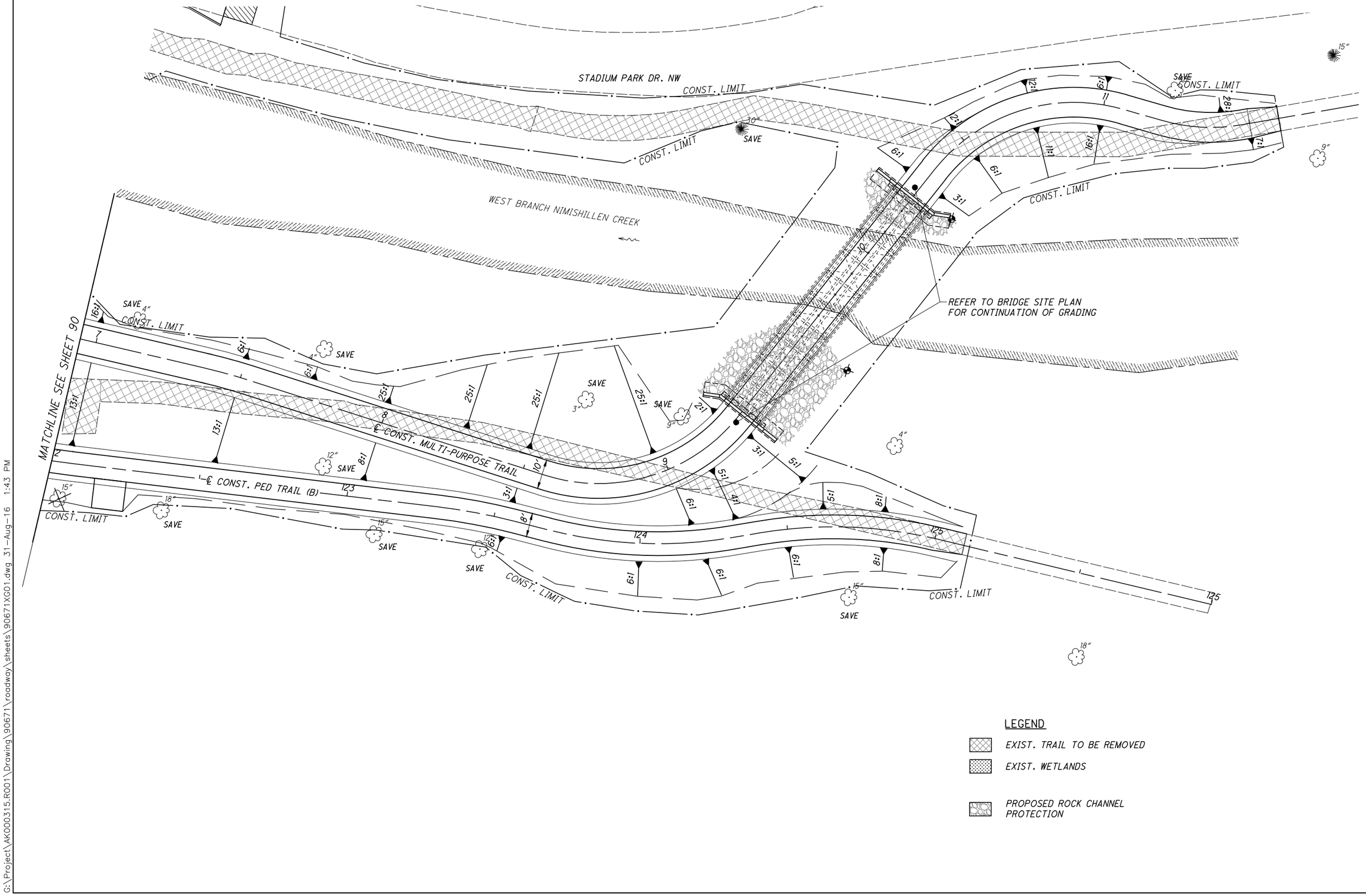
CHECKED SMG

GRADING PLAN
PROPOSED TRAILS AND PARK AREA

STA - 12TH STREET IMPROVEMENTS

90
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671XG01.dwg 31-Aug-16 1:43 PM



HORIZONTAL SCALE IN FEET
0 15 30

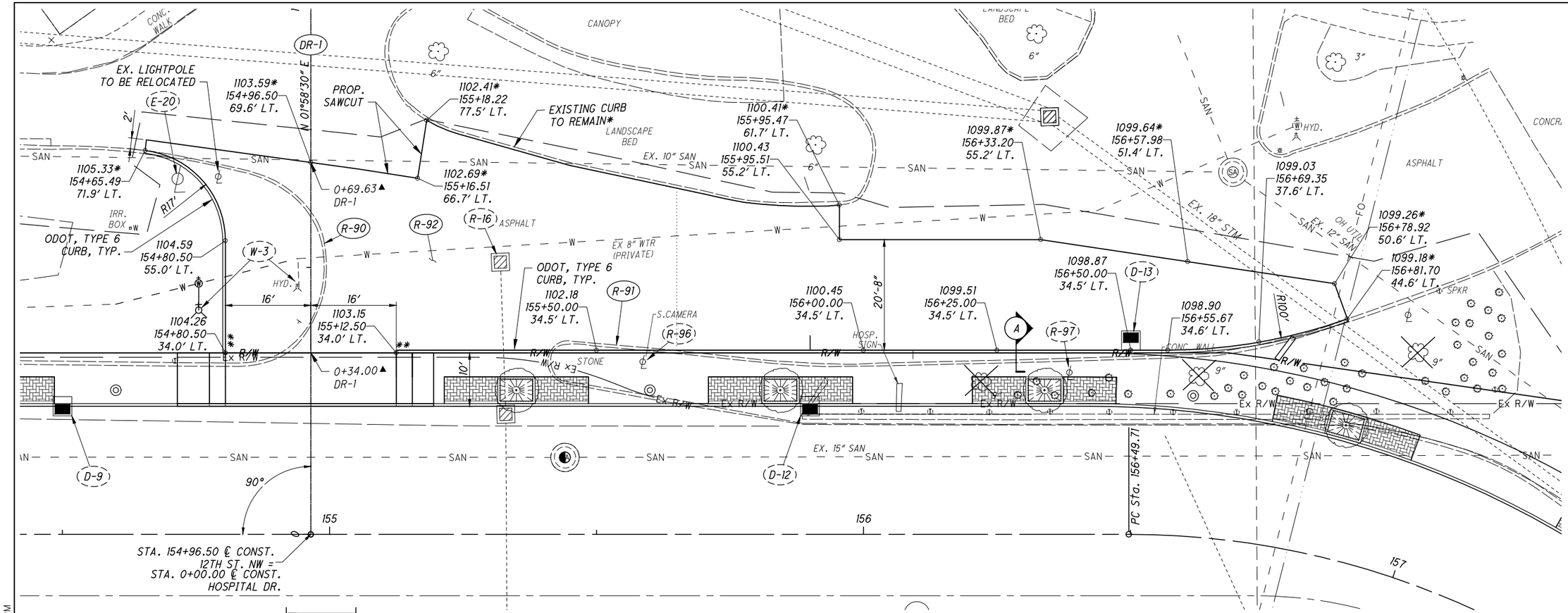
CALCULATED MAL
CHECKED SMG

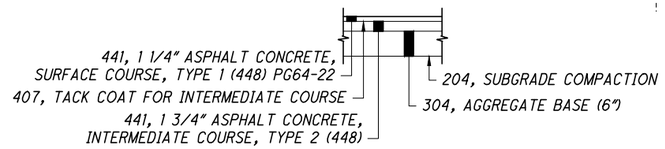
GRADING PLAN
PROPOSED TRAILS AND PARK AREA

STA - 12TH STREET IMPROVEMENTS

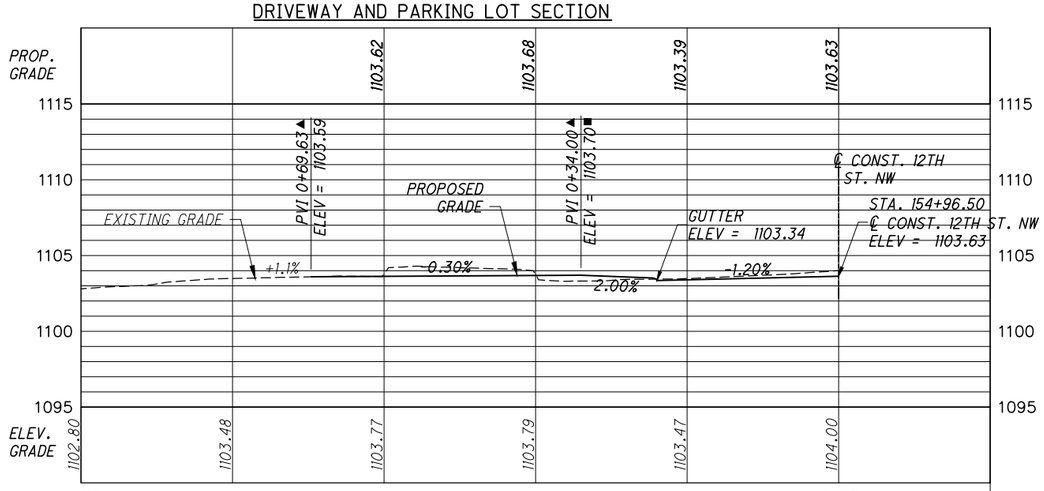
91
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671XG01.dwg 31-Aug-16 1:43 PM





DRIVEWAY AND PARKING LOT SECTION



DR-1 ℄ CONST. HOSPITAL DR.

HORIZ. SCALE: 1" = 10'
VERT. SCALE: 1" = 5'

NOTES:

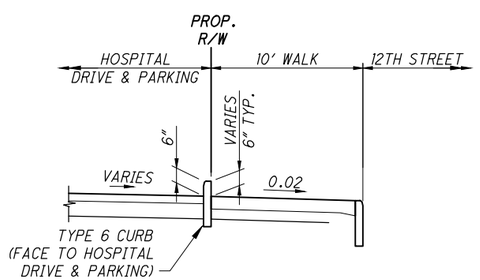
1. CONSTRUCT DROP CURB, DRIVE APRON, AND SIDEWALK PER CITY STANDARD DRAWING NO.28 (SHEET 95).

* = MATCH EXISTING ELEVATION

** = CURB HEIGHT TRANSITION : 0" TO 6" IN 5 FEET.

▲ = STATION REFERENCES TO ℄ CONST. HOSPITAL DRIVE

■ = DEPRESS SIDEWALK PROFILE 4" THRU DRIVE AND PROVIDE SIDEWALK RAMPS AS SHOWN.



A SECTION

N

HORIZONTAL SCALE IN FEET
0 5 10 20

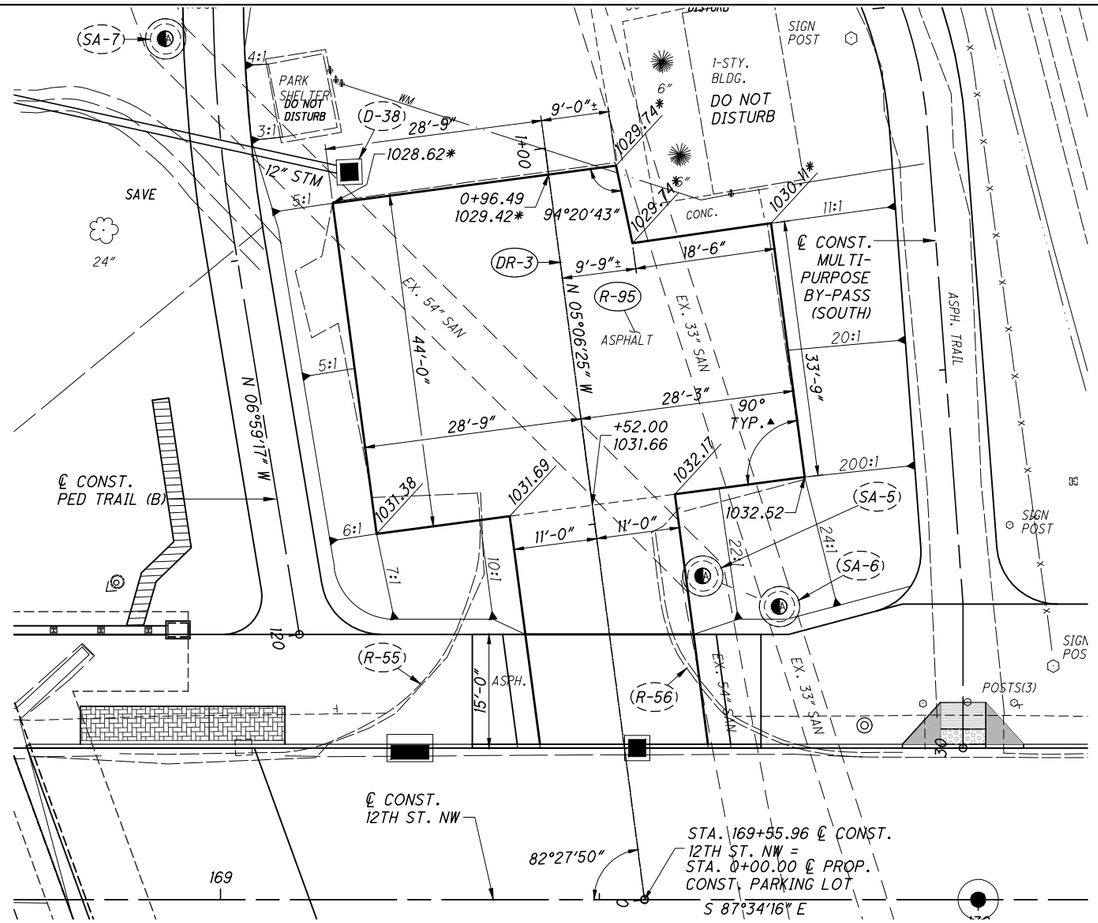
CALCULATED MAL
CHECKED SMG

DRIVE DETAILS
MERCY HOSPITAL

STA - 12TH STREET IMPROVEMENTS

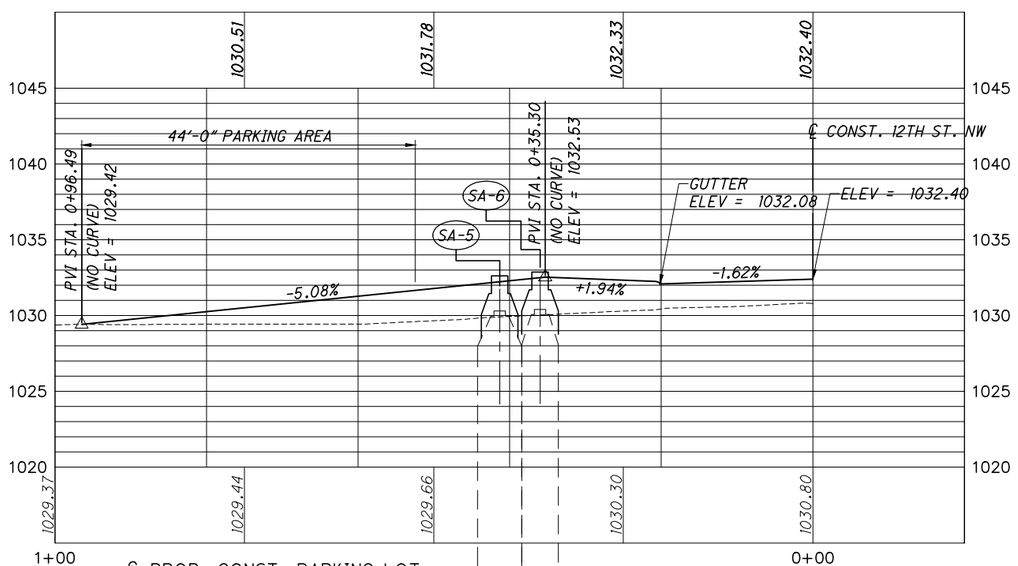
92
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GD01.dwg 31-Aug-16 1:45 PM



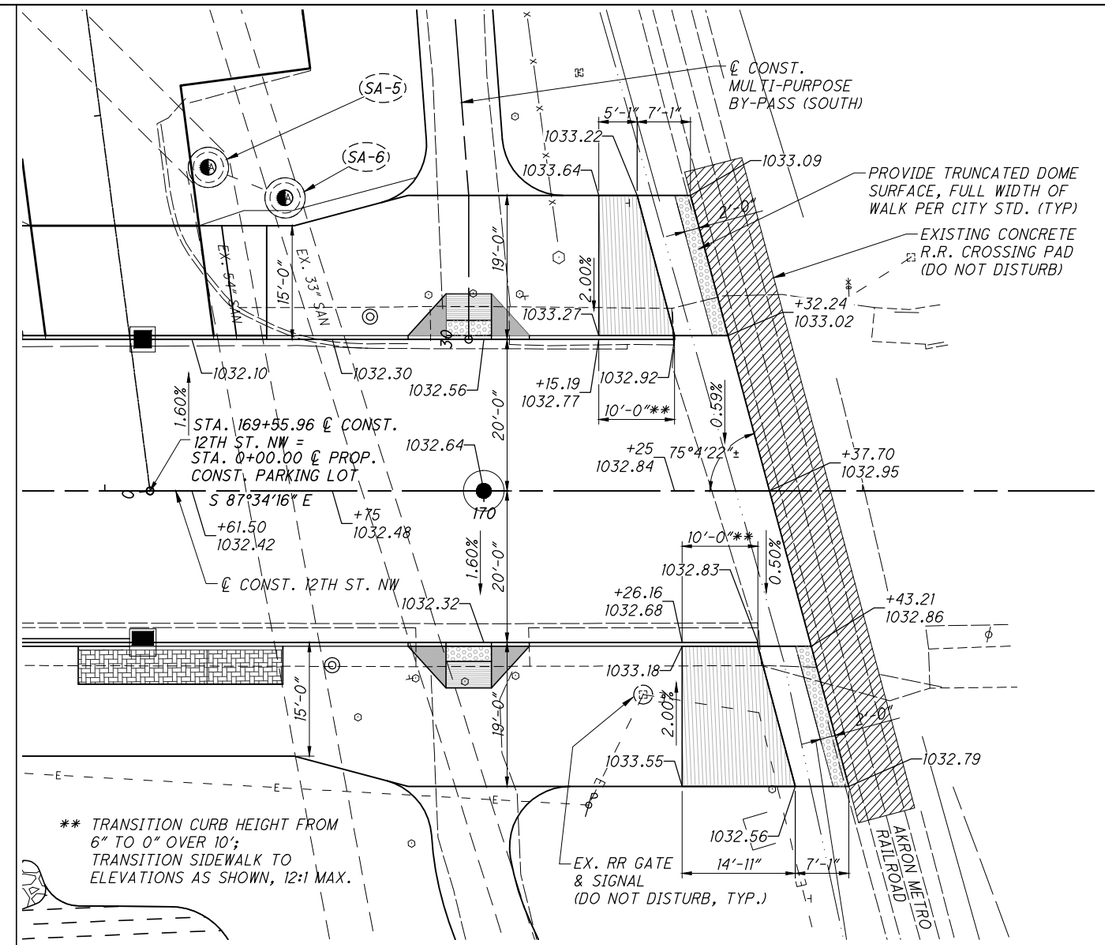
PARKING LOT

* - MATCH EXISTING ELEVATION
▲ - TYPICAL, UNLESS NOTED OTHERWISE



℄ PROP. CONST. PARKING LOT

HORIZ. SCALE: 1" = 10'
VERT. SCALE: 1" = 5'



** TRANSITION CURB HEIGHT FROM 6" TO 0" OVER 10'; TRANSITION SIDEWALK TO ELEVATIONS AS SHOWN, 12:1 MAX.

PAVEMENT TRANSITION

NOTES:

1. REFER TO SHEET 92 FOR DRIVE AND PARKING LOT TYPICAL PAVEMENT SECTION.
2. PAVEMENT ELEVATIONS ALONG EXISTING CONCRETE RAILROAD CROSSING PAD SHALL MATCH EXISTING

LEGEND

- PROPOSED CURB RAMP
- PROPOSED TRUNCATED DOME SURFACE

HORIZONTAL SCALE IN FEET
0 5 10 20

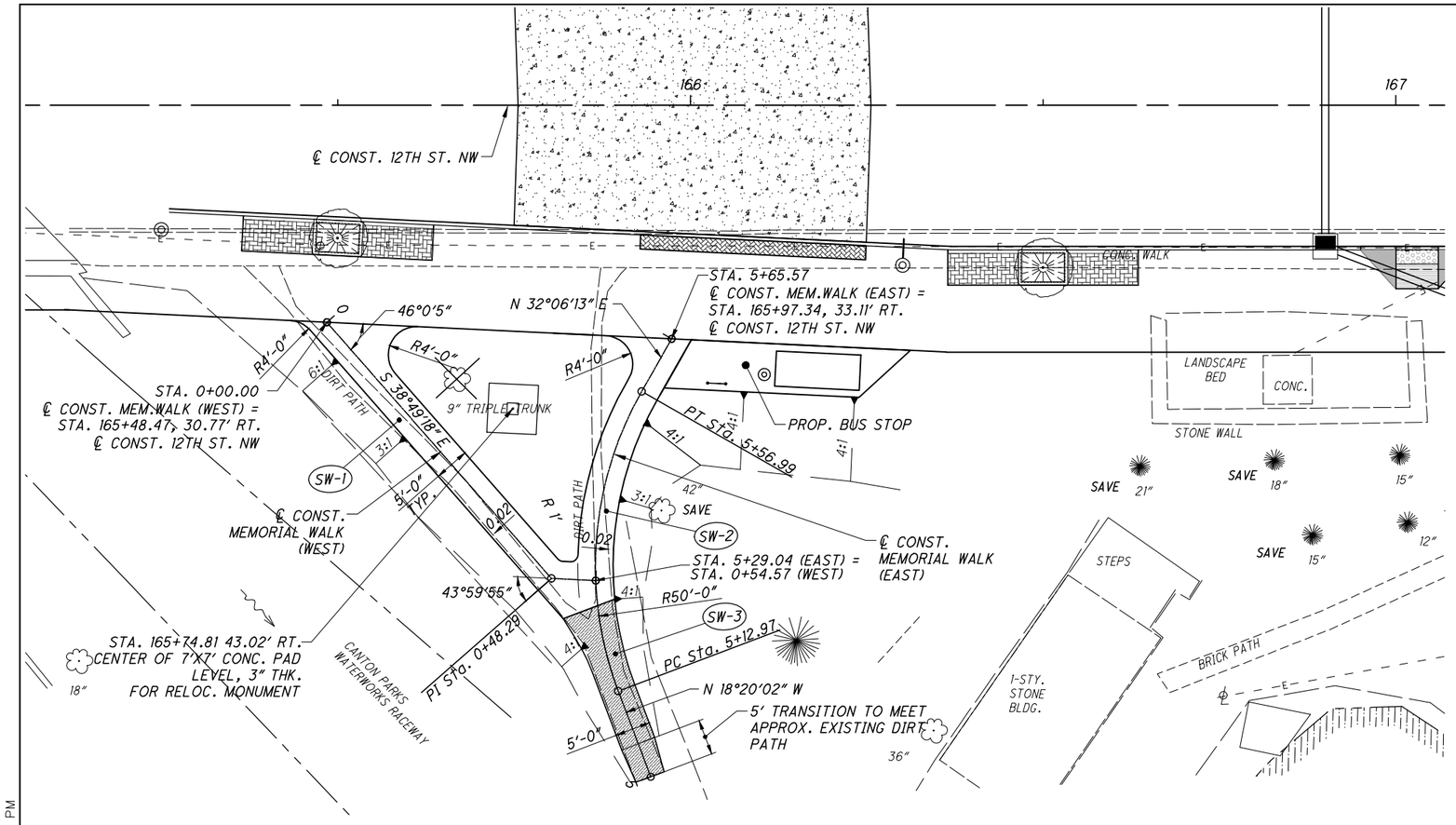
CALCULATED MAL | CHECKED SMG

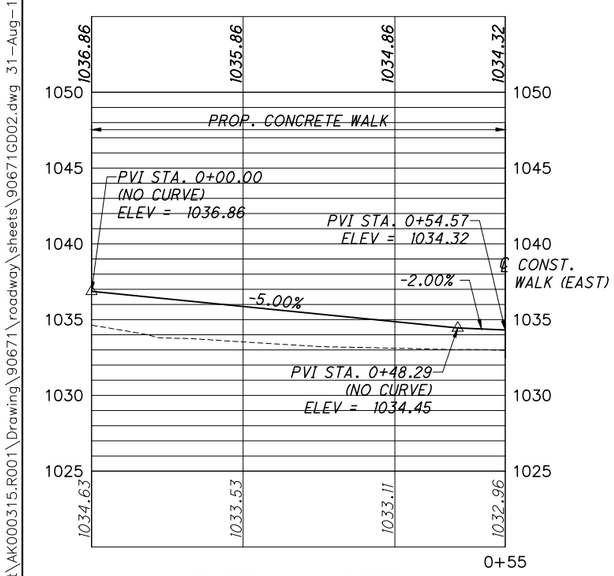
DRIVE DETAILS AND MISC. ROADWAY PAVEMENT DETAILS

STA - 12TH STREET IMPROVEMENTS

93
210

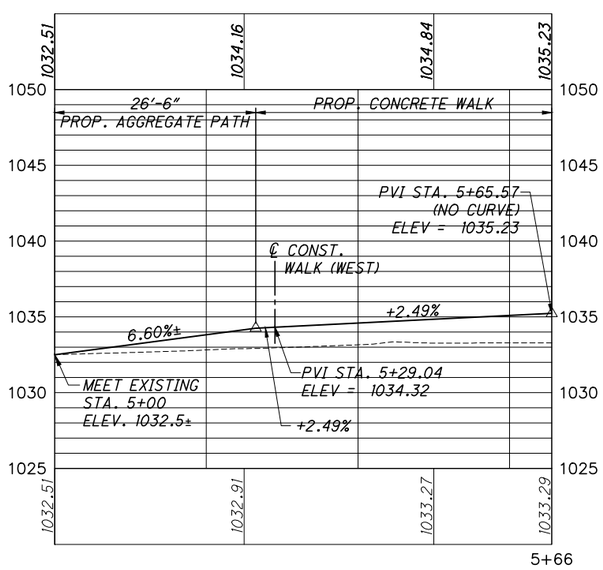
G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GD02.dwg 31-Aug-16 1:47 PM





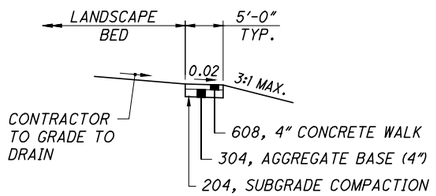
MEMORIAL WALK (WEST)

HORIZ. SCALE: 1" = 10'
VERT. SCALE: 1" = 5'

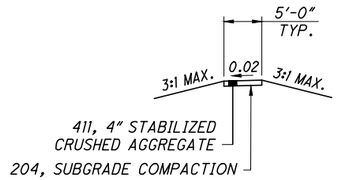


MEMORIAL WALK (EAST)

HORIZ. SCALE: 1" = 10'
VERT. SCALE: 1" = 5'



CONCRETE WALK SECTION



AGGREGATE PATH SECTION

LEGEND

PROPOSED AGGREGATE PATH

PROPOSED CONCRETE BUS PAD

N

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED MAL
CHECKED SMG

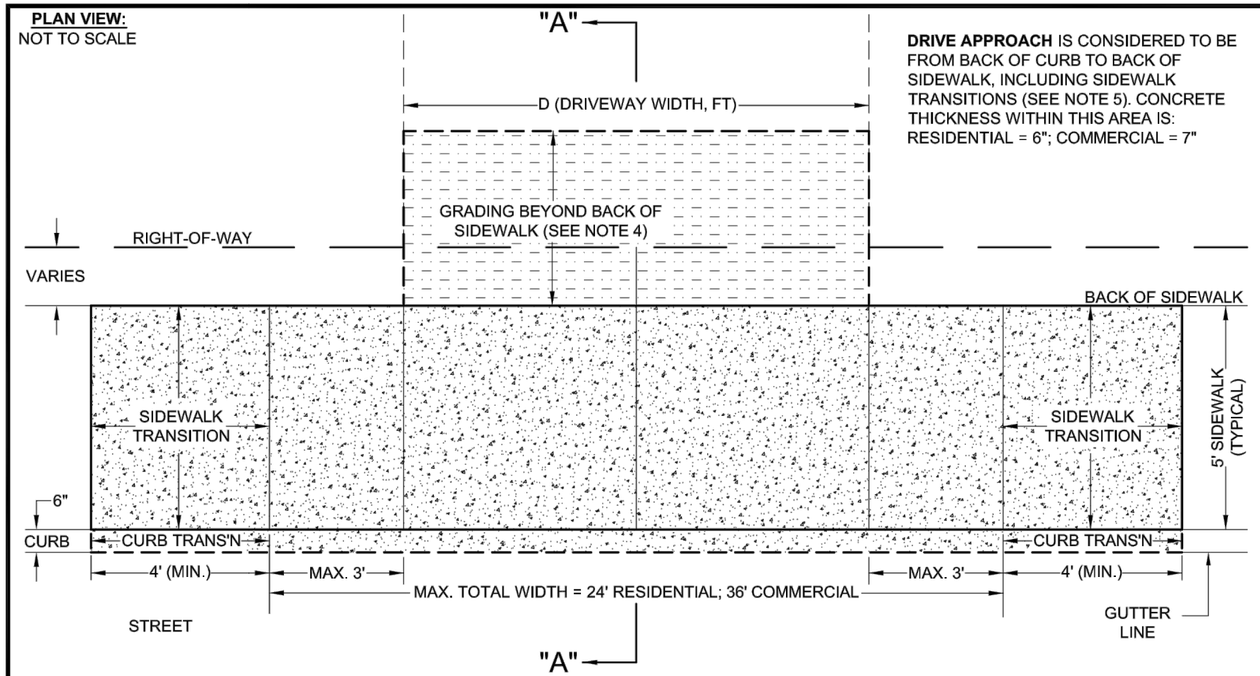
MEMORIAL WALK DETAILS AND RELOCATED MONUMENT

STA - 12TH STREET IMPROVEMENTS

94
210

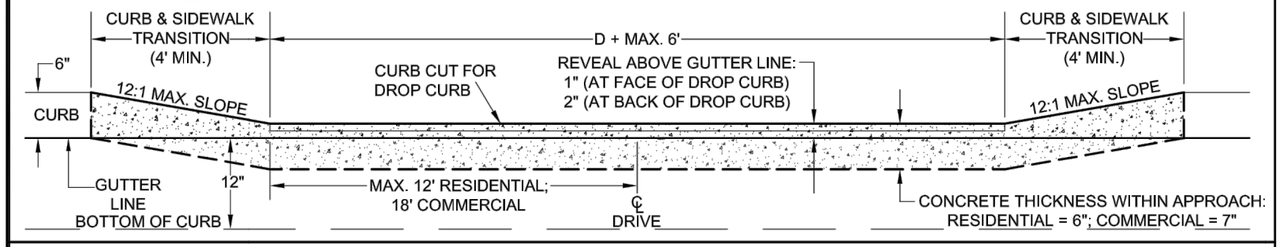
G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GD02.dwg 31-Aug-16 1:48 PM

PLAN VIEW:
NOT TO SCALE

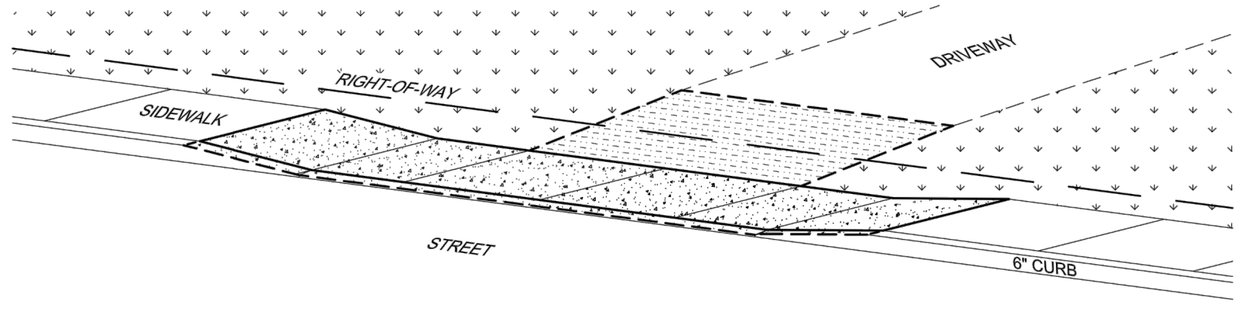


DRIVE APPROACH IS CONSIDERED TO BE FROM BACK OF CURB TO BACK OF SIDEWALK, INCLUDING SIDEWALK TRANSITIONS (SEE NOTE 5). CONCRETE THICKNESS WITHIN THIS AREA IS: RESIDENTIAL = 6"; COMMERCIAL = 7"

PROFILE VIEW (ALONG CURB):
NOT TO SCALE



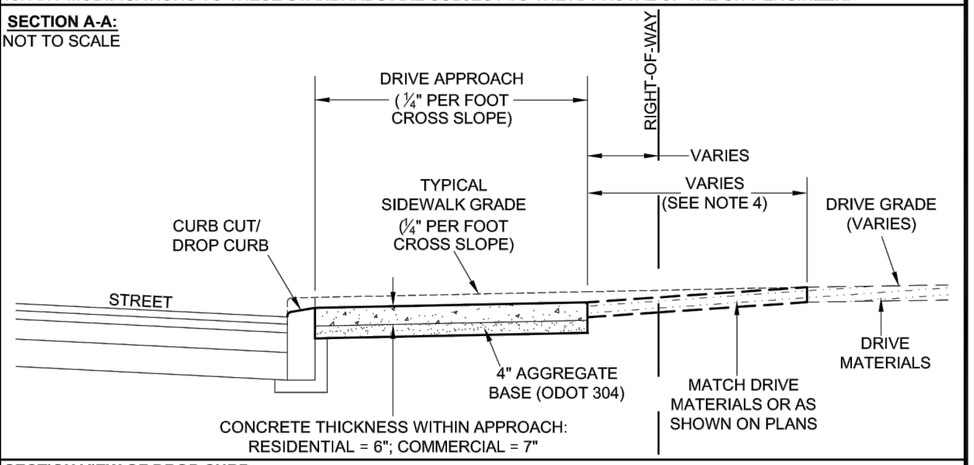
ISOMETRIC VIEW:
NOT TO SCALE



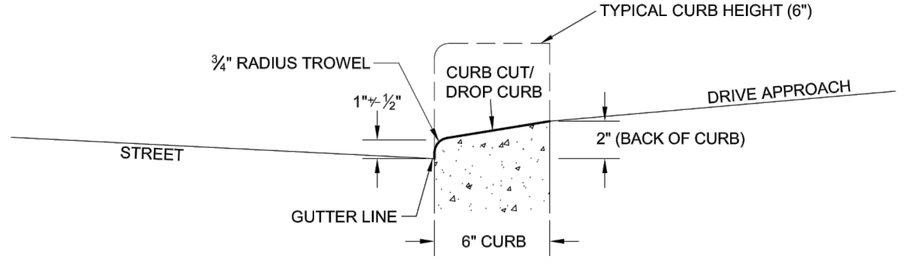
NOTES:

1. SIDEWALKS, CURBS, AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF CANTON SPECIFICATIONS FOR THE CONSTRUCTION, REPAIR, AND REPLACEMENT OF SIDEWALKS, CURBS, AND DRIVEWAYS.
2. ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY'S ENGINEER'S DISCRETION.
3. ALTERNATIVE DESIGNS MAY BE APPROVED OR REQUIRED BY THE CITY ENGINEER FOR COMMERCIAL DRIVES.
4. GRADE AS APPROPRIATE OR IN ACCORDANCE WITH PLANS TO PROVIDE ADEQUATE TRANSITION TO DRIVEWAY AND YARD. FOR CITY PROJECTS, GRADING AND MATERIALS SHALL BE PAID UNDER APPROPRIATE DRIVE RESTORATION ITEMS, ETC.
5. FOR CITY PROJECTS AND REIMBURSEMENT PROGRAM, DRIVE APPROACH PAY LIMITS SHALL CORRESPOND WITH DRIVE APPROACH LIMITS AS INDICATED HEREIN. DRIVE APPROACHES AND PAY LIMITS DO NOT INCLUDE FLARES OR ANY CONCRETE PORTION OF DRIVE BEYOND BACK OF SIDEWALK, OR ANY OTHER WORK NOT DIRECTLY RELATED TO THE CONSTRUCTION OF OF THE DRIVE APPROACH. THE COSTS ASSOCIATED WITH EXCAVATION, FORMING, GRADING, AND RESTORATION DIRECTLY RELATED TO THE DRIVE APPROACH AS WELL AS THE COSTS FOR THE CURB CUT/DROP CURB ARE INCIDENTAL TO THE COST OF THE DRIVE APPROACH.
6. DUE TO 1/4" PER FOOT CROSS SLOPE, BACK OF TYPICAL 5' SIDEWALK WITHIN APPROACH IS ONLY 3 ¼" ABOVE GUTTER LINE (EXCLUDING SIDEWALK TRANSITIONS). ALTERNATIVE DRIVE APPROACH OPTIONS MAY BE APPROVED OR REQUIRED WHEN DEPTH OF STORM WATER RUNOFF ALONG THE CURB IS ANTICIPATED TO RESULT IN EXCESSIVE PONDING WITHIN THE DRIVE APPROACH AREA OR CAUSE OTHER DRAINAGE PROBLEMS IN THE VICINITY.
7. REFER TO CITY STANDARD DRAWING NO. 29 FOR COMBINED CURB AND SIDEWALK DETAILS. CONNECT APRON TO CURB WITH DOWELS OR WIRE MESH.
8. PLACE 1/2" EXPANSION JOINTS AGAINST EXISTING CONCRETE DRIVES AND WALKS, BUILDING WALLS AND OTHER FIXED OBJECTS.
9. WHEN THE LOCATION OF THE DRIVE APPROACH IS UNKNOWN AT THE TIME OF CURB CONSTRUCTION, THE DROP MAY BE SAW-CUT WITH THE CITY ENGINEER'S APPROVAL.
10. ANY MODIFICATIONS TO THESE STANDARDS ARE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.

SECTION A-A:
NOT TO SCALE



SECTION VIEW OF DROP CURB:
NOT TO SCALE



OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: MAR. 2012

APPROVED BY: CDB, RMB, SLH

DRAWING FILE NAME: **ce_28.dwg**

REVISIONS

DESCRIPTION	DATE	BY
NOTE MODIFICATIONS	4/10/12	CDB
MINOR FORMAT EDIT	6/4/12	CDB

STANDARD DRAWING NO. 28

DRIVE APPROACH
WITH SIDEWALK AGAINST CURB

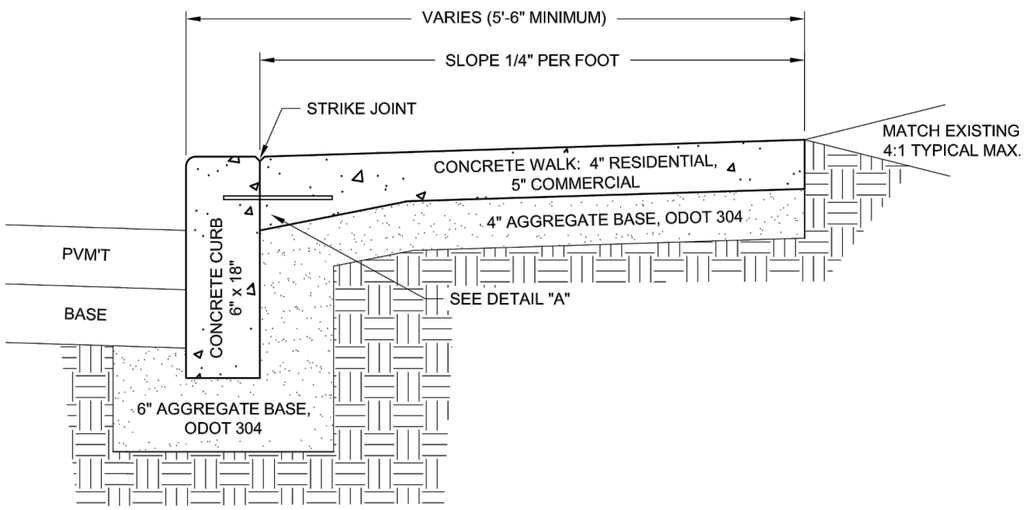
SHEET 1 OF 1

DRIVE APPROACH AND CURB DETAILS

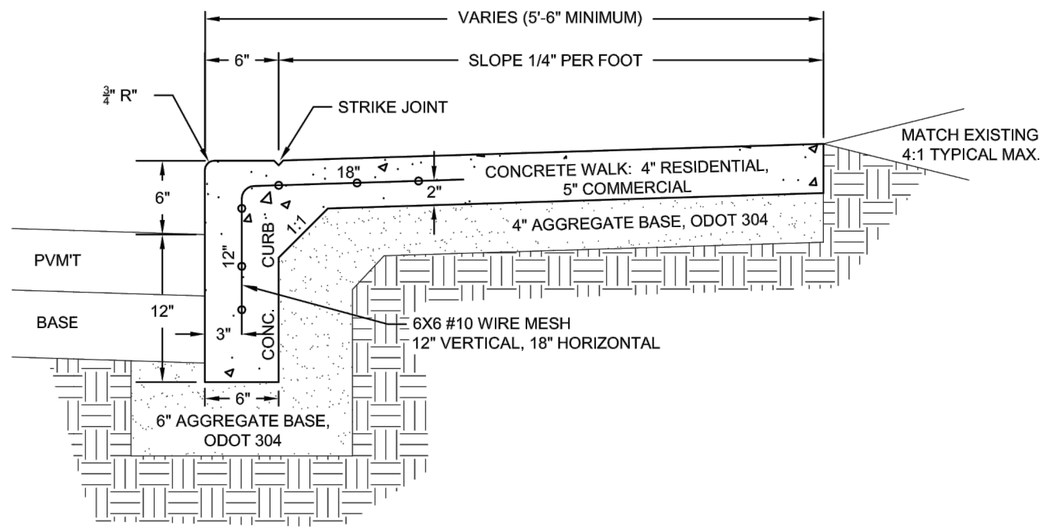
STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM02.dwg 31-Aug-16 1:48 PM

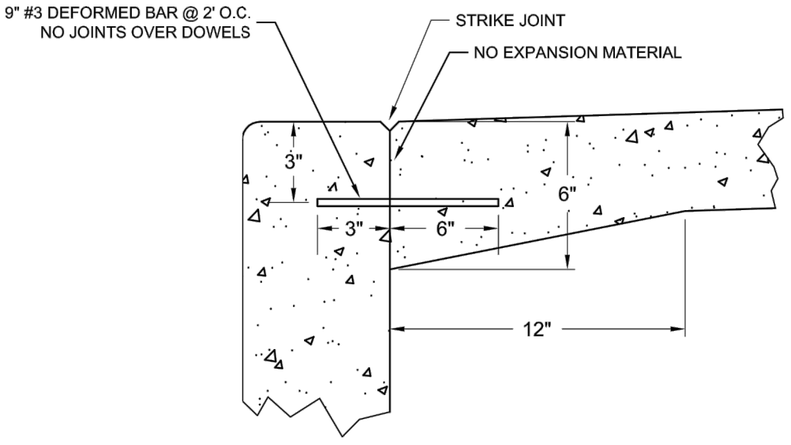
TYPE A
CONCRETE WALK
ADJACENT TO CURB



TYPE B
INTEGRAL CONCRETE WALK
AND CURB



DETAIL "A"



NOTES:

1. CURB CONSTRUCTION MUST TO CONFORM TO ODOT 609 AND THE CURRENT CITY OF CANTON SPECIFICATIONS FOR THE CONSTRUCTION, REPAIR, AND REPLACEMENT OF SIDEWALKS, CURBS, AND DRIVEWAYS.
2. CONCRETE MATERIAL FOR CURB AND WALK MUST BE ODOT 499 CLASS 'C' CONCRETE WITH LIMESTONE AGGREGATE.
3. NO FOUNDRY SAND OR SLAG PERMITTED IN AGGREGATE BASE, ODOT 304.
4. CONCRETE WALK REPLACED OR INSTALLED ADJACENT TO EXISTING CONCRETE CURB MUST BE DOWELED TO THE EXISTING CURB, UNLESS DETERMINED OTHERWISE BY THE CITY ENGINEER.
5. CURB CONTRACTION JOINT MUST BE SPACED 10 FEET TYPICALLY; WALK CONTRACTION JOINTS MUST BE SPACED 5 FEET TYPICALLY, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. CURB EXPANSION JOINTS MUST BE INSTALLED AT CURB INLET CATCH BASIN AND AT ANY OTHER RIGID STRUCTURES. CURB EXPANSION AND CONSTRUCTION JOINTS MUST BE DOWLED WITH TWO (2) #5 THRU #8 SMOOTH BARS, 18" LONG, EXTENDING 9" INTO EACH CURB.
6. ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: MARCH 2012

APPROVED BY: CDB, RMB

DRAWING FILE NAME: **ce_29.dwg**

REVISIONS		
DESCRIPTION	DATE	BY

STANDARD DRAWING NO. 29

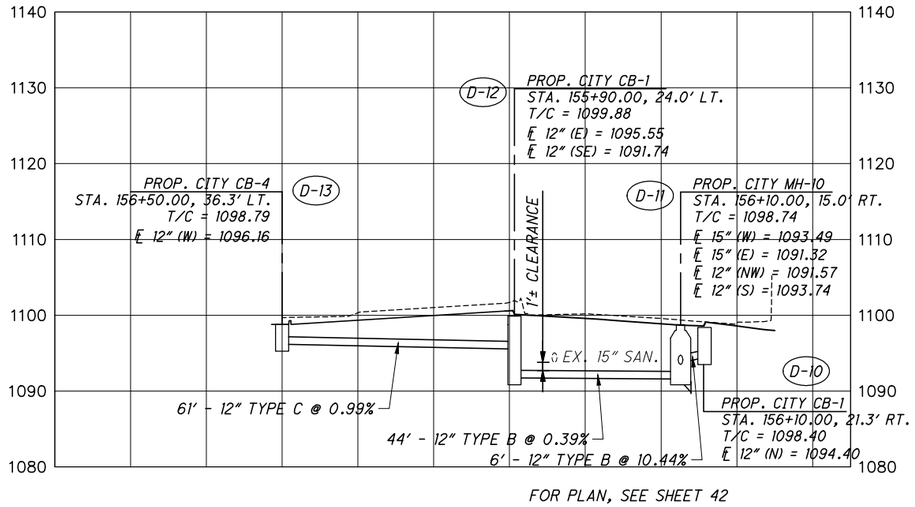
COMBINED CURB & WALK

SHEET 1 OF 1

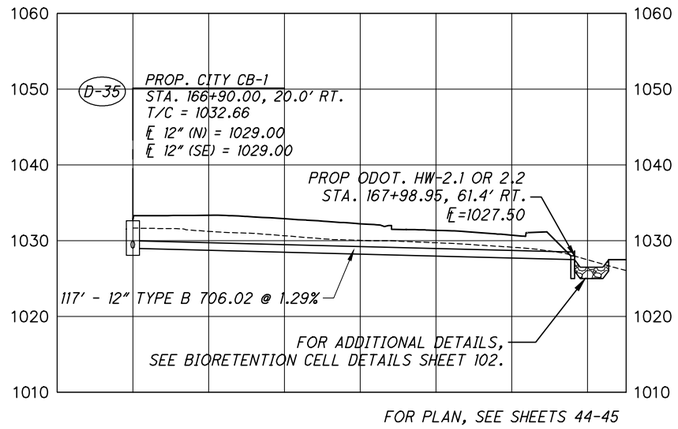
DRIVE AND CURB DETAILS

STA - 12TH STREET IMPROVEMENTS

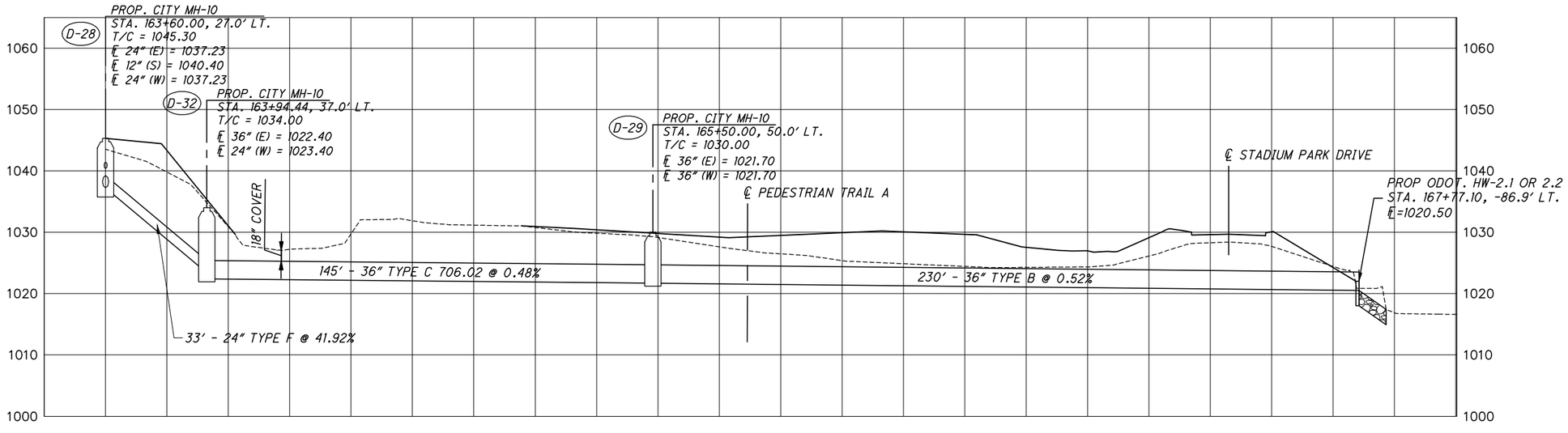
G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM02.dwg 31-Aug-16 1:48 PM



FOR PLAN, SEE SHEET 42



FOR PLAN, SEE SHEETS 44-45



FOR PLAN, SEE SHEETS 44-45

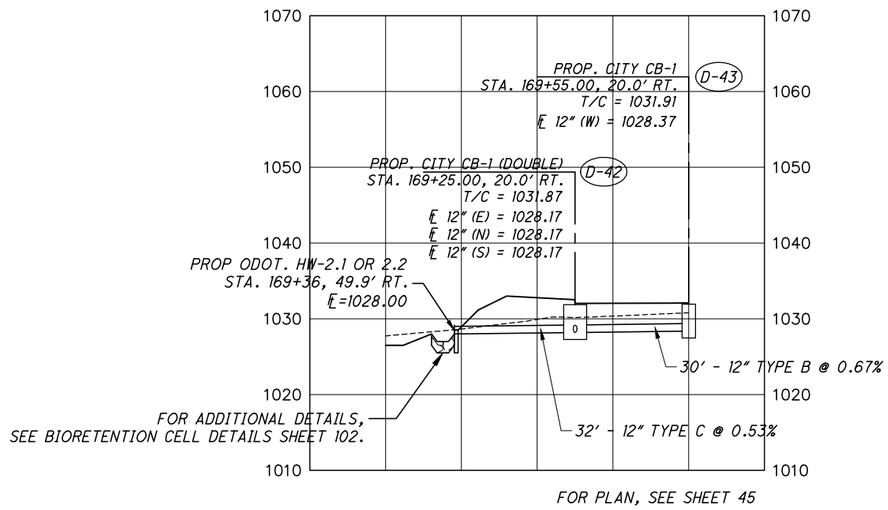
HORIZONTAL SCALE IN FEET
0 10 20 40

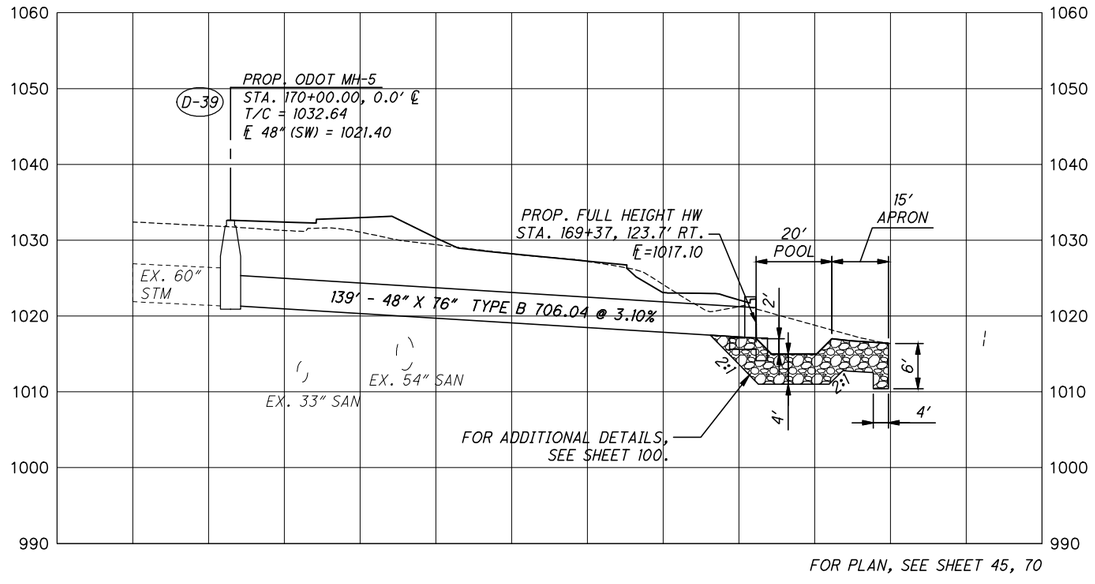
CALCULATED JAL
CHECKED AKM

STORM SEWER PROFILES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DF001.dwg 31-Aug-16 1:49 PM





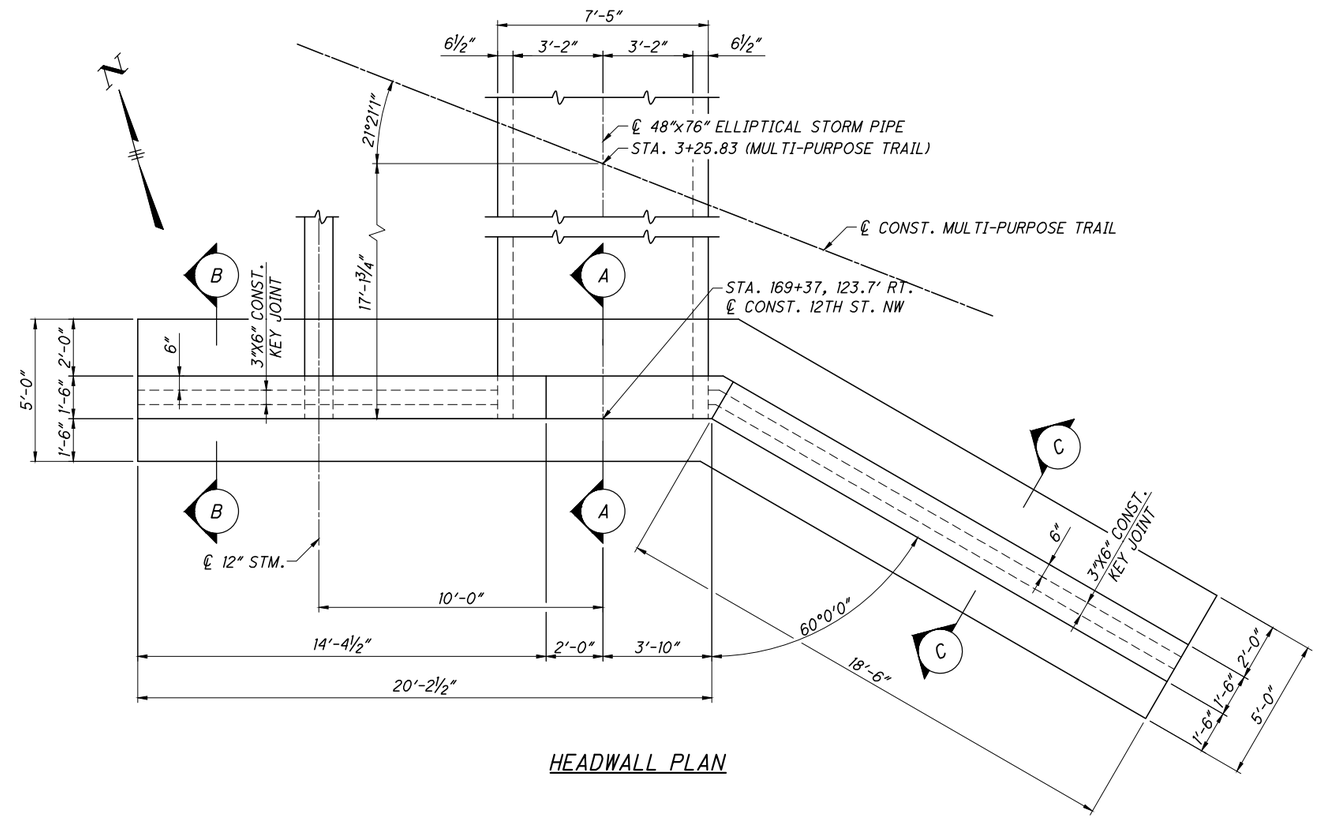
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JAL
CHECKED AKM

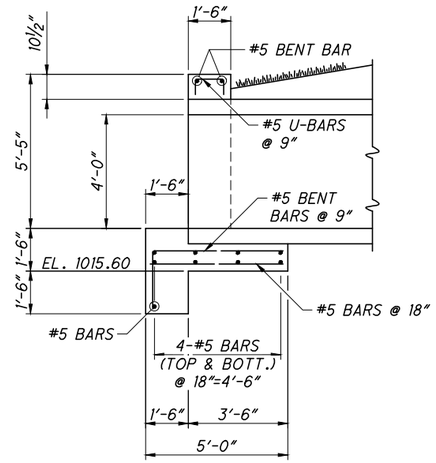
STORM SEWER PROFILES

STA - 12TH STREET IMPROVEMENTS

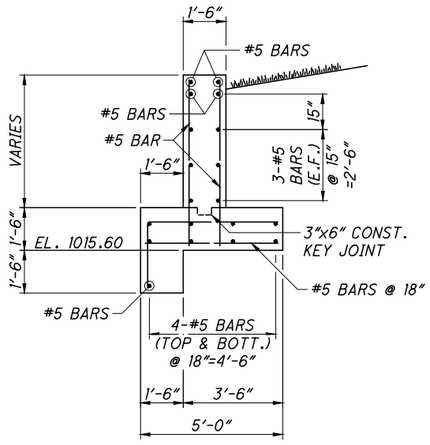
G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DF001.dwg 31-Aug-16 1:49 PM



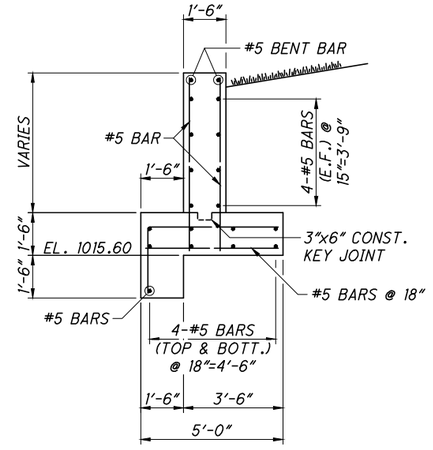
HEADWALL PLAN



SECTION A



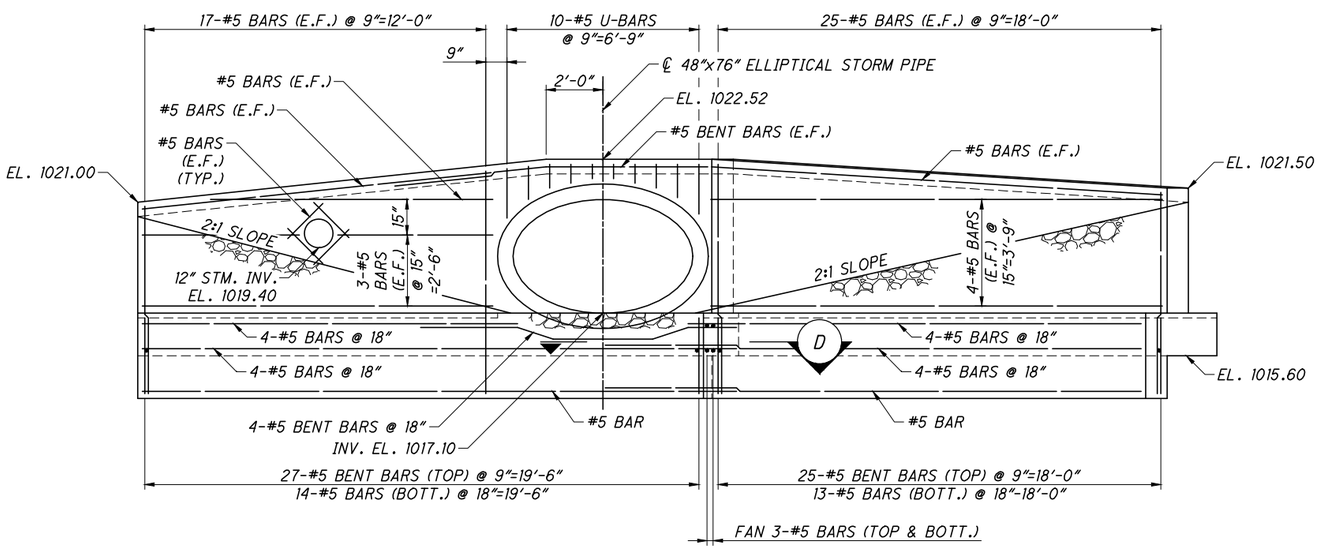
SECTION B



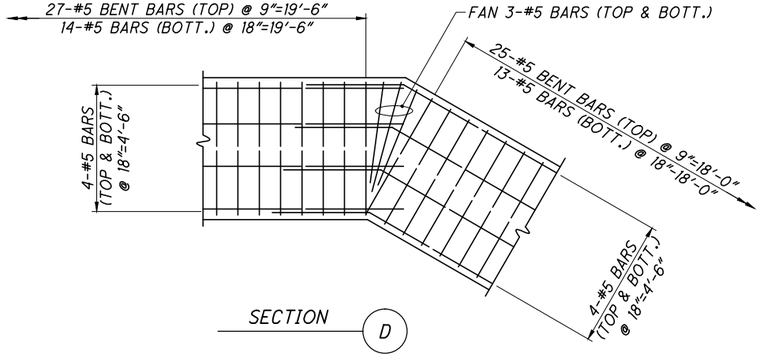
SECTION C

NOTES

1. CONCRETE SHALL BE CLASS QCI AND SHALL MEET THE REQUIREMENTS OF ITEM 511.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL MEET THE REQUIREMENTS OF ITEM 509.
3. ALL EXPOSED CONCRETE SHALL BE SEALED WITH AN EPOXY-URETHANE SEALER MEETING THE REQUIREMENTS OF ITEM 512.
4. ALL MATERIALS (INCLUDING CONCRETE, REINFORCING STEEL AND CONCRETE SEALER), EQUIPMENT AND LABOR NECESSARY TO CONSTRUCT THE HEADWALL AS DETAILED ON THIS SHEET, SHALL BE INCLUDED WITH ITEM 602 - CONCRETE MASONRY, AS PER PLAN, FOR PAYMENT.



HEADWALL ELEVATION



SECTION D

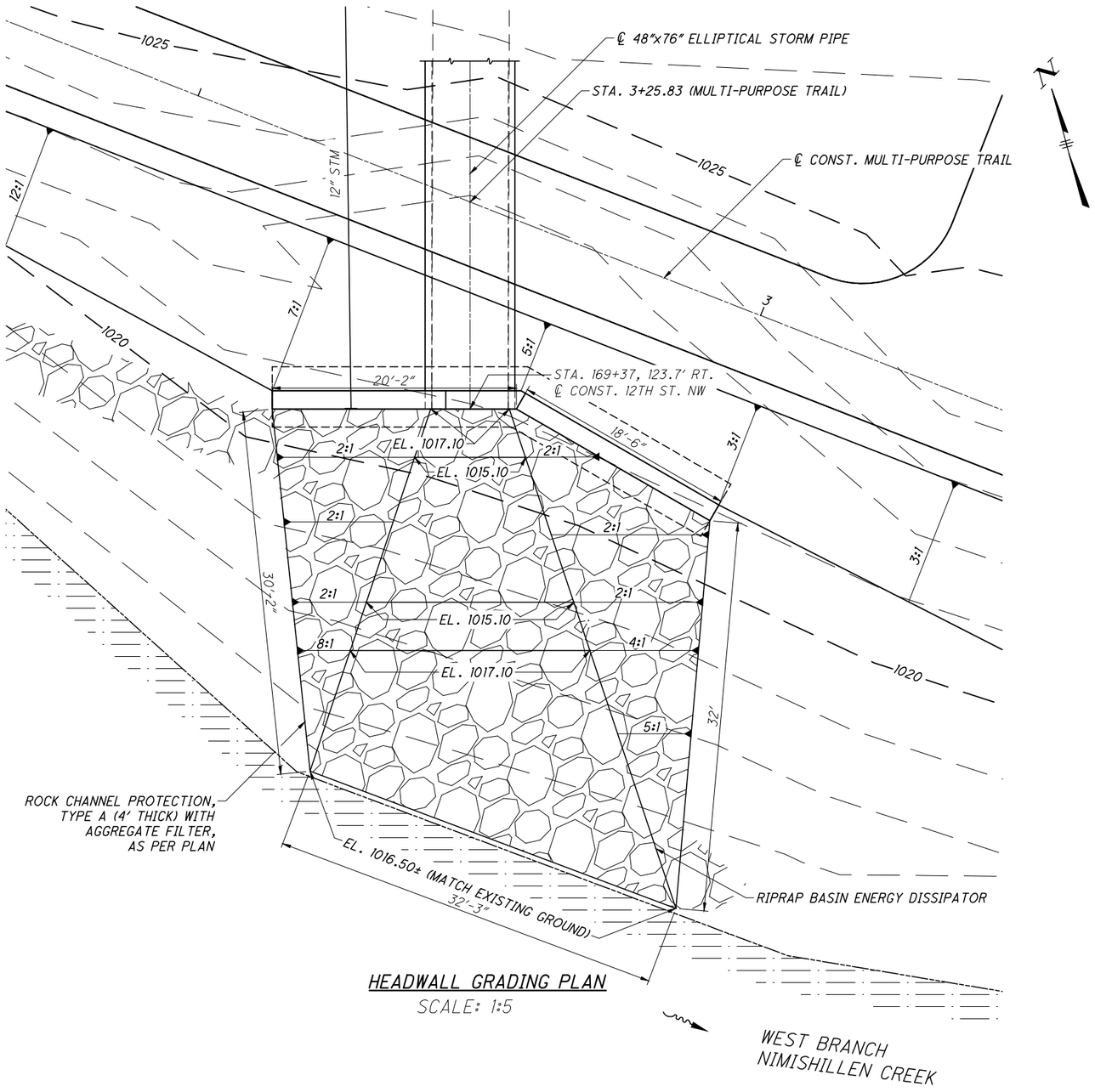
CALCULATED CMD
CHECKED FJG

DRAINAGE DETAILS

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DC001.dwg 31-Aug-16 1:50 PM

FOR PLAN SEE SHEETS 45, 70
FOR STORM SEWER PROFILES SEE SHEETS 98, 102



HEADWALL GRADING PLAN
SCALE: 1:5

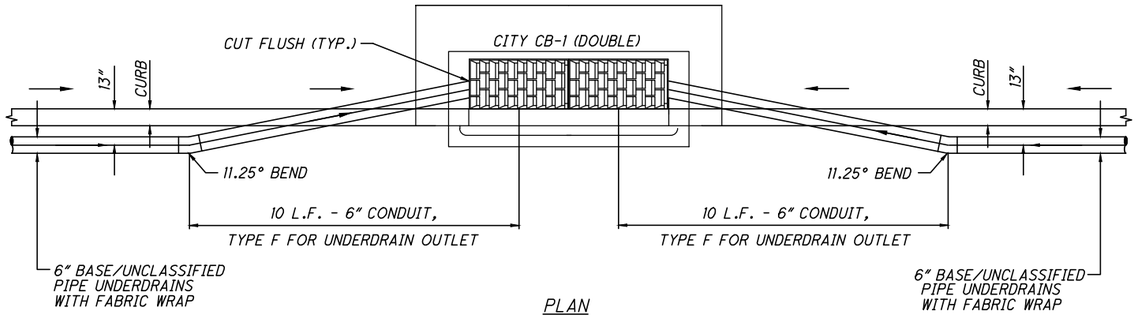
CALCULATED AKM
CHECKED EMC

DRAINAGE DETAILS

STA - 12TH STREET IMPROVEMENTS

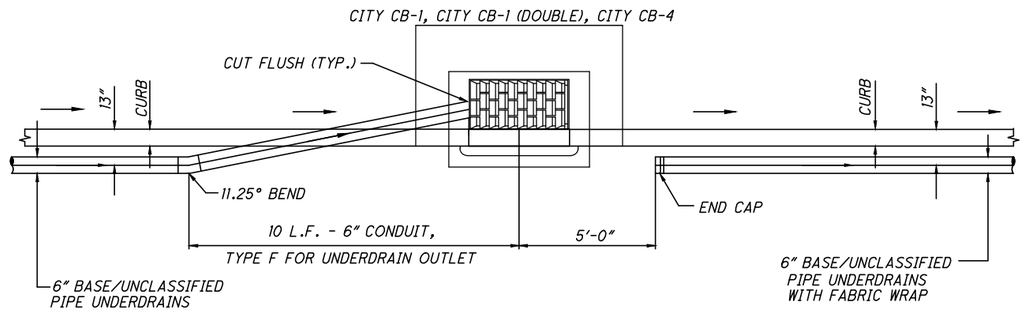
100
210

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DC002.dwg 31-Aug-16 1:51 PM



PLAN

TYPICAL UNDERDRAIN CONNECTION TO CATCH BASINS IN A SAG



PLAN

TYPICAL UNDERDRAIN CONNECTION TO CATCH BASINS ON CONTINUOUS GRADE

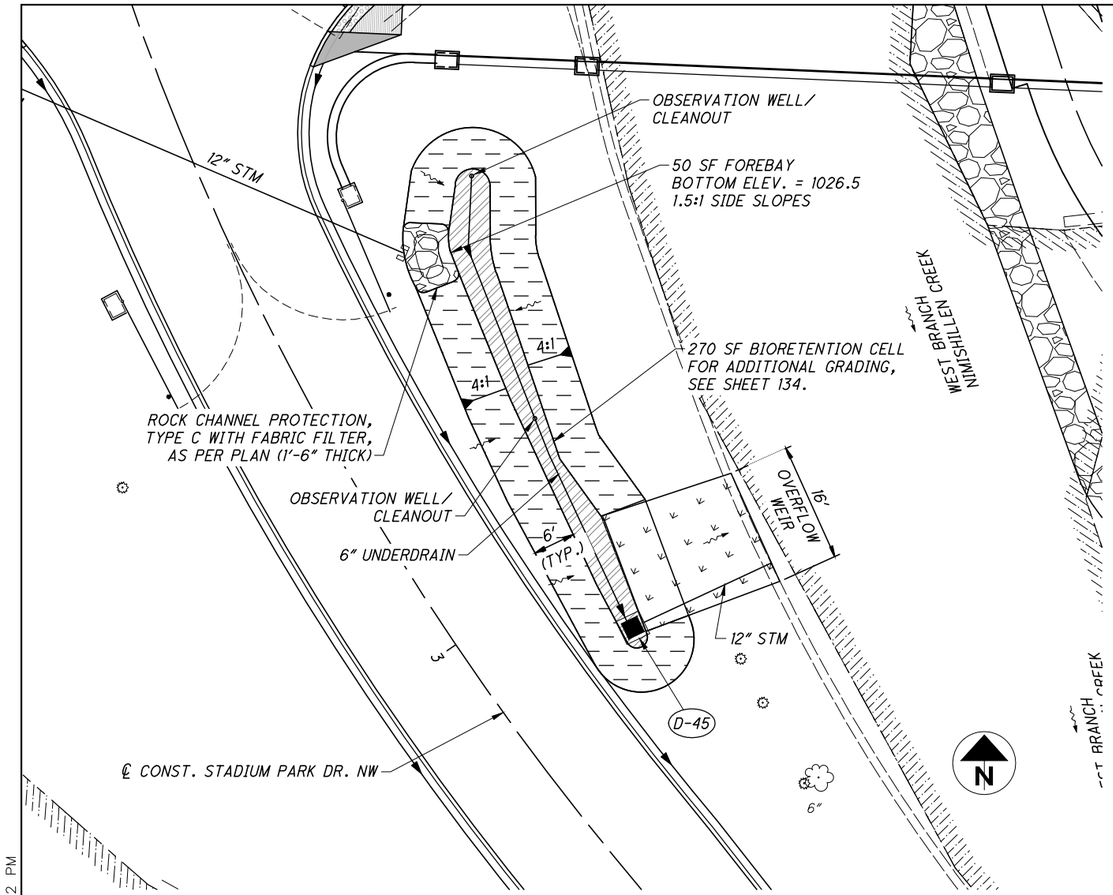
CALCULATED AKM
CHECKED SMG

UNDERDRAIN DETAILS

STA - 12TH STREET
IMPROVEMENTS

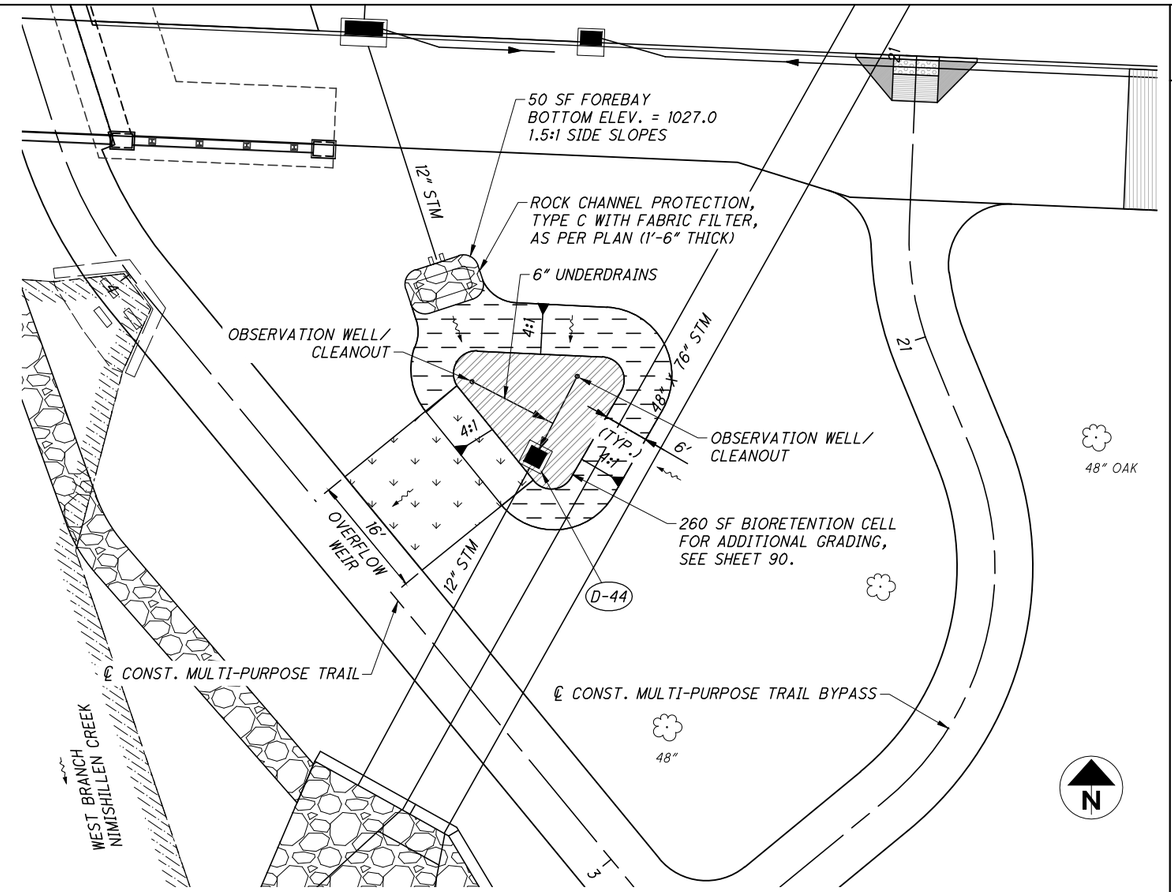
101
210

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DD01.dwg 31-Aug-16 1:51 PM



BIORETENTION CELL 1 - PLAN

SCALE: 1" = 10'



BIORETENTION CELL 2 - PLAN

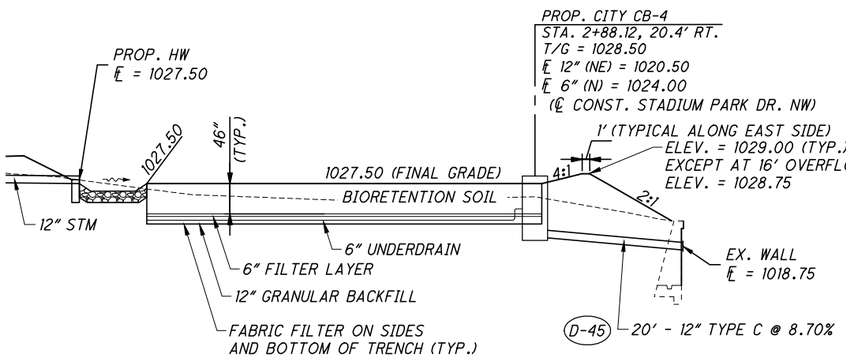
SCALE: 1" = 10'

LEGEND

AREA TO BE PLANTED WITH 659, SEEDING AND MULCHING, AS PER PLAN (REFER TO ADDITIONAL NOTES ON LANDSCAPING PLAN SHEETS 128-129)

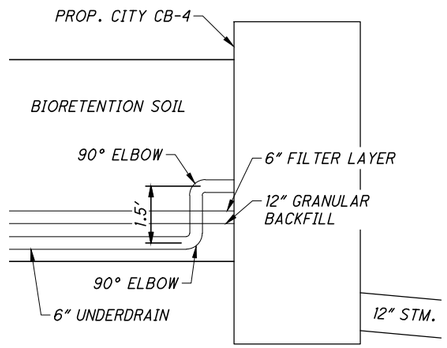
SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE B

SODDING UNSTAKED



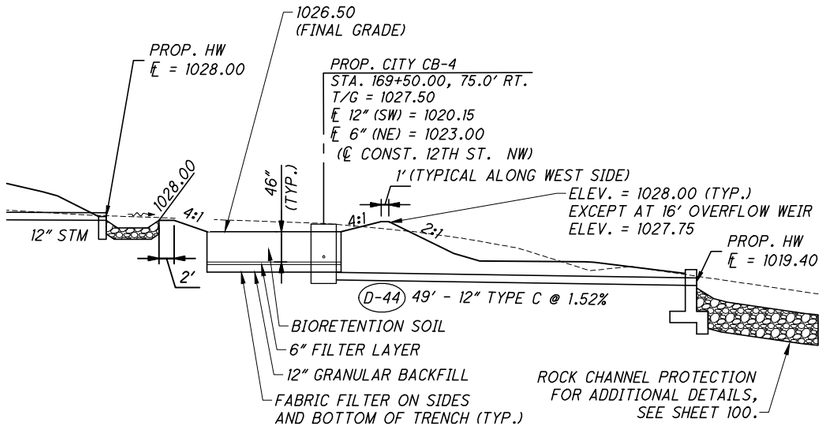
PROFILE ALONG BIORETENTION CELL AND INLET/OUTLET PIPES

SCALE: 1" = 10'



UNDERDRAIN OUTLET DETAIL

SCALE: 1" = 5'



PROFILE ALONG BIORETENTION CELL AND INLET/OUTLET PIPES

SCALE: 1" = 10'

CALCULATED AKM
CHECKED EMC

BIORETENTION CELL DETAILS

STA - 12TH STREET IMPROVEMENTS

102
210

G:\Project\AK000315.R001\Drawing\90671\drainage\sheets\90671DD02.dwg 31-Aug-16 1:52 PM

SHEET NO.	REFERENCE NO.	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 ONE WAY SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR EACH	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN, DOUBLE FACED, STREET NAME EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DELIVERY EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DELIVERY EACH					
12TH STREET																								
106	R-1	150+05	RT										4			2								
106	S-1	150+06	RT	R3-H8B-48	48X30			14.0/14.0	2		10.0													
				R5-1-36	36X36						9.0													
				R6-1L-36	36X12						3.0													
				R6-1R-36	36X12						3.0													
106	R-2	153+05	LT										6			2								
106	S-2	153+06	LT	M3-1-24	24X12		14.5/14.5				2.0													
				I2-2-24	24X24						4.0													
				M6-1R-21	21X15						2.2													
				M3-2-24	24X12						2.0													
				M1-4-2-24	24X24						4.0													
				M6-1R-21	21X15						2.2													
106	S-3	154+00	LT	R3-H8BB-30	30X30		12.5				6.3													
106	S-4	154+78	LT	R1-1-36	36X36		13.0		1		9.0													
106	R-3	154+94	LT										1			1								
106	S-5	155+50	RT	W1-4R-36	36X36		14.5				9.0													
106	R-4	157+26	LT										2			2								
106	S-6	157+30	LT	W1-6L-48	48X24		13.5/13.5				8.0													
				OM4-1-18	18X18						2.3													
106	R-5	160+35	LT										1			1								
106	S-7	160+35	LT	W11-H13-36	36X36		14.5				9.0			1										
106	R-6	162+07	RT														1							
107	R-1	165+48	RT															1						
107	S-1	166+10	LT	W1-4R-36	36X36		14.5				9.0													
107	S-2	167+13	RT	W11-2-36	36X36					1	9.0													
107	R-2	167+15	RT														1							
107	R-6	167+89	LT										1			1								
107	S-5	167+07	LT	W11-2-36	36X36		14.5				9.0													
107	R-7	168+00	RT										1			1								
107	S-6	168+00	RT	W10-1-36	36 DIAMETER		13.0				7.1													
107	S-7	168+95	RT	R3-H8bh-36	36X30		12.5				7.5													
107	R-8	169+03	LT															1						
107	R-9	169+15	LT												1	1								
107	R-10	169+90	RT										2			1								
107	S-8	169+90	RT	W11-15-36	36X36	15.5/15.5					9.0													
				W16-7PL-24	24X12						2.0													
107	R-11	170+07	LT										2			1								
107	S-9	170+07	LT	W11-15-36	36X36	15.5/15.5					9.0													
				W16-7PL-24	24X12						2.0													
TOTALS CARRIED TO SHEET 104						62.0	165.0	28.0	3	1	148.5	0	20	1	1	13	2	2						

CALCULATED BRO
CHECKED DRJ

SIGNING SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\traffic\sheets\90671TS01.dwg 31-Aug-16 1:52 PM

SHEET NO.	REFERENCE NO.	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 ONE WAY SUPPORT, NO. 3 POST FT	630 SIGN POST REFLECTOR EACH	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	630 SIGN, FLAT SHEET SF	630 SIGN, DOUBLE FACED, STREET NAME EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DELIVERY EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF POLE MOUNTED SIGN AND DELIVERY EACH					
STADIUM PARK DRIVE																								
107	*S-3*	*3+70*	*RT*	*R1-1-36*	*36X36*		*13.0/13.0*		*2*		*9.00*													
				R3-2-36	*36X36*						*9.00*													
107	*R-3*	*3+72*	*RT*										*3*			*1*								
107	*R-4*	*3+95*	*LT*														*1*							
107	*R-5*	*4+68*	*LT*										*4*			*1*								
107	*S-4*	*4+77*	*LT*	*D3-1*			*13.0/14.0*		*2*			*1*												
				R1-1-36	*36X36*						*9.00*													
				R3-2-36	*36X36*						*9.00*													
TOTALS THIS SHEET						*0.0*	*53.0*	*0.0*	*4*	*0*	*36.0*	*1*	*7*	*0*	*0*	*2*	*1*	*0*						
TOTALS SHEET 103						*124.0*	*165.0*	*28.0*	*3*	*1*	*148.5*	*0*	*20*	*1*	*1*	*13*	*2*	*2*						
TOTALS CARRIED TO GENERAL SUMMARY						*124*	*218*	*28*	*7*	*1*	*185*	*1*	*27*	*1*	*1*	*15*	*3*	*2*						

CALCULATED BRO
CHECKED DRJ

SIGNING SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\traffic\sheets\90671TS01.dwg 31-Aug-16 1:53 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	644 LANE LINE, 6"	644 CENTER LINE	644 CHANNELIZING LINE, 8"	644 STOP LINE	644 CROSSWALK LINE	644 TRANSVERSE/DIAGONAL LINE	644 ISLAND MARKING	644 RAILROAD SYMBOL MARKING	644 LANE ARROW
					FT	FT	FT	FT	FT	FT	SF	EACH	EACH
		12TH STREET											
106	CW-1	150+20		LT & RT					145				
106	CL-1	150+25	154+74	℄		449							
106	CL-2	150+25	153+65	RT		340							
106	CH-1	150+25	154+00	LT			375						
106	SL-1	150+25		LT				32					
106	TL-1	150+25	150+14	RT						186			
106	IM-1	150+25		RT							32		
106	LA-1	150+35		LT									1
106	LA-2	151+01		LT									1
106	LA-3	151+67		LT									1
106	LA-4	152+33		LT									1
106	LA-5	152+99		LT									1
106	CH-2	153+64	155+14	RT			150						
106	LA-6	153+65		LT									1
106	LA-7	153+71		RT									1
106	LL-1	154+00	156+45	LT	245								
106	LA-8	154+37		RT									1
106	LA-9	155+03		RT									1
106	CL-3	150+14	156+45	RT		631							
106	CL-4	150+14	156+45	℄		631							
106	TL-2	155+14	156+14	RT						51			
106	CL-5	156+45	164+50	℄		805							
107	CL-1	164+50	166+63	RT		213							
107	CL-2	164+88	167+96	LT		308							
107	TL-1	164+88	166+33	LT & RT						45			
107	CH-1	166+63	166+96	RT			33						
107	LA-1	166+86		RT									1
107	CW-1	167+07		LT & RT					82				
107	CL-3	167+95	170+12	LT & RT		217							
107	CH-2	167+95	168+45	LT			50						
107	LA-2	168+05		LT									1
107	RR-1	168+30		RT								1	
107	CH-3	168+95	170+12	RT			117						
107	LA-3	169+36		℄									1
107	LA-4	170+02		℄									1
107	SL-1	170+12		LT & RT				26					
				SUBTOTAL	245	3594							
					MILE	MILE							
TOTALS CARRIED TO GENERAL SUMMARY					0.05	0.69	725	58	227	282	32	1	13

CALCULATED BRO
CHECKED DRJ

PAVEMENT MARKING SUBSUMMARY

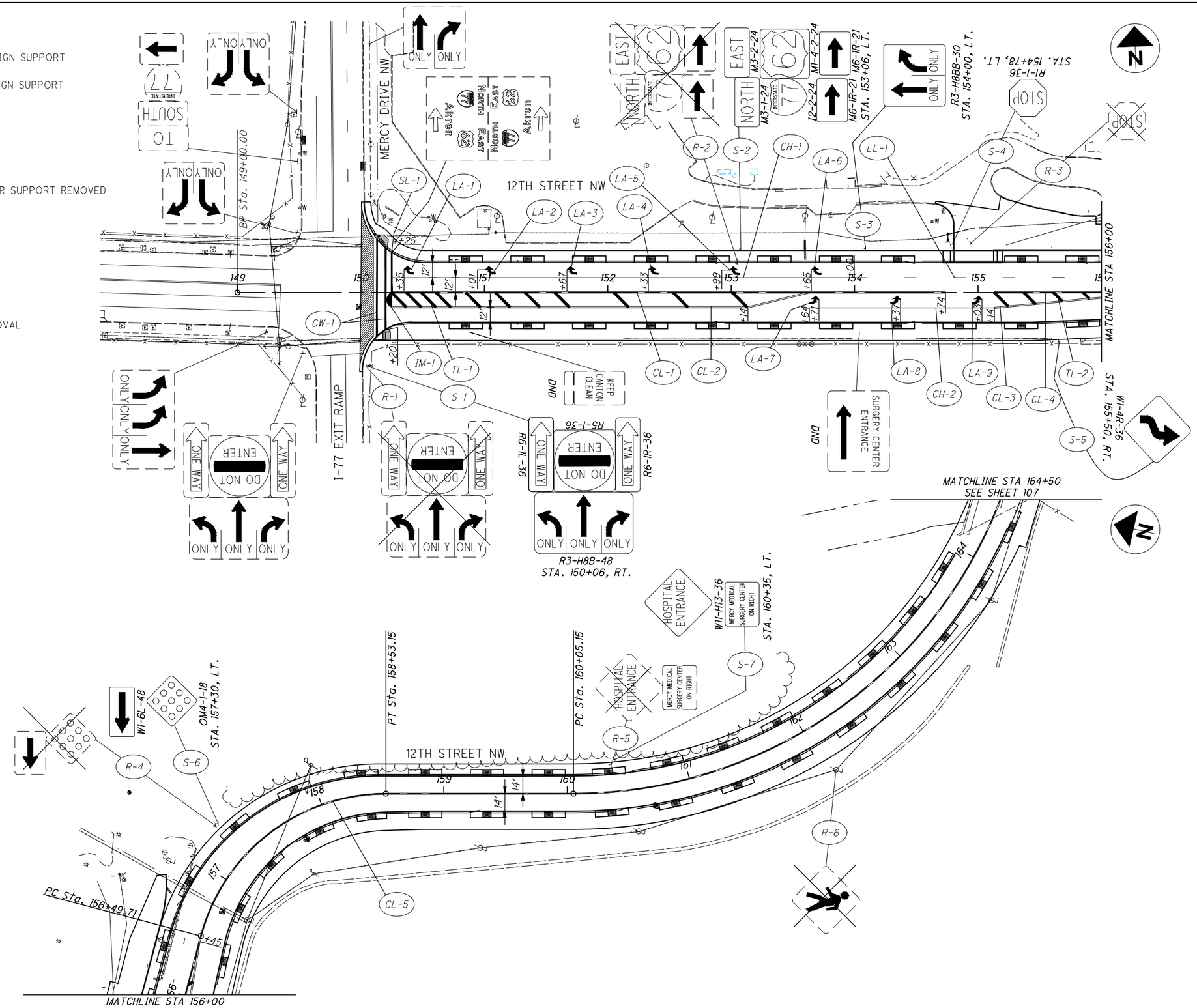
STA - 12TH STREET IMPROVEMENTS

105
210

G:\Project\AK000315.R001\Drawing\90671\traffic\sheets\90671TS01.dwg 31-Aug-16 1:53 PM

LEGEND

- 2 POST GROUND MOUNTED SIGN SUPPORT
- 1 POST GROUND MOUNTED SIGN SUPPORT
- EXISTING SIGN TO REMAIN
- EXISTING SIGN AND POST OR SUPPORT REMOVED
- PROPOSED SIGN — R1-2-36
- R-# EXISTING SIGN AND SUPPORT REMOVAL
- S-# PROPOSED SIGN AND SUPPORT
- LL-# LANE LINE
- CL-# CENTER LINE - DOUBLE SOLID
- CH-# CHANNELIZING LINE
- CW-# CROSSWALK LINE
- TL-# TRANSVERSE LINE (YELLOW)
- SL-# STOP LINE
- LA-# LANE ARROW
- IM-# ISLAND MARKING



HORIZONTAL SCALE IN FEET 0 20 40 80

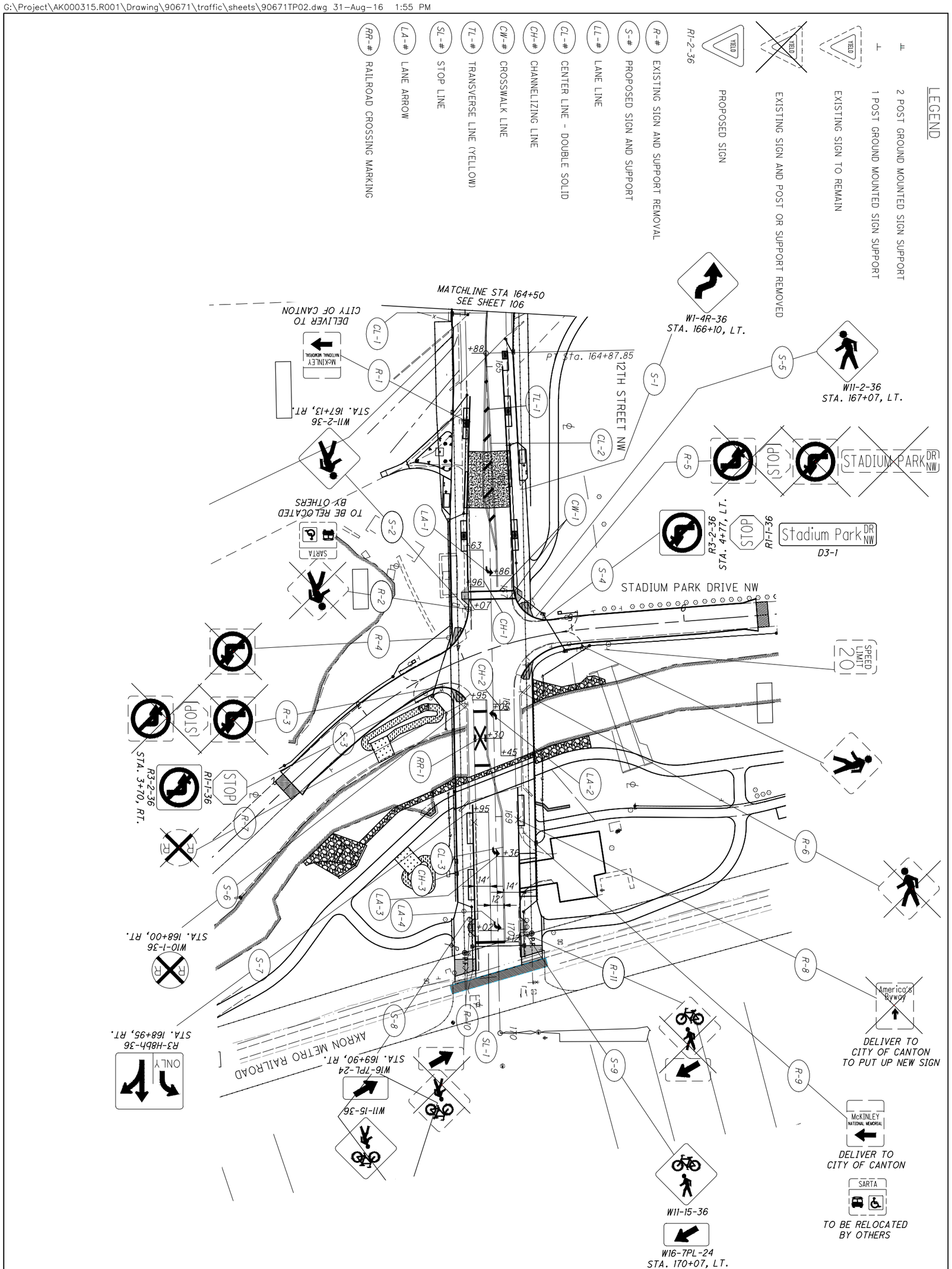
CALCULATED BEP
CHECKED DRJ

SIGNING AND PAVEMENT MARKING
STA. 150+00 TO STA. 164+50

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\traffic\sheets\90671TP01.dwg 31-Aug-16 1:54 PM

G:\Project\AK000315.R001\Drawing\90671\traffic\sheets\90671TP02.dwg 31-Aug-16 1:55 PM



107 / 210	STA - 12TH STREET IMPROVEMENTS	SIGNING AND PAVEMENT MARKING STA. 164+50 TO STA. 170+93	CALCULATED BEP / CHECKED DRJ	0 10 20 40 HORIZONTAL SCALE IN FEET

NOTES

UNDERDRAINS FOR PULLBOXES

REFERENCE TRAFFIC SCD HL-30.11 FOR DETAILS ABOUT DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 611 4" CONDUIT, TYPE E 20 FT

625, PULL BOX CLEANED

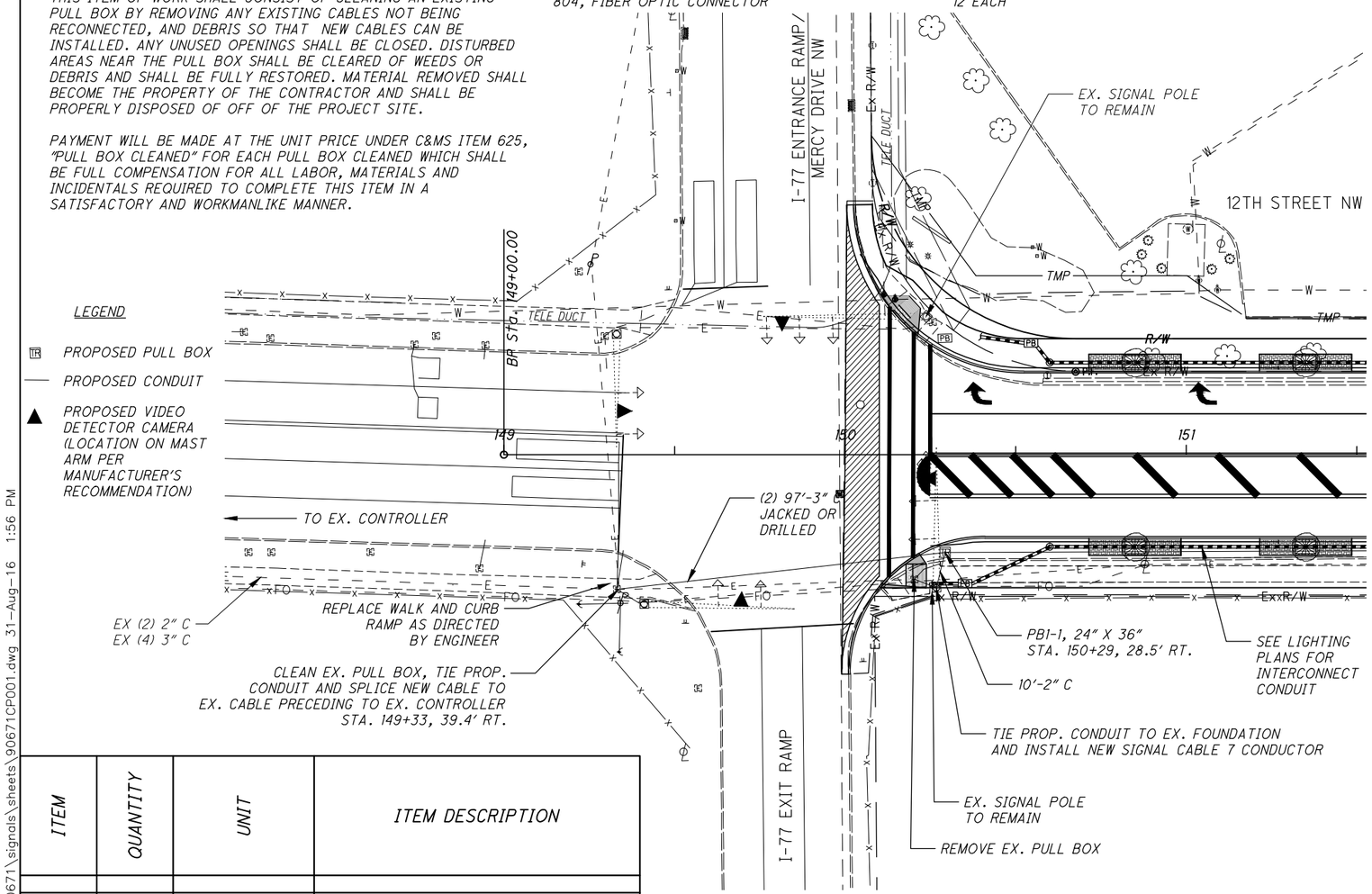
THIS ITEM OF WORK SHALL CONSIST OF CLEANING AN EXISTING PULL BOX BY REMOVING ANY EXISTING CABLES NOT BEING RECONNECTED, AND DEBRIS SO THAT NEW CABLES CAN BE INSTALLED. ANY UNUSED OPENINGS SHALL BE CLOSED. DISTURBED AREAS NEAR THE PULL BOX SHALL BE CLEARED OF WEEDS OR DEBRIS AND SHALL BE FULLY RESTORED. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE UNDER C&MS ITEM 625, "PULL BOX CLEANED" FOR EACH PULL BOX CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

INSTALLATION OF TRAFFIC SIGNAL ITEMS

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY AND ARE TO BE USED AS DIRECTED BY THE ENGINEER TO INSTALL THE BELOW SIGNAL ITEMS,

202, WALK REMOVED	150 SF
608, 4" CONCRETE WALK	150 SF
608, CURB RAMP, TYPE B3	1 EACH
625, CONDUIT, 2", 725.05	10 FT
625, TRENCH	10 FT
625, PULL BOX, 725.06, 24" X 36"	1 EACH
625, PULL BOX, 725.06, 17" X 30"	1 EACH
632, SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	150 FT
804, FAN-OUT KIT, 12 FIBER	2 EACH
804, TERMINATION PANEL, 12 FIBER	1 EACH
804, SLACK INSTALLATION	2 EACH
804, FIBER OPTIC CONNECTOR	12 EACH



ITEM	QUANTITY	UNIT	ITEM DESCRIPTION
625	10	FT	CONDUIT, 2", 725.05
625	194	FT	CONDUIT, JACKED OR DRILLED, 3"
625	10	FT	TRENCH
625	1	EACH	PULL BOX, 725.06, 24"X36"
625	1	EACH	PULL BOX REMOVED
625	10	FT	PLASTIC CAUTION TAPE
625	1	EACH	PULL BOX CLEANED
632	186	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
804	4084	FT	FIBER OPTIC CABLE, ARMORED, 12 FIBER
816	4	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN

ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN

THIS ITEM OF WORK SHALL MEET STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) SUPPLEMENTAL SPECIFICATION 816, VIDEO DETECTION SYSTEM. IN ADDITION TO THE REQUIREMENTS OF ODOT'S SUPPLEMENTAL SPECIFICATION 907 THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

THE THERMAL TRAFFIC SENSOR AND DETECTION MODULE MUST BE INTEGRATED IN ONE HOUSING WITHOUT THE NEED FOR ANY ADDITIONAL DETECTION SOFTWARE OUTSIDE OF THIS HOUSING. BY USING ONE OF MORE PREDEFINED DETECTION ZONES, THE DETECTION SOFTWARE WILL HAVE THE ABILITY TO DETECT VEHICLES AND BICYCLES ON MULTIPLE LANES. BICYCLE DETECTION ZONES WILL BE SEPARATE FROM VEHICLE DETECTION ZONES AND WILL UTILIZE A DIFFERENT SET OF DETECTION ALGORITHMS.

THE DETECTION SOFTWARE WILL HAVE THE ABILITY TO DIFFERENTIATE BETWEEN VEHICLES AND BICYCLES WITH A HIGH LEVEL OF ACCURACY AND ALLOW FOR SEPARATE OUTPUTS TO BE USED FOR VEHICLE PRESENCE AND BICYCLE PRESENCE.

THE DETECTION SYSTEM SHALL GENERATE SEPARATE VEHICLE AND BICYCLE PRESENCE EVENTS AND COUNTING DATA. THE GENERATED VEHICLE AND BICYCLE PRESENCE EVENTS WILL BE SENT TO A TRAFFIC SIGNAL CONTROLLER.

IT MUST BE POSSIBLE TO PUT 4 VIRTUAL BICYCLE PRESENCE DETECTION ZONES IN THE IMAGE. STORAGE OF BICYCLE COUNT INFORMATION SHALL BE POSSIBLE.

THE NECESSARY VIDEO DETECTION CAMERAS MUST PROVIDE A COMMUNICATIONS INTERFACE THAT FULLY SUPPORTS AN ETHERNET IEEE 802.3 COMPLIANT 10/100BASE T AUTO SENSING PORT FOR ADVANCED SYSTEMS COMMUNICATIONS. THE ETHERNET PORT SHALL PROVIDE AN UPSTREAM CONNECTION TO THE OTHER ETHERNET DEVICES IN THE CABINET. AN INDUSTRY STANDARD RJ-45 TYPE CONNECTOR SHALL BE INCLUDED THAT SUPPORTS A SIMPLE CAT5E PATCH CABLE INTERFACE.

THE THERMAL TRAFFIC SENSOR SHALL INCLUDE A 1-YEAR WARRANTY ON THE THERMAL DETECTOR.

ALL SOFTWARE UPGRADES NECESSARY TO MAINTAIN THE FUNCTIONALITY OF THIS ITEM IS INCLUDED IN THE COST OF THIS ITEM.

ALL CAMERAS SHALL HAVE THE CAPABILITY TO REACH 350 FEET TO DETECT SYSTEM DETECTION ZONES.

VIDEO DETECTION RACK SHALL BE EXPANDABLE TO ACCOMMODATE 16 OUTPUTS.

THE SUPPLIER SHALL PROVIDE VIDEO DETECTION TRAINING TO THE CITY OF CANTON WITHIN FIVE (5) DAYS OF SYSTEM ACCEPTANCE. TRAINING SHALL BE DIVIDED INTO TWO (2) COURSES, MAINTENANCE TRAINING AND OPERATION TRAINING, AND SHALL INCLUDE, BUT NOT LIMITED TO THE SOFTWARE AND TROUBLESHOOTING. TRAINING SHALL BE CONDUCTED AT A LOCATION DESIGNATED BY THE CITY OF CANTON. TRAINING COURSES SHALL ACCOMMODATE UP TO TEN (10) PEOPLE AND SHALL CONSIST OF A MINIMUM FOUR (4) HOURS EACH. THE LENGTH OF EACH TRAINING COURSE IS AT THE DISCRETION OF THE CITY OF CANTON. THE COST FOR TRAINING SHALL BE INCIDENTAL TO THE CONTROLLER BID ITEMS (BID ITEMS 633).

PAYMENT FOR ITEM 816 - VIDEO DETECTION SYSTEM, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH VIDEO DETECTION CAMERA IN PLACE AND FULL OPERATIONAL AS SHOWN IN THE PLANS. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THIS ITEM, INCLUDING ATTACHMENT BRACKETS, SHALL BE INCLUDED IN THE UNIT COST.

ALTERNATE BID ITEM

ITEM 816 - VIDEO DETECTION SYSTEM, (TRAFICON), AS PER PLAN

THIS VIDEO DETECTION SYSTEM ITEM SHALL HAVE THE SAME SPECIFICATIONS AS ITEM 633 - VIDEO DETECTION SYSTEM, AS PER PLAN EXCEPT FOR THE FOLLOWING:

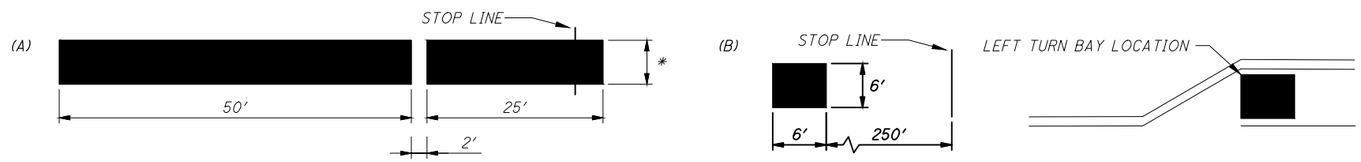
1. THE DETECTION SHALL USE THE TRAFICON USA TRAFFIC VIDEO DETECTION.

2. THE VIDEO DETECTION CAMERAS SHALL BE THERMAL CAMERAS MANUFACTURED BY FLIR.

VEHICLE DETECTION

STOP LINE DETECTION:
THE DETECTION ZONE WILL BE LOCATED 5' IN FRONT OF THE STOP LINE. THE LENGTH AND SPACING SHALL BE AS SHOWN LEFT IN FIGURE A FOR ALL LANES ON ALL APPROACHES.

UPSTREAM DETECTION (NOT SHOWN IN PLANS):
THE DETECTION ZONE WILL BE LOCATED 250' BEHIND (UPSTREAM OF) THE STOP LINE IN EACH LANE AND APPROACH. THE LENGTH AND SPACING SHALL BE AS SHOWN BELOW IN FIGURE B. ZONES SHALL BE CONNECTED TO THE CORRESPONDING MAINLINE AND LEFT TURN PHASE.



* WIDTH = LANE WIDTH - 2 FEET

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BEP
CHECKED DRJ

SIGNAL PLAN

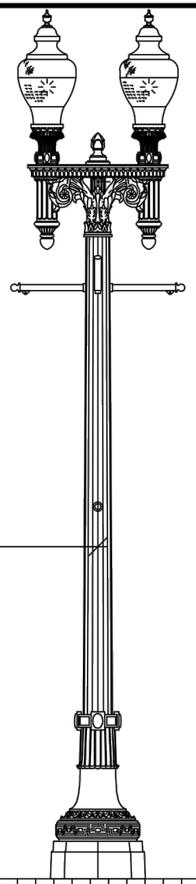
STA - 12TH STREET IMPROVEMENTS

108
210

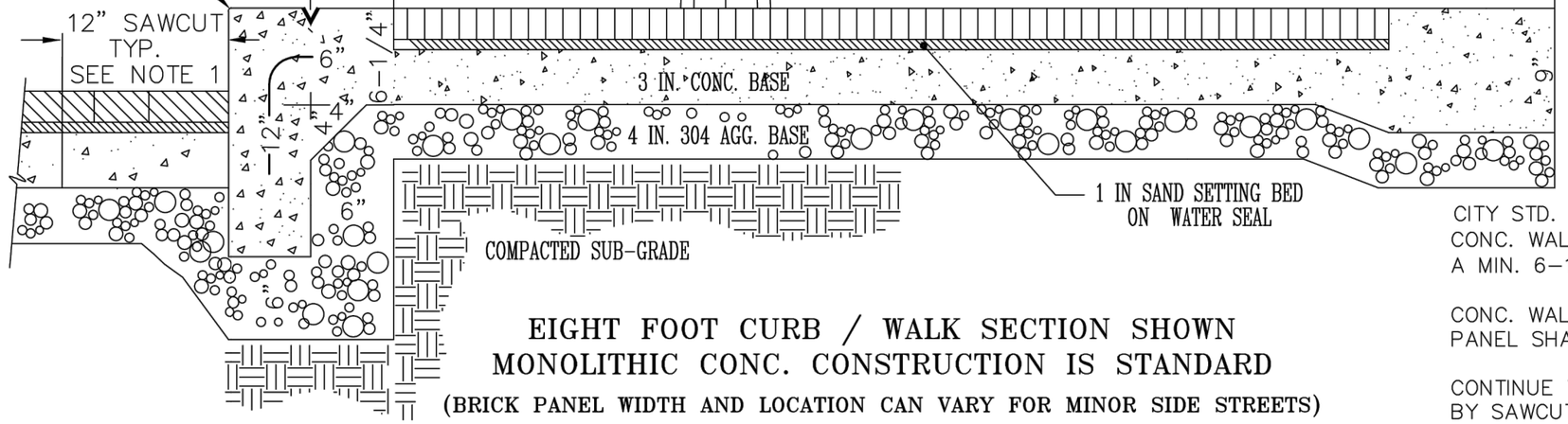
G:\Project\AK000315.R001\Drawing\90671\signals\sheets\90671CP001.dwg 31-Aug-16 1:56 PM

NOTE 1: WHEN ASPHALT OVERLAYS BRICK, REPLACE CONCRETE BASE COURSE TO THE TOP OF THE EX. BRICK. FINISH FACE OF CURB TO THE TOP OF BRICK ELEVATION. PLACE EXPANSION JOINT BETWEEN CONC. ROAD BASE AND CURB. CITY REPLACES ASPHALT SURFACE ON PERMITTED PRIVATE PROJECTS ONLY.

NOTE 2: FOR SLIP FORM CONSTRUCTION USING CITY STD. 30 OR ODOT TYPE 6 CURB, USE 9 IN. #3 DOWELS 3 IN INTO CURB AND EXTENDING 6 IN. INTO CONC. WALK, SPACED 2 FT ON CENTER IN LIEU OF MESH. SEE CITY STANDARD DRAWING 29, TYPE A, FOR DETAIL.



INSTALL POLE WITH FLAGPOLE HOLDER FACING AND PERPENDICULAR TO THE ROADWAY AND THE LUMINAIRES IN–LINE WITH AND PARALLEL TO THE ROADWAY. POLE AND LUMINAIRES ARE SHOWN IN THIS DRAWING 90° FROM TYPICAL POSITION.



EIGHT FOOT CURB / WALK SECTION SHOWN
MONOLITHIC CONC. CONSTRUCTION IS STANDARD
(BRICK PANEL WIDTH AND LOCATION CAN VARY FOR MINOR SIDE STREETS)

4X8 BRICK PAVER, 2 1/4" THICK – PAWNEE PAVER BY BELDEN BRICK – TERRA COTTA RANGE EXCLUDED. USE PERPENDICULAR HERRINGBONE PATTERN.

SWEEP JOINTS WITH DRY MIXTURE OF POLYMERIC SAND Techni–Seal OR APPROVED EQUAL. USE PLATE TAMPER WITH RUBBER MAT OR OTHER PROTECTION FOR BRICK. REMOVE EXCESS AND MOISTEN TO SET JOINT SEALANT SAND.

SEAL CONC. BRICK BASE TO 1" UP SIDES USING NON FIBROUS NEOPRENE CONCRETE SEALANT (BASEMENT SEALER) – APPLY WITH SQUEEGEE – SEAL ALL JOINTS AND CRACKS.–

1" MAX COMPACTED CONCRETE SAND ODOT 703.02 (ASTM C 33) SETTING BED ON NEOPRENE SEALANT.

USE INTERIOR FORMING PINS FOR WEEP HOLES ON DOWNSLOPE SIDES AND INTERIOR CORNERS. MAX 4 FT. CENTERS. – COVER W/ FILTER FABRIC.

CONCRETE WALKS AND PAVER BASE IS TO BE CLASS "C" ODOT 608. NO EXPANSION JOINTS ARE TO BE PLACED AGAINST BRICK PAVER SECTIONS. MAX 1/4" SPACE BETWEEN BRICK AND CONCRETE.

ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.

EXPANSION JOINTS IN WALKS AND AGAINST ALL BUILDINGS USE 1/2" CLOSED CELL SEALTIGHT CERAMAR FOAM OR EQUAL, 1/2" PEEL STRIP PRE CUT

EXPANSION JOINT AT 60' MAX. O.C. USE POLYURETHANE ELASTOMERIC SEALANT TREMCO THC 900 / 901 OR EQUAL

CITY STD. CONC. WALK (COMMERCIAL) IS 5 IN. THICK. CONC. WALK WITHIN 6 IN. OF BRICK PANEL SHALL BE A MIN. 6–1/4" THICK.

CONC. WALK WITHIN 12 IN. OF R/W AND NEXT TO BRICK PANEL SHALL BE A MIN. 9 IN. THICK.

CONTINUE TRANSVERSE WALK CONTROL JOINTS BY SAWCUTTING ACROSS BRICK CONC. BASE.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: FEB. 2012

APPROVED BY: JTD

DRAWING FILE NAME: **ce_40-47_STREETSCAPE.dwg**

REVISIONS

DESCRIPTION	DATE	BY

STANDARD DRAWING NO. 40

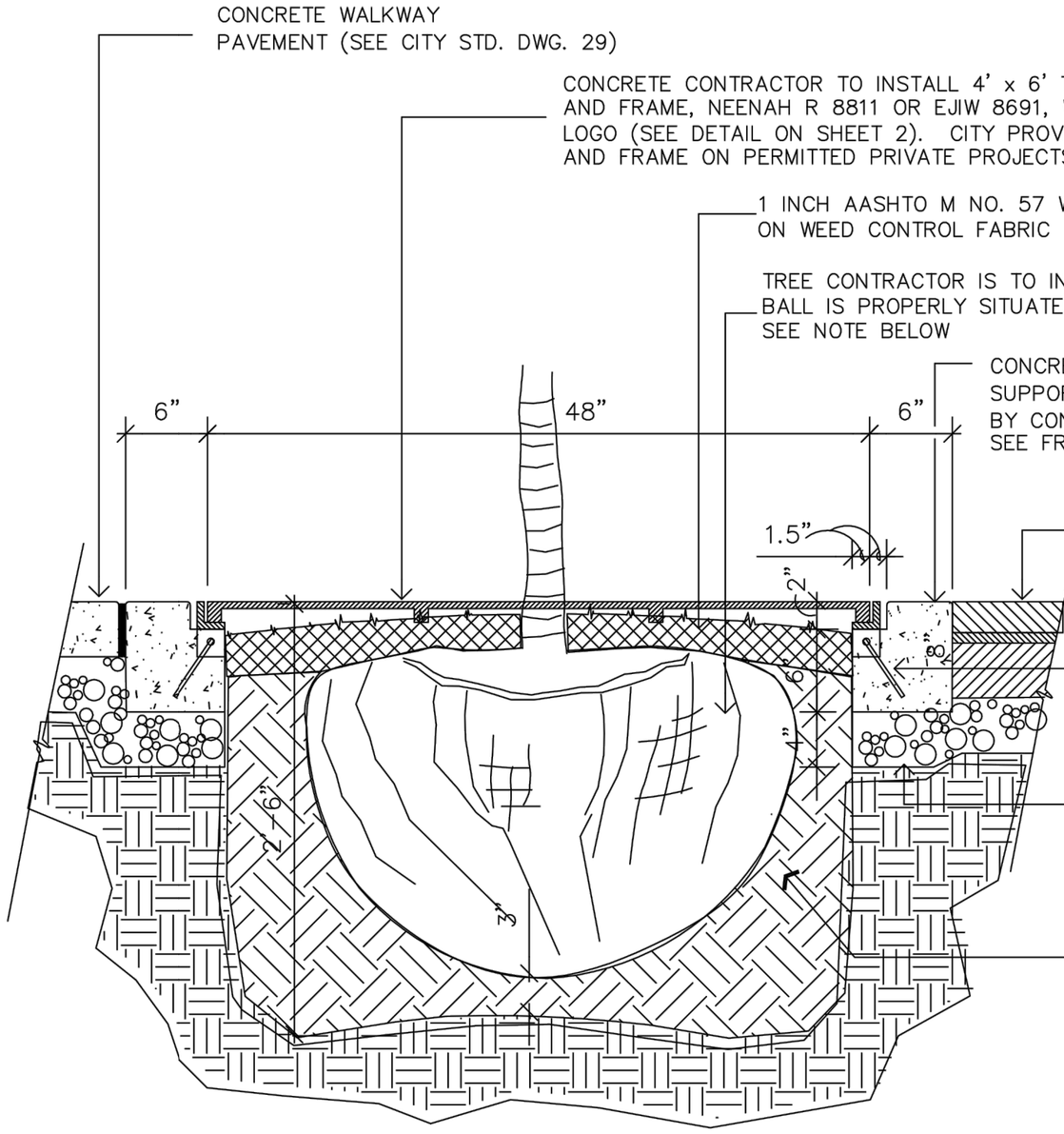
TYPICAL STREETSCAPE CORRIDOR

SHEET 1 OF 1

STREETSCAPE DETAILS

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM01.dwg 31-Aug-16 5:38 PM



304 (M) – NO FOUNDRY SAND, ACBFS, GS OR OTHER SLAG PERMITTED

NOTES:

– CONCRETE COLLAR TO BE FORMED USING 2 X 6 (FRAME SUPPORTED METHOD) OR 2 X 8 (INSIDE FORM METHOD)

– ASSURE THAT CONCRETE COMPLETELY FILLS FORMS W/ NO VOIDS. AFTER FORM REMOVAL GROUT ALL HONEYCOMB VOIDS.

– TREE BOX TO BE CLEARED TO LIMIT SHOWN BY CONCRETE CONTRACTOR. CONTRACTOR TO SET GRATE AND INSURE PROPER FIT WITH NO ROCKING OR BINDING. COVER OPENING TO PREVENT PEDESTRIAN TRIP HAZARD.

- FILTER FABRIC IS TO BE PLACED UNDER AASHTO M No. 57 GRAVEL PER MFR. SPECS. BY TREE CONTRACTOR ONLY IF SPECIFIED IN BID TAB OR RFP.

BURLAP WRAP AND WIRE RETAINER IS TO BE REMOVED TO A MIN. DEPTH OF 1/2 OF THE BALL DEPTH. REMOVE FROM BOX. REMOVE ALL CORDING FROM AROUND TREE TRUNK AND BALL. ROOT FLARE IS TO BE EXPOSED FOR INSPECTION TO ENSURE NO GIRDLING AND PROPER PLANTING DEPTH.

– CONCRETE CONTRACTOR IS TO PROVIDE A UNIT LUMP SUM PRICE FOR THE FORMING AND PLACING OF THE CONCRETE COLLAR COMPLETE WITH THE SETTING OF THE FRAME AND GRATE AND EXCAV. AND CLEARING OF THE TREE PIT.

– TREE CONTRACTOR TO PROVIDE AND PLANT TREES INCLUDING ALL MATERIALS SPECIFIED IN PROPOSAL.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: FEB. 2012

APPROVED BY: JTD

DRAWING FILE NAME: **ce_40-47_STREETSCAPE.dwg**

REVISIONS		
DESCRIPTION	DATE	BY
REVISED TREE GRATE, ADD CITY LOGO	APRIL 2014	RMB

STANDARD DRAWING NO. 43

TREE FRAME & GRATE
CONSTRUCTION DETAILS

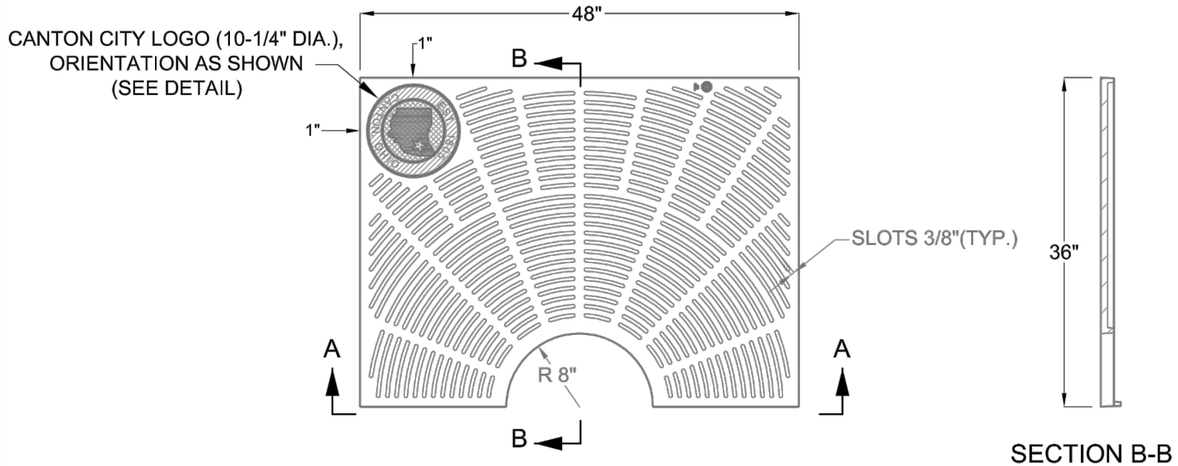
SHEET 1 OF 2

STREETSCAPE DETAILS

STA - 12TH STREET IMPROVEMENTS

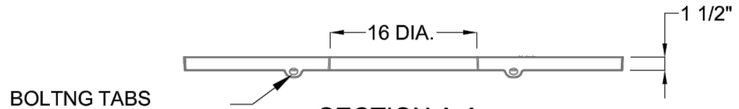
110
210

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM01.dwg 31-Aug-16 5:38 PM

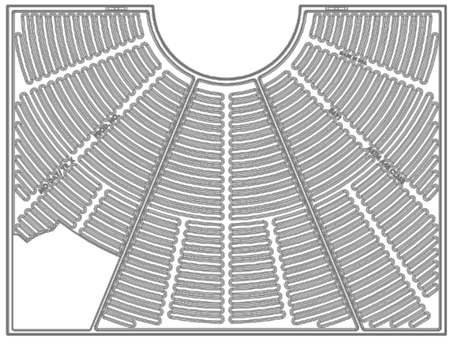


TOP VIEW

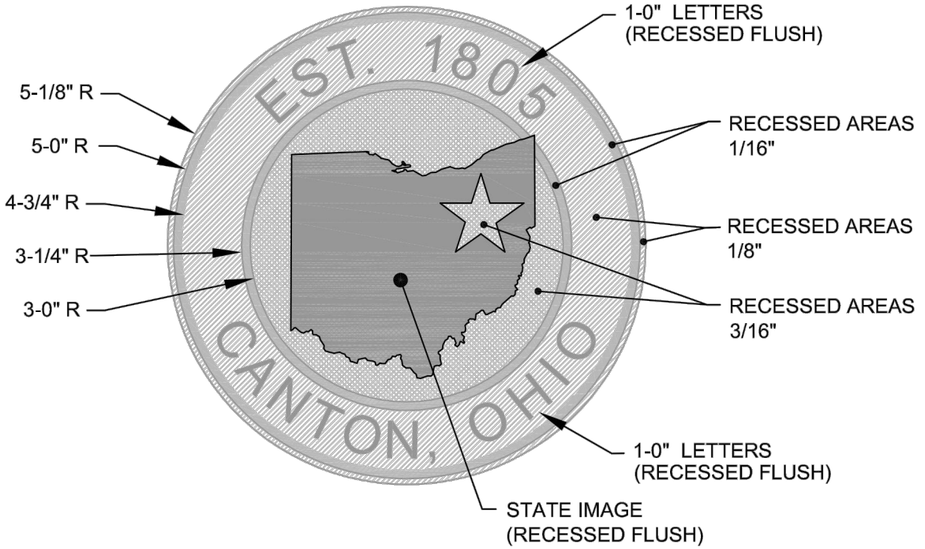
SECTION B-B



SECTION A-A



BOTTOM VIEW



CITY LOGO, TREE GRATES
DETAIL

NOTES:

1. TREE GRATES TO BE CAST OF GRAY IRON IN COMPLIANCE WITH ASTM SPEC. ASTM A-48 CLASS 35. GRATES MUST INCLUDE CANTON CITY LOGO AS SHOWN.

2. FRAMES FOR TREE GRATES TO BE MANUFACTURED OF STEEL DESIGNED FOR HEAVY LOADS. ENTIRE FRAMES MUST BE COATED WITH ONE COAT OF BLACK PAINT SUITABLE FOR FABRICATED STEEL.

3. APPROVED TREE GRATE AND FRAME PRODUCTS:
   -EAST JORDAN 8691
   -NEENAH R 8811
   -OR APPROVED EQUAL.

4. CONTACT CITY ENGINEER FOR CAD DRAWING OF CITY LOGO.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: MAY 2014

APPROVED BY: RMB

DRAWING FILE NAME:
ce_40-47_STREETSCAPE.dwg

REVISIONS		
DESCRIPTION	DATE	BY
REVISED TREE GRATE, ADD CITY LOGO	MAY 2014	RMB

STANDARD DRAWING NO. 43

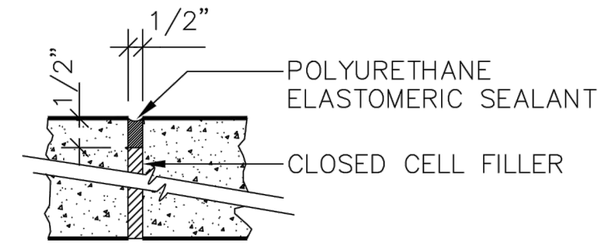
TREE FRAME & GRATE
CONSTRUCTION DETAILS

SHEET 2 OF 2

STREETSCAPE DETAILS

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM01.dwg 31-Aug-16 5:38 PM



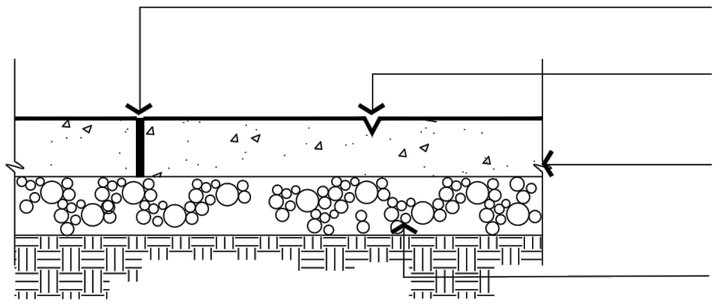
EXPANSION JOINT DETAIL
NOT TO SCALE

NOTES:

– EXPANSION JOINTS TO BE 60' MAX. O.C.
CONTROL JOINTS TO BE @ 4' O.C. OR AS
SHOWN ON PLAN OR DIRECTED BY ENGINEER.
– PROVIDE LIGHT BROOM FINISH ON ALL
CONCRETE SURFACES AFTER JOINT &
EDGE TOOLING. PROVIDE 1/4" RADIUS
ON ALL SLAB EDGES.

SAWCUT CONTROL JOINTS MAY BE PERMITTED
IN STREETSCAPE AREAS IF APPROVED BY
THE PROJECT ARCHITECT/ENGINEER AND THE CITY ENGINEER
PRIOR TO BID AND CONSTRUCTION.

CONCRETE WALK TO BE CLASS "C" ODOT 499 NO. 57 OR 67 LIMESTONE (SEE BELOW)
NO EXPANSION JOINTS ARE TO BE PLACED AGAINST BRICK PAVER SECTIONS



1/2" CLOSED CELL EXPANSION JOINT FILLER IN WALK AND AGAINST BUILDINGS
TO BE SEALTIGHT CERAMAR FOAM OR EQUAL, 1/2" PEEL STRIP CUT
EXPANSION JOINT AT 60' MAX. O.C.

TYPICAL TOOLED AND CUT CONTROL JOINT, 1/5 DEPTH OF SLAB
W/POLYURETHANE ELASTOMERIC SEALANT
– TREMCO THC 900 / 901 OR EQUAL

5" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT,
ODOT ITEM 608 AND 499, AS PER PLAN.

4" COMPACTED THICKNESS AGGREGATE
BASE COURSE, ODOT ITEM #304.

NOTE: NO FOUNDRY SAND OR SLAG IS PERMITTED IN AGGREGATE BASE (304).
AGGREGATE IN SURFACE CONCRETE SHALL BE AASHTO M NO. 57 OR 67 LIMESTONE ONLY.
ALL CONCRETE FOR CURB AND WALKS SHALL BE ODOT 499, CLASS C.
CLASS C OPTION 1 MAY BE USED BETWEEN MAY 1 AND OCTOBER 15.
AGGREGATE IN SURFACE CONCRETE SHALL BE NO. 57 OR 67 LIMESTONE ONLY.

ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.

ALL CONCRETE CONSTRUCTION TO CONFORM TO CURRENT CITY OF CANTON SPECIFICATIONS FOR CONSTRUCTION, REPAIR AND REPLACEMENT OF SIDEWALKS, CURBS AND DRIVEWAYS.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: FEB. 2012

APPROVED BY: JTD

DRAWING FILE NAME:
ce_40-47_STREETSCAPE.dwg

REVISIONS		
DESCRIPTION	DATE	BY

STANDARD DRAWING NO. 42

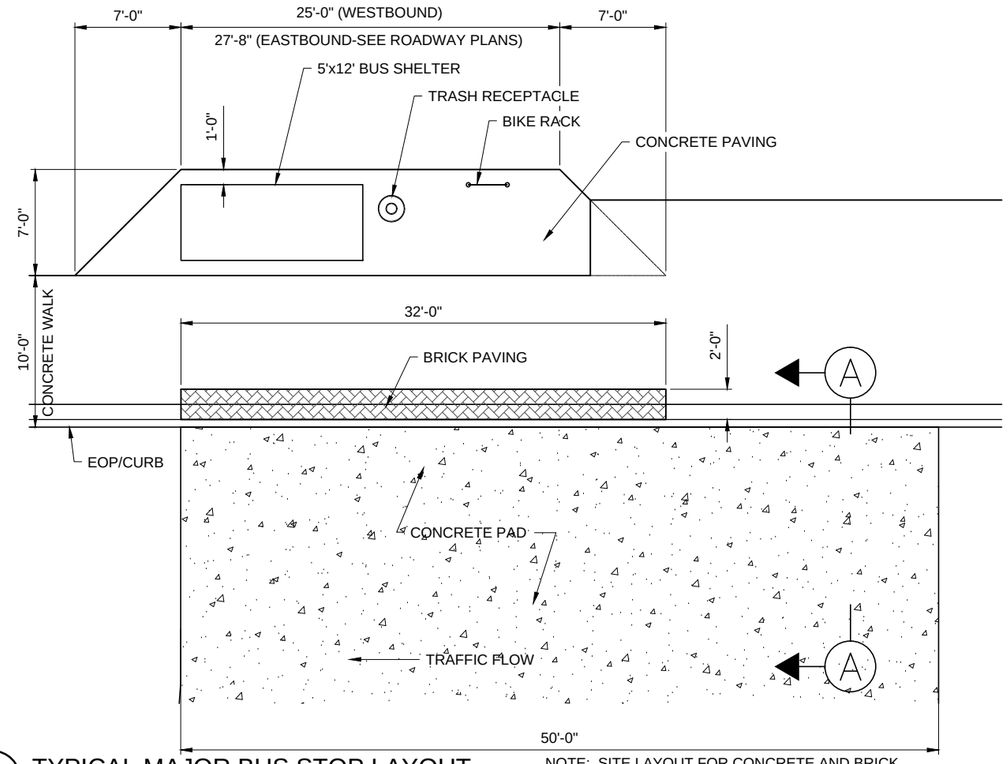
STREETSCAPE CONCRETE WALK PAVEMENT DETAILS

SHEET 1 OF 1

STREETSCAPE DETAILS

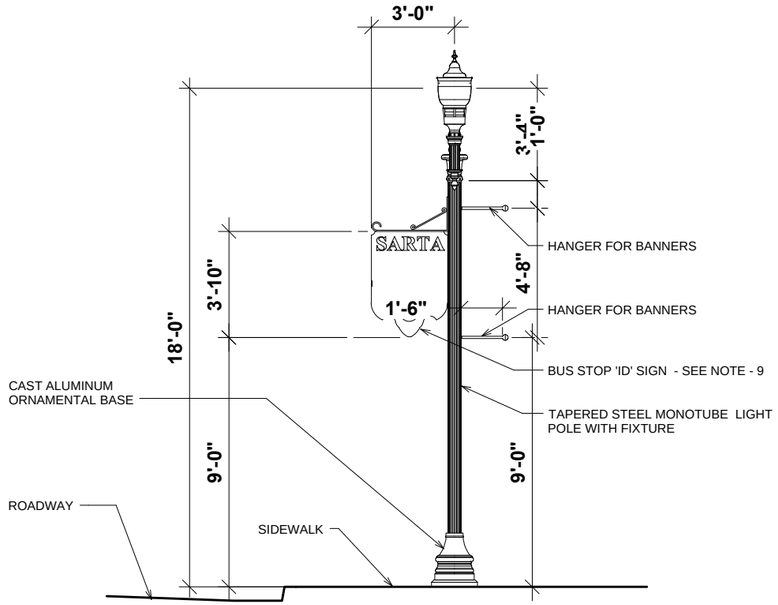
STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM01.dwg 31-Aug-16 5:38 PM



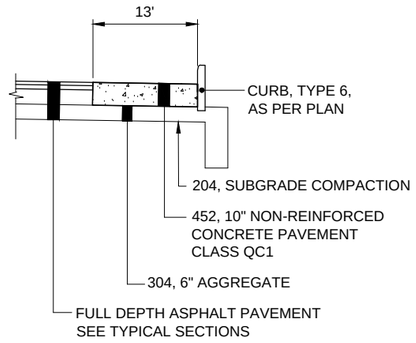
1 TYPICAL MAJOR BUS STOP LAYOUT
1" = 5'-0"

NOTE: SITE LAYOUT FOR CONCRETE AND BRICK PAVING ONLY; REFER TO BUS STOP STANDARDS FOR ADDITIONAL FEATURE DETAILS.



2 BUS STOP ID SIGN POST
3/8" = 1'-0"

0 2' 4' 6'



SECTION A-A

BUS CONCRETE PAD

PRODUCT NOTES:

Specifications

1. Bus Shelter

All bus shelters are free standing structures and shall be designed and installed with provisions as indicated in project documents. The bus shelter shall comply with all local, state & federal codes, standards and regulations including the Access Board's ADA - Accessibility Guidelines (ADAAG). Each bus shelter shall be of minimum clear inside dimensions of 5'- 0" width, 12'- 0" length & 7'- 0" clear high wall openings at entry points.

A. Submittal Requirements

Prior to fabrication of these bus shelter units, the following shall be submitted to the Owner for review and acceptance.

1. Submit complete shop drawings for shelter design, benches, bike rack, trash receptacles and street pole showing design dimensions and installation details, materials and finishes.
2. Submit necessary structural design calculations for wind loads and other code compliance. All documents shall be stamped, signed and sealed by a registered professional Engineer for the State of Ohio.
3. Submit the polyester powder coating finish warranty document for ten (10) years from substantial completion.
4. Submit manufacturer's standard color chart for polyester powder coat finish for owner to select the color.

B. Shelter Roof Systems

The bus shelter shall have hip roof configuration and watertight construction with aluminum structural framing system supporting standing seam structural aluminum roofing system. The perimeter roof gutter shall be provided with drain outlet provisions on the front side through curb.

C. Shelter Framing Systems

Framing systems shall be engineered to contribute strength, durability and aesthetics to bus shelter's design.

Standard material for is 6063-T5 extruded aluminum.
For certain applications, 6061-T6 or 6005-T6alloy/temper aluminum will be acceptable.

Framing members, roofing panels and grillwork finish shall be polyester powder coat in the color black as selected by the Owner.

D. Shelter Wall Systems

The shelter wall configuration shall have three and one half sides fully closed from roof to floor. The walls shall be framed with aluminum structural members with ¼" thick clear tempered safety glass. The decorative grill work shall be incorporated in the wall panels.

Decorative grillwork at wall panels shall be made from welded 1" x 1" x 1/8" extruded aluminum members as indicated. The grillwork shall be applied to the interior side of the wall panel. The vertical framing members shall be connected to the concrete slab/foundation with concealed plates and fasteners.

E. Finish Requirements

The roofing panels, framing members and grillwork shall have polyester powder coat finish with graffiti-resistant coating. The color shall be black as selected by the Owner. The ¼" safety glass shall also have the graffiti-resistant coating. The polyester powder coat finish shall be warranted for 10 years to be free from cracking, peeling, chalking or fading against ultraviolet exposure.

2. Benches Specifications

a. Curved metal bench with back (Semi-circular bench): - Each bench shall be comprised of two components of 90o to form one curved metal bench with back and minimum three armrests per `each curved shall have min. 40.25 inch outside radius and 14.25 inch inside radius. The bench shall have concealed in-ground support mounting. Curved metal benches shall be furnished and installed as indicated. Acceptable product design is "Model NRB-90" design by Victor Stanley, Inc. (modified for project requirements) or accepted equal.

b. Straight metal bench with backs: - The bench shall be 4'- 0" nominal length x 2'- 4" wide with 3 armrests, one at each end and one at mid point. The bench shall have concealed in-ground support mounting. Benches shall be furnished and installed as indicated.

Straight and curved benches shall be welded construction using ¼" x 1 ½" steel bars, 5/8" 0 steel rods and schedule 40 steel pipes. Customize the design as necessary to comply with project requirements.
All bench designs for the project shall be ADA compliant and shall have electrostatic polyester powder coated 8-10 mils. Thick minimum coated finish. The color shall be black as selected by owner from color chart #52007 by Victor Stanley, Inc.

3. Bike Rack Specifications

Bike racks shall be made from tubular 2 3/8" 0.D., schedule 40 steel pipe arcs type design. The bike rack mounting shall be concealed in the pavement. The finish shall be factory applied electrostatic polyester powder coating with 8-10 mils. minimum thickness. The acceptable product design is "model BK-3" as manufactured by Victor Stanley, Inc., Dunkirk, Maryland, or accepted equal. The color shall be black as selected by owner from color chart #52007 for powder coatings by Victor Stanley, Inc. Bike rack units shall be furnished and installed as indicated.

4. Trash Receptacle Specifications

Trash receptacles shall be top loading, 36 gallons capacity made from solid steel 5/8 inch top ring with 3/8 x 1 inch vertical steel bars welded construction with elevated recessed pedestal type base and electrostatic polyester powder coated finish. The coating shall be minimum 8-10 mils. thick. The color shall be black as selected by owner from color chart #52007 for powder coatings by Victor Stanley, Inc. Each trash receptacle shall also be supplied with high-density black plastic formed liner. It shall be reinforced, ribbed and molded for durability. The trash receptacle shall be anchor bolted to the pavement. Trash receptacle units shall be furnished and installed as indicated. The acceptable product design is 'Ironsites' series, Model S-42 with standard tapered formed lid as manufactured by Victor Stanley, Inc., Dunkirk, Maryland, or accepted equal.

GENERAL NOTES:

1. SUBMIT COMPLETE SHOP DRAWING AND SAMPLES FOR EACH PRODUCT SHOWING MATERIALS, DESIGN/FABRICATION DETAILS WITH DIMENSIONS, FINISH DETAILS AND COLOR CHARTS FOR OWNER'S APPROVAL.
2. NO PRODUCT SHALL BE PROCURED OR FABRICATED PRIOR TO ITS SHOP DRAWING APPROVAL BY THE OWNER.
3. SEE PLAN SHEETS FOR LOCATION OF STOPS AND AMENITIES.
4. SEE THIS SHEETS FOR CONCRETE PAD DIMENSIONS / DETAILS.
5. STREET POLE SHALL HAVE POWDER COATED FINISH AND COLOR SHALL BE GREEN TO MATCH THE CITY STREET LIGHT POLES. THE CAST ALUMINUM ORNAMENTAL BASE SHALL ALSO MATCH THE CITY STREET LIGHT POLE DESIGN.
6. ALL CAST CONCRETE, BRICK WORK AND LIGHT POLES SHALL BE PAID FOR UNDER INDIVIDUAL PAY ITEMS.
7. SEE DRAWING 115 FOR BUS STOP ID SIGN.

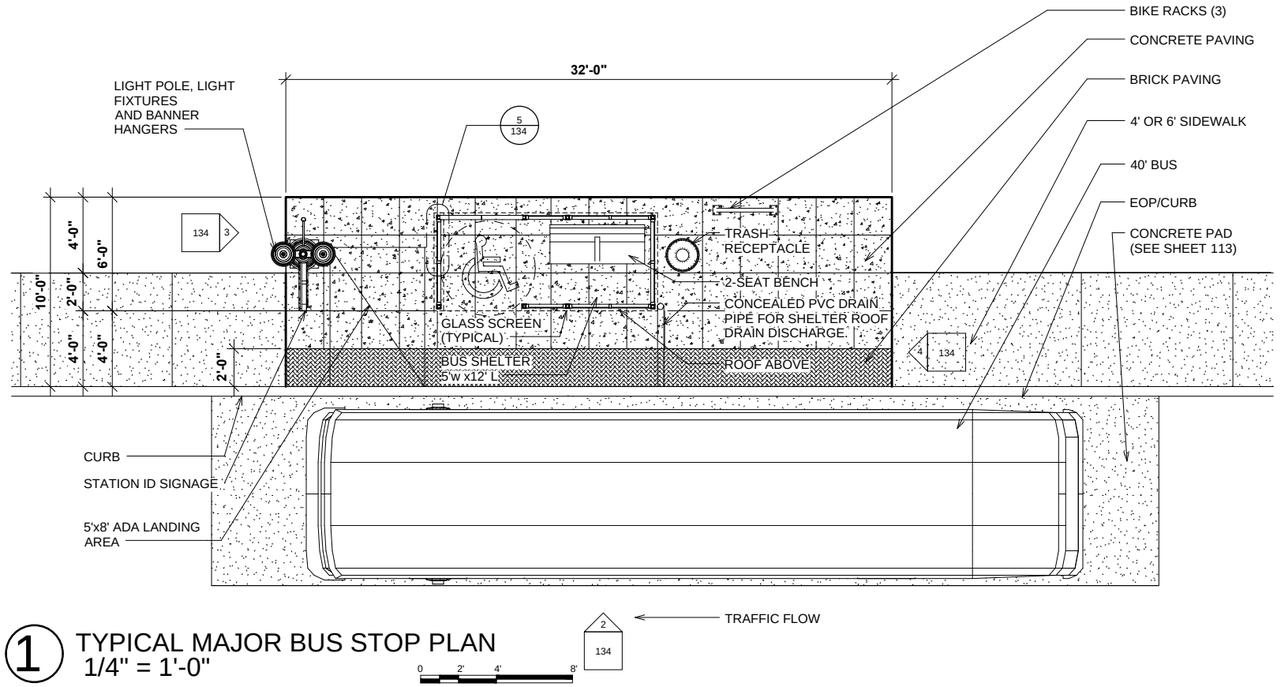
CALCULATED MAL CHECKED SMG

TYPICAL MAJOR BRT STOP WITH BUS SHELTER

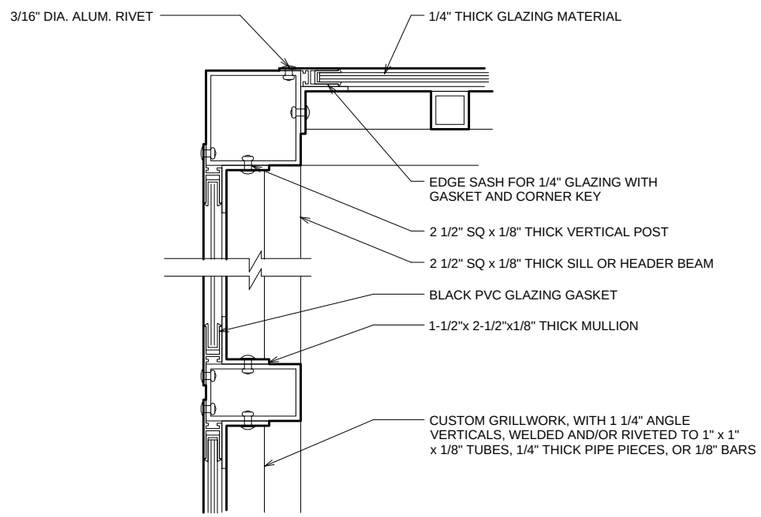
STA - 12TH STREET
BRIDGES REPLACEMENT

113
210

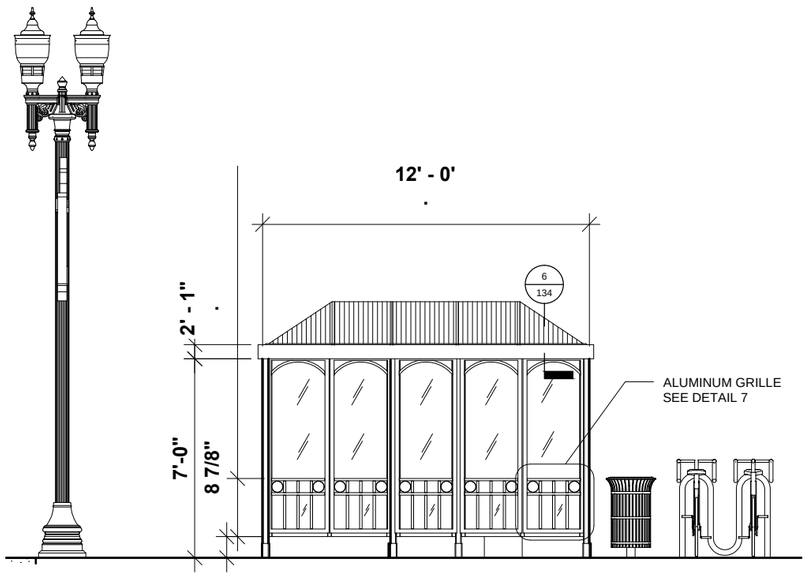
G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM03.dwg 31-Aug-16 5:39 PM



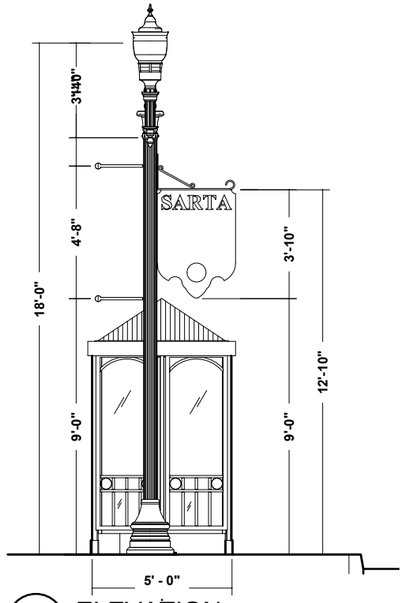
1 TYPICAL MAJOR BUS STOP PLAN
1/4" = 1'-0"



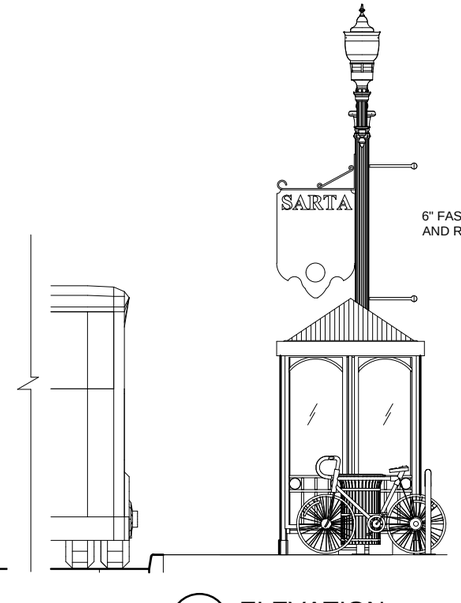
5 DETAIL
6" = 1'-0"



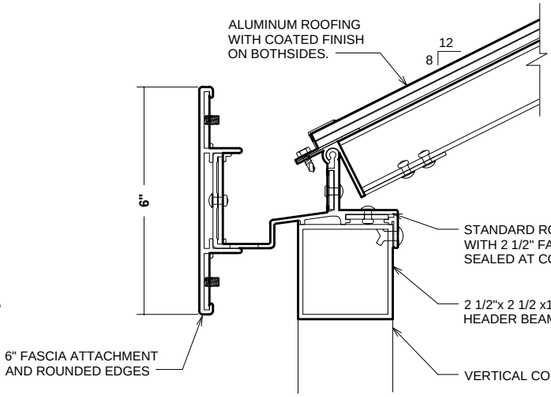
2 ELEVATION
3/8" = 1'-0"



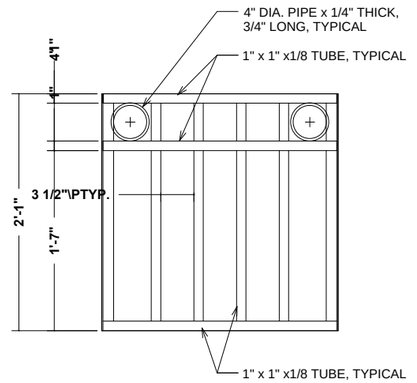
3 ELEVATION
3/8" = 1'-0"



4 ELEVATION
3/8" = 1'-0"



6 ROOF DETAIL
6" = 1'-0"



7 GRILL WORK DETAIL
1 1/2" = 1'-0"

GENERAL NOTES:

1. ALL GENERAL NOTES, PRODUCT NOTE AND DIMENSIONAL INFORMATION SHOWN ON TYPICAL MINOR BRT STOP WITHOUT BUS SHELTER DRAWING APPLY TO THIS DRAWING, UNLESS NOTED OTHERWISE.

2. EACH MAJOR BUS STOP SHALL INCLUDE A BUS SHELTER, BENCH, TRASH RECEPTACLE, BIKE RACK, STATION ID SIGN, AND HANGER BRACKET. THE COSTS FOR ALL CONCRETE PAVEMENT, CURBS, SIDEWALKS, BRICK, AND LIGHTING SHALL BE INCLUDED IN THE APPROPRIATE PAY ITEMS IN THE ROADWAY PLANS. PAYMENT FOR THE MAJOR BUS STOP ITEMS SHALL BE INCLUDED WITH ITEM 690E98000, SPECIAL – MISC.: TYPICAL MAJOR BRT STOP WITH BUS SHELTER, EACH, FOR PAYMENT.

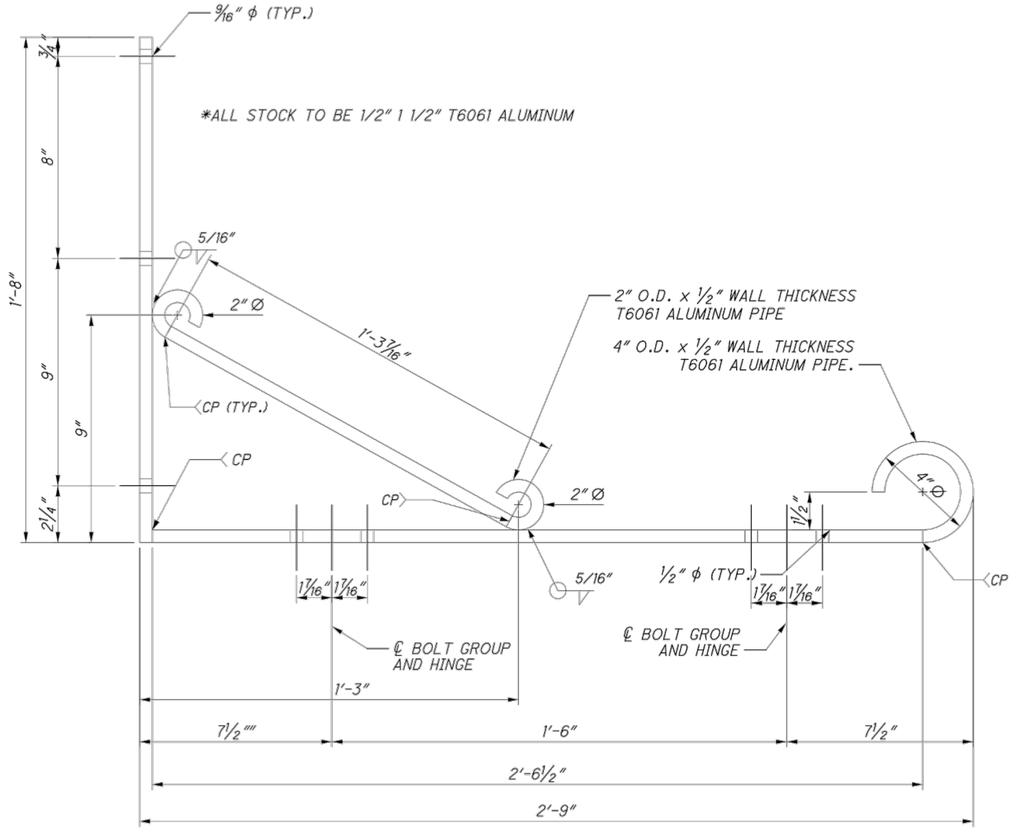
CALCULATED ---
CHECKED ---

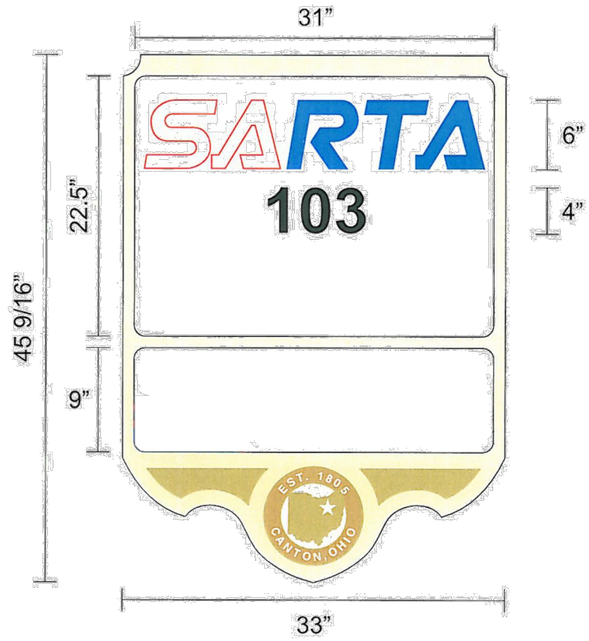
TYPICAL MAJOR BRT STOP WITH BUS SHELTER

STA - 12TH STREET BRIDGES REPLACEMENT

5/29/2015 9:30:04 AM

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM03.dwg 31-Aug-16 5:39 PM





BRT STOP STATION ID SIGN SUPPORT BRACKET

SUPPORT BRACKET NOTES:

1) HOLES SHALL BE DRILLED IN MEMBERS PRIOR TO WELDING.

2) ALL WELDS SHALL BE GROUND SMOOTH BEFORE POWDER COATING.

3) BRACKET ASSEMBLIES SHALL BE POWDER COATED AFTER FABRICATION. THE COLOR SHALL BE GREEN TO MATCH THE CITY STANDARD FOR LIGHT POLES.

4) EACH BRACKET SHALL BE SUPPLIED WITH 2 STAINLESS STEEL FULL MORTISE DOOR HINGES. HINGES SHALL BE 3.5"x3.5"x0.123" THICK.

5) BRACKETS SHALL INCLUDE 8 - 1/2" DIAMETER x 1 1/2" LONG STAINLESS STEEL BOLTS WITH 2 STAINLESS STEEL WASHERS AND 2 STAINLESS STEEL NUTS PER BOLT.

6) EACH BOLT SHALL BE DOUBLE NUTTED.

7) THE HOLE SPACING OF THE HINGES SHALL BE VERIFIED PRIOR TO FABRICATING THE BRACKETS.

8) THE HOLES IN THE BAR STOCK SHALL BE CENTERED IN THE MEMBERS.

9) BRACKETS SHALL BE POWDER COATED CBD GREEN (COLOR AND FORMULA IS ON FILE AT THE MIDWEST TANK SERVICES CO., INC., CANTON, OH).

BRT STOP STATION ID SIGN

SIGN NOTES:

1) SIGN SHALL BE MADE FROM 6mm WHITE/WHITE DIBOND WITH 16 PASS DIGITAL PRINTED GRAPHICS ON 3M 180-C VINYL WITH 3M MATTE LAMINATE APPLIED OVER ALL GRAPHICS.

2) ONE SIGN SHALL BE PROVIDED AT EACH BUS STOP ON WALNUT AND CHERRY WITHIN THE PROJECT LIMITS (10 TOTAL).

3) CONTRACTOR SHALL PROVIDE A SAMPLE SIGN TO THE CITY FOR APPROVAL PRIOR TO ORDERING ALL OTHER SIGNS.

4) SIGN SHALL BE DOUBLE SIDED.

5) BUS STOP ROUTE NUMBERS TO BE PROVIDED BY SARTA AT THE PRECONSTRUCTION MEETING.

6) GRAPHICS WILL BE PROVIDED BY THE CITY OF CANTON AT THE PRECONSTRUCTION MEETING AND WILL INCLUDE REQUIRED FEDERAL COLOR NUMBERS.

7) 5/16" DIAMETER HOLES WILL BE FIELD DRILLED FOR ATTACHMENT TO BRACKET HINGES.

8) 1/4" DIAMETER SS BOLTS WITH LOCK NUTS SHALL BE PROVIDED (4 PER SIGN).

CALCULATED ---- CHECKED ----

TYPICAL MAJOR BRT STOP WITH BUS SHELTER

STA - 12TH STREET
BRIDGES REPLACEMENT

G:\Project\AK000315.R001\Drawing\90671\roadway\sheets\90671GM03.dwg 31-Aug-16 5:39 PM

LIGHTING

ITEM 625 - LIGHT POLE FOUNDATION, AS PER PLAN

LIGHT POLE FOUNDATIONS SHALL BE CONSTRUCTED AS PER CITY OF CANTON STANDARD DRAWINGS.

ITEM 625 - LIGHT POLE, DECORATIVE, AS PER PLAN

NOSTALGIA PEDESTALS/LIGHT POLES SHALL BE PACIFIC FAMILY SERIES (VERIFY WITH CITY FOR CURRENT STANDARD DESIGN)

UNION METAL CORPORATION
1432 MAPLE AVENUE N.E.
P.O. BOX 9920
CANTON, OH 44711
PHONE: 330-456-7653

THE CONTRACTOR SHALL FURNISH AND INSTALL DECORATIVE LIGHT POLES, AS PER PLAN. POLES SHALL INCLUDE HANDHOLE, CHAIN, AND COVER. ALL HARDWARE INCLUDING BRACKET ARMS AND RELATED EQUIPMENT SHALL BE INCLUDED WITH THIS ITEM. THE ENTIRE ASSEMBLY SHALL BE DESIGNED TO MEET THE REQUIREMENTS OF AASHTO. THE ORNAMENTAL BASE SHALL BE UNION METAL CORPORATION BASE NO. 74 AND SHALL BE LEVEL IN ORDER TO ACCEPT THE BASE ASSEMBLY AND SHALL BE AT LEAST AS LARGE AS THE BOTTOM DIMENSION OF THE ORNAMENTAL BASE CASTING. ALL PROPOSED EXTERIOR CONNECTIONS (PEDESTRIAN SIGNAL HEADS, SIGNS, ETC.) TO DECORATIVE LIGHT POLES SHALL BE FIELD DRILLED. BANDING OR STRAPPING ON THE DECORATIVE LIGHT POLES SHALL NOT BE PERMITTED. A PERMANENT LEGIBLE MARKING INDICATION SHALL BE INCLUDED ON EACH DECORATIVE LUMINAIRE SUPPORT. THE FOLLOWING INDICATION SHALL BE REQUIRED AS A MINIMUM:

A. POLE INDICATIONS, MONTH/DATE OF FABRICATION, POLE GAUGE, BOTTOM DIAMETER, POLE HEIGHT, BOLT CIRCLE, ANCHOR BOLT DIAMETER, FLANGE BOLT DIAMETER, AND INTERSECTION LOCATION INCLUDING CORNER QUADRANT.

EACH POLE SHALL INCLUDE AN OUTLET FRAME INTEGRALLY WELDED INTO THE TOP OF THE SHAFT TO ACCOMMODATE A DUPLEX 20A-125V, GFI RECEPTACLE PROVIDED WITH THE POLE. A WEATHERPROOF COVER PAINTED TO MATCH THE POLE SHALL ALSO BE PROVIDED.

BASIS OF PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH ITEM 625 - LIGHT POLE, DECORATIVE, AS PER PLAN, WHICH PRICE SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, INSTALLATION, ANCHOR BOLTS, COVER BASE, PAINTING, AND INCIDENTALS.

ITEM 625 - CONDUIT, 725.05, 2", AS PER PLAN

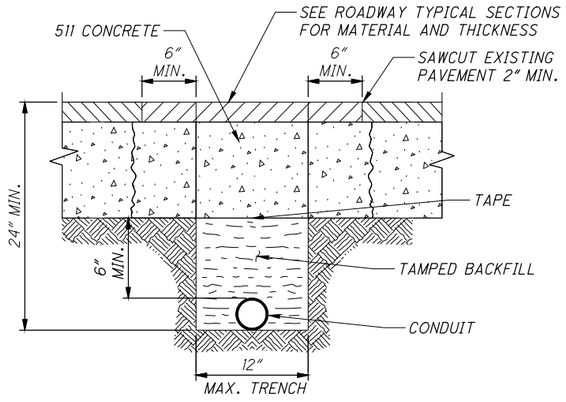
ALL CONDUITS AND FITTINGS SHALL BE TYPE EB, SCHEDULE 40 PVC. ALL CONDUITS SHALL HAVE PULL WIRE. ALL CONDUITS ENTERING A PULL BOX, POLE, ETC. SHALL NOT EXTEND MORE THAN 1" BEYOND ENTERING THE PULL BOX, POLE, ETC.

ITEM 625 - PULL BOX, MISC.: 725.06, (BY SIZE)

PULL BOXES SHALL BE MANUFACTURED BY CARSON BROOKS, QUAZITE, SYNERTECH, OR APPROVED EQUAL. ALL PULL BOXES SHALL INCLUDE A POLYMER CONCRETE RING AND COVER TYPE, OR EQUAL, AND SHALL BE MARKED "TRAFFIC" OR "LIGHTING" AS APPLICABLE. THE PULL BOX SHALL BE FIBERGLASS REINFORCED POLYESTER, OR EQUAL, WITH INSERTS AND SHALL BE 18" IN DEPTH. EACH PULL BOX SHALL INCLUDE TWO (2) STAINLESS STEEL HEX BOLTS. EACH PULL BOX AND COVER SHALL HAVE A MINIMUM LOAD RATING OF 20,000 POUNDS CAPACITY IN ACCORDANCE WITH THE WESTERN UNDERGROUND COMMITTEE GUIDE 3.6. UNDERDRAINS SHALL NOT BE INSTALLED IN PULL BOXES.

ITEM 625 - TRENCH IN PAVED AREAS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 625.13, THIS ITEM SHALL INCLUDE FULL PAVEMENT REPLACEMENT WHEN TRENCHING IN THE ROADWAY. BORING OR JACKING THE CONDUIT UNDER THE PAVEMENT CAN BE PREFORMED IN LIEU OF TRENCHING. IF BORING OR JACKING IS PERFORMED IN LIEU OF TRENCHING, THE CONDUIT PLACED SHALL BE 725.04 ANY EXTRA COST FOR THE 725.04 CONDUIT SHALL BE INCLUDED IN THIS ITEM.



"T" TRENCH IN PAVED AREA

NOSTALGIA PEDESTAL AND DECORATIVE LIGHT POLE PAINTING

LUMINAIRE POLE AND BRACKETS SHALL BE PAINTED (SURFACE PREPARATION, PRIMER APPLICATION, AND FINISH COATING OF GALVANIZED SUBSTRATES). THE FOLLOWING SHALL APPLY:

A. SURFACE PREPARATION:
PRE CLEAN SUBSTRATES TO SSPC-SP-1 SOLVENT CLEANING SPECIFICATION. PREPARE GALVANIZED SUBSTRATES BY ABRASIVE BLASTING TO SSPC-SP-7. BRUSH-OFF BLAST CLEANING SPECIFICATION.

B. COLOR:
THE COLOR OF THE POLES SHALL BE CBD GREEN (COLOR AND FORMULA IS ON FILE AT THE MIDWEST TANK SERVICES CO. INC., CANTON, OH).

C. MATERIALS:
PRIMER-APPLY ONE (1) COAT OF POLYAMIDE UNIVERSAL EPOXY PRIMER-LIGHT GRAY AT A DRY FILM THICKNESS OF 2.0-4.0 MILS.
IST INTERMEDIATE-APPLY ONE (1) COAT OF HIGH BUILD EPOXY-BUFF COLOR AT A DRY FILM THICKNESS OF 4.0-8.0 MILS.
2ND INTERMEDIATE-APPLY ONE (1) COAT OF ALIPHATIC ACRYLIC URETHANE-CBD GREEN AT A DRY FILM THICKNESS OF 2.0-3.0 MILS.
FINISH-APPLY ONE (1) COAT OF ALIPHATIC URETHANE-CLEAR AT A DRY FILM THICKNESS OF 2.0-3.0 MILS.

D. APPLICATION:
APPLICATION(S) OF COATING(S) SHALL BE BY SPRAY METHOD ONLY BY INDUSTRY STANDARDS OF GOOD WORKMANSHIP AND PRACTICES.

E. INSPECTIONS:
INSPECTION OF APPLIED COATINGS SHALL BE IN ACCORDANCE WITH THE SOCIETY FOR PROTECTIVE COATINGS (SSPC) PAINT APPLICATION STANDARD NO. 2. MEASUREMENT OF DRY COATING THICKNESS WITH MAGNETIC GAGES (SSPC-PA2).

F. WARRANTY:
COATINGS MANUFACTURER SHALL PROVIDE A TEN YEAR (10 YEAR) MATERIALS PERFORMANCE GUARANTEE.

THE COST FOR NOSTALGIA DECORATIVE LIGHT POLE PAINTING SHALL BE INCLUDED IN AND INCIDENTAL TO ITEM 625 - LIGHT POLE, DECORATIVE, AS PER PLAN.

CALCULATED DRG | CHECKED JMS

LIGHTING AND LANDSCAPING NOTES

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LN01.dwg 31-Aug-16 5:39 PM

ITEM 632 - POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER ODOT SPECIFICATION 632 AND CITY OF CANTON STANDARDS. ELECTRIC POWER SHALL BE SUPPLIED BY AMERICAN ELECTRIC POWER (AEP). POWER SERVICE IS TO BE METERED. THE SERVICE PEDESTAL SHALL BE MILBANK MODEL #CP3B51115AAOSP10. 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 120/240 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 LIGHTING IS ACCEPTED BY THE CITY OF CANTON.

ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN (LIGHT POLE)

THE LUMINAIRES ON THE LIGHT POLES SHALL BE UNION METAL DESIGN (#NL318R-3) AND SHALL BE FURNISHED PREWIRED AND MANUFACTURED AS DETAILED ON THE CITY OF CANTON STANDARD CONSTRUCTION DRAWING. THE CONTRACTOR SHALL VERIFY WITH THE CITY FOR THE CURRENT CITY STANDARD FOR THIS ITEM. THIS ITEM SHALL INCLUDE THE LED LAMP AS DETAILED ON THE STANDARD DRAWINGS.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT BID PRICE PER EACH ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, INSTALLATION AND INCIDENTALS FOR EACH LUMINAIRE.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC 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 GROUNDINGS CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
   C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
   D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
   E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
   F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USES AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

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 DEBUGGED AT ALL TERMINATION POINTS.
   C. BOTH ENDS OF METALLIC CONDUITS 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 GROUNDINGS AND BONDING
   A. USE INSULATED, STRANDED 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:
      I. USE #4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER, OR FLASHER CABINETS.
      II. 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.

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, STRANDED COPPER.

5. POWER SERVICE AND MAIN PEDESTAL
   A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE MAIN PEDESTAL 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.
      I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
      II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

6. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

PADLOCK AND KEYS

PADLOCKS FURNISHED SHALL BE WILSON BOHANNAN PADLOCK MODEL #11110, AND SHALL BE KEYED IN ACCORDANCE WITH CMS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

ITEM 625 - REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN

THE EXISTING HOSPITAL LIGHT POLE LOCATED AT STA. 154+79.16 LT. SHALL BE CAREFULLY REMOVED AND REERECTED AT STA. 154+71.16 LT. IN ACCORDANCE WITH ODOT CMS 625. THIS WORK SHALL INCLUDE ALL NECESSARY TRENCHING, CONDUIT, CONNECTIONS, HARDWARE, AND FOUNDATION TO CONSTRUCT COMPLETE THE LIGHT POLE AT THE NEW LOCATION SIMILAR TO THE EXISTING LOCATION.

ITEM 625 - LUMINAIRE, IN GRADE, AS PER PLAN (WELL LIGHT)
RGBW PROGRAMMABLE LED IN-GRADE WELL LIGHT WITH BRONZE EYEBALL FRAME, WIRELESS PROGRAMMABLE DRIVER WITH ADJUSTABLE ANGLE AND DIMMING AND IP68 WATERPROOF HOUSING AND POURED IN PLACE CONCRETE COLLAR.
BASIS OF DESIGN: KIM LIGHTING # LTV81EBNF12LRGBW UV SR/RCA81, OR EQUAL.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT BID PRICE PER EACH ITEM 625 - LUMINAIRE, IN-GRADE, AS PER PLAN. WHICH SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, INSTALLATION AND INCIDENTALS FOR EACH LUMINAIRE.

ITEM 625 - LUMINAIRE, IN-GRADE (WELL LIGHT) FOUNDATION, AS PER PLAN
IN-GRADE FIXTURES LOCATED IN RIP RAP AREAS (BB-4 AND BB-7) SHALL BE CAST IN A 24" X 24" X 24" CONCRETE FOUNDATION TO RESIST MOVEMENT.

BASIS OF PAYMENT SHALL AT THE CONTRACT BID PRICE PER EACH ITEM 625, LUMINAIRE, IN-GRADE (WELL-LIGHT) FOUNDATION, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, INSTALLATION AND INCIDENTALS FOR EACH FOUNDATION.

ITEM 625 - LUMINAIRE MISC.: TYPE B OR C
LIGHTING FIXTURES TO BE MOUNTED ON THE UNDER THE BRIDGE AS SHOWN ON SHEETS 126 AND 152 WILL BE AS FOLLOWS:

TYPE B - OVER WALKWAY; SURFACE MOUNTED LUMINAIRE WITH DARK BRONZE ALUMINUM HOUSING AND POLYCARBONATE LENS WITH LED LIGHT. BASIS OF DESIGN: MILLENIUM EDGE, CAT. NO. MRI7FFL-DB-40L35K -X-X-SCC-DV-FS-9 500 OR APPROVED EQUAL.

TYPE C - OVER WATER; SURFACE MOUNTED ENCLOSED AND GASKETED PARKING STRUCTURE LUMINAIRE WITH DARK BRONZE ALUMINUM HOUSING WITH LED LIGHT. BASIS OF DESIGN: TEKDEK, CAT. NO. TDI7-QM-5S-TP-DB-50L40K -DV-FS-BG OR APPROVED EQUAL.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT BID PRICE PER EACH ITEM 625, LUMINAIRE MISC.: TYPE B OR C, WHICH SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, INSTALLATION AND INCIDENTALS FOR EACH LUMINAIRE.

CALCULATED DRC | CHECKED JMS

LIGHTING AND LANDSCAPING NOTES

STA - 12TH STREET IMPROVEMENTS

C:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LN01.dwg 01-Sep-16 12:36 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	LENGTH	No. OF CONDUITS	625 CONDUIT, 1", 725.05	625 LIGHT POLE, DECORATIVE, AS PER PLAN	625 LUMINAIRE, DECORATIVE, AS PER PLAN	625 LIGHT POLE FOUNDATION, AS PER PLAN	625 LUMINAIRE, IN-GRADE, AS PER PLAN (WELL LIGHT)	625 LUMINAIRE, IN-GRADE, (WELL LIGHT) FOUNDATION, AS PER PLAN	625 CONDUIT, 2", 725.05, AS PER PLAN	625 TRENCH IN PAVED AREAS, AS PER PLAN	625 PULL BOX, 725.06, 17"X30"	632 POWER SERVICE, AS PER PLAN	625 GROUND ROD	625 PLASTIC CAUTION TAPE	625 NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	625 TRENCH, 24" DEEP	625 LUMINAIRE, MISC.: TYPE B OR C	625 REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN
							FT	EACH	EACH	EACH	EACH	EACH	FT	FT	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH
		12TH STREET																					
122	E-1	150+20.00	153+35.20	RT	15	2							30	15				15	60	20			
122	E-2	153+35.20	150+60.00	RT	27	2							54	27	1			27	96	32			
122	E-3	150+60.00	151+60.00	RT	100.00	2		1	1	1			200	100			1	100	315	105			
122	E-4	151+60.00	152+10.50	RT	51.00	2		1	1	1			102	51			1	51	168	56			
122	E-5	152+10.50	152+60.00	RT	50.00	2							100	50	1			50	165	55			
122	E-6	152+60.00	153+50.00	RT	90.00	2		1	1	1			180	90			1	90	285	95			
122	E-7	150+20.00	150+54.50	LT	35.00	2							70	35				35	120	40			
122	E-8	150+54.50	150+60.00	LT	7.00	2							14	7	1			7	36	12			
122	E-9	150+60.00	151+60.00	LT	100.00	1		1	1	1			100	100			1	100	315	105			
122	E-10	151+60.00	152+60.00	LT	100.00	1		1	1	1			100	100			1	100	315	105			
122	E-11	152+60.00	153+50.00	LT	90.00	1		1	1	1			90	90			1	90	285	95			
123	E-1	153+50.00	153+60.00	RT	10.00	2							20	10				10.00	45	15			
123	E-2	153+60.00	154+10.75	RT	51.00	2		1	1	1			102	51			1	51.00	168	56			
123	E-3	154+10.75	154+60.00	RT	49.00	2							98	49	1			49.00	162	54			
123	E-4	154+60.00	155+60.00	RT	100.00	2		1	1	1			200	100			1	100.00	315	105			
123	E-5	155+60.00	156+14.20	RT	54.00	2		1	1	1			108	54			1	54.00	177	59			
123	E-6	156+14.20	156+60.00	RT	46.00	2							92	46	1			46.00	153	51			
123	E-7	156+60.00	157+11.21	RT	51.00	2		1	1	1			102	51			1	51.00	168	56			
123	E-8	157+11.21	157+60.00	RT	49.00	2							98	49	1			49.00	162	54			
123	E-9	157+60.00	158+00.00	RT	40.00	2		1	1	1			80	40			1	40.00	135	45			
123	E-10	157+11.21	157+35.25	RT	30.00	4							120	30				30.00	105	35			
123	E-11	157+35.25	156+77.16	RT	45.00	1							45	45		1	1	45.00	150	50			
123	E-12	153+50.00	153+60.00	LT	10.00	1							10	10				10.00	45	15			
123	E-13	153+60.00	154+60.00	LT	100.00	1		1	1	1			100	100			1	100.00	315	105			
123	E-14	154+60.00	155+60.00	LT	100.00	1		1	1	1			100	100			1	100.00	315	105			
123	E-15	155+60.00	156+60.00	LT	100.00	1		1	1	1			100	100			1	100.00	315	105			
123	E-16	156+60.00	157+14.56	LT	55.00	1		1	1	1			55	55			1	55.00	180	60			
123	E-17	157+14.56	157+11.21	LT/RT	45.00	2							90	45	1			45.00	150	50			
123	E-18	157+14.56	157+60.00	LT	45.00	1							45	45				45.00	150	50			
123	E-19	157+60.00	158+00.00	LT	40.00	1		1	1	1			40	40			1	40.00	135	45			
123	E-20	154+71.56		LT																			1
124	E-1	158+00.00	158+13.63	RT	14.00	2							28	14				14.00	57	19			
124	E-2	158+13.63	158+60.00	RT	46.00	2							92	46	1			46.00	153	51			
124	E-3	158+60.00	159+60.00	RT	100.00	2		1	1	1			200	100			1	100.00	315	105			
124	E-4	159+60.00	160+10.70	RT	51.00	2		1	1	1			102	51			1	51.00	168	56			
124	E-5	160+10.70	160+60.00	RT	49.00	2							98	49	1			49.00	162	54			
124	E-6	160+60.00	161+60.00	RT	100.00	2		1	1	1			200	100			1	100.00	315	105			
124	E-7	161+60.00	162+10.00	RT	50.00	2		1	1	1			100	50			1	50.00	165	55			
124	E-8	162+10.00	162+60.00	RT	50.00	2							100	50	1			50.00	165	55			
124	E-9	162+60.00	163+00.00	RT	40.00	2		1	1	1			80	40			1	40.00	135	45			
124	E-10	158+00.00	158+60.00	LT	60.00	1							60	60				60.00	195	65			
124	E-11	158+60.00	159+60.00	LT	100.00	1		1	1	1			100	100			1	100.00	315	105			
SUBTOTAL (THIS SHEET)							0	22	22	22	0	0	3805	2345	10	1	23	2345	7650	2550	0	0	1

CALCULATED DRG
CHECKED JMS

LIGHTING SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LS01.dwg 31-Aug-16 5:40 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	LENGTH	No. OF CONDUITS	625 CONDUIT, 1", 725.05	625 LIGHT POLE, DECORATIVE, AS PER PLAN	625 LUMINAIRE, DECORATIVE, AS PER PLAN	625 LIGHT POLE FOUNDATION, AS PER PLAN	625 LUMINAIRE, IN-GRADE, AS PER PLAN (WELL LIGHT)	625 LUMINAIRE, IN-GRADE, (WELL LIGHT) FOUNDATION, AS PER PLAN	625 CONDUIT, 2", 725.05, AS PER PLAN	625 TRENCH IN PAVED AREAS, AS PER PLAN	625 PULL BOX, 725.06, 17"X30"	632 POWER SERVICE, AS PER PLAN	625 GROUND ROD	625 PLASTIC CAUTION TAPE	625 NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	625 TRENCH, 24" DEEP	625 LUMINAIRE, MISC.: TYPE B OR C	625 REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN
							FT	EACH	EACH	EACH	EACH	EACH	FT	FT	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH
		12TH STREET																					
124	E-12	159+60.00	160+60.00	LT	100.00	1		1	1	1			100	100			1	100.00	315	105			
124	E-13	160+60.00	161+60.00	LT	100.00	1		1	1	1			100	100			1	100.00	315	105			
124	E-14	161+60.00	162+60.00	LT	100.00	1		1	1	1			100	100			1	100.00	315	105			
124	E-15	162+60.00	163+00.00	LT	40.00	1		1	1	1			40	40			1	40.00	135	45			
125	E-1	163+00.00	163+60.00	RT	60.00	2							120	60				60.00	195	65			
125	E-2	163+60.00	164+54.95	RT	116.00	2		1	1	1			232	116			1	116.00	363	121			
125	E-3	164+54.95	164+55.00	RT	13.00	1		1	1	1			13	13			1	13.00	54	18			
125	E-4	164+54.95	165+40.00	RT	85.00	2							170	20	1			85.00	270	90			
125	E-5	165+40.00	165+25.00	RT	20.00	2							40	20	1			20.00	75	25			
125	E-6	165+25.00	166+30.08	RT	105.00	2		1	1	1			210	105			1	105.00	330	110			
125	E-7	166+30.08	166+36.00	RT	13.00	2		1	1	1			26	13			1	13.00	54	18			
125	E-8	166+36.00	167+00.00	RT	64.00	2							128	64	1			64.00	207	69			
125	E-9	163+00.00	163+56.00	LT	56.00	1							56	56				56.00	183	61			
125	E-10	163+56.00	163+68.53	LT	18.00	1		1	1	1			18	18			1	18.00	69	23			
125	E-11	163+68.53	164+87.25	LT	119.00	1							119	12	1			119.00	372	124			
125	E-12	164+87.25	164+75.00	LT	14.00	1		1	1	1			14	14			1	14.00	57	19			
125	E-13	164+87.25	165+70.05	LT	87.00	1							87	87	1			87.00	276	92			
125	E-14	165+70.05	166+75.00	LT	105.00	1		1	1	1			105	105			1	105.00	330	110			
125	E-15	166+75.00	167+00.00	LT	25.00	1		1	1	1			25	25			1	25.00	90	30			
126	E-1	167+00.00	167+29.53	RT	30.00	2							60	30				30.00	105	35			
126	E-2	167+29.53	167+91.31	RT	63.00	2							126	63	1			63.00	204	68			
126	E-3	167+91.31	168+21.73	RT	47.00	2							94		1			47.00	156	52			
126	E-4	168+21.73	168+76.56	RT	55.00	2	68	1	1				110					55.00	180	279		2	
126	E-5	168+76.56	169+38.97	RT	62.00	2	66	1	1				124					62.00	201	280		4	
126	E-6	169+38.97	169+50.00	RT	11.00	2							22	11	1			11.00	48	16			
126	E-7	169+50.00	169+50.00	RT	5.00	4							20	5				5.00	30	10			
126	E-8	169+50.00	169+34.17	RT	15.00	1							15	15		1	1	15.00	60	20			
126	E-9	169+50.00	169+80.00	RT	38.00	2							76	38	1			38.00	129	43			
126	E-10	169+80.00	170+15.00	RT	35.00	2		1	1	1			70	35			1	35.00	120	40			
126	E-11	170+15.00	170+40.00	RT	25.00	2							50	25	1			25.00	90	30			
126	E-12	170+15.00	170+15.00	LT/RT	44.00	2							88	44				44.00	147	49			
126	E-13	167+00.00	167+20.06	LT	31.00	1							31	31				31.00	108	36			
126	E-14	167+20.62	167+55.20	LT	39.00	1							39	39	1			39.00	132	44			
126	E-15	167+55.20	167+95.52	LT	60.00	1							60	60	1			60.00	195	65			
126	E-16	167+95.52	168+50.23	LT	55.00	1		1	1				55	55			1	55.00	180	60			
126	E-17	168+50.23	169+24.31	LT	74.00	1	68	1	1				74	30				74.00	237	298		2	
126	E-18	169+24.31	169+85.00	LT	65.00	1							65	65	1			65.00	210	70			
126	E-19	169+85.00	170+15.00	LT	30.00	1		1	1	1			30	30				30.00	105	35			
126	E-20	170+15.00	170+30.00	LT	15.00	2							30	15	1			15.00	60	20			
SUBTOTAL (THIS SHEET)							202	18	18	14	0	0	2942	1659	14	1	15	2039	6702	2885	0	8	0

CALCULATED DRG
CHECKED JMS

LIGHTING SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LS01.dwg 31-Aug-16 5:40 PM

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	SIDE	LENGTH	No. OF CONDUITS	625 CONDUIT, 1", 725.05	625 LIGHT POLE, DECORATIVE, AS PER PLAN	625 LUMINAIRE, DECORATIVE, AS PER PLAN	625 LIGHT POLE FOUNDATION, AS PER PLAN	625 LUMINAIRE, IN-GRADE, AS PER PLAN (WELL LIGHT)	625 LUMINAIRE, IN-GRADE, (WELL LIGHT) FOUNDATION, AS PER PLAN	625 CONDUIT, 2", 725.05, AS PER PLAN	625 TRENCH IN PAVED AREAS, AS PER PLAN	625 PULL BOX, 725.06, 17"X30"	632 POWER SERVICE, AS PER PLAN	625 GROUND ROD	625 PLASTIC CAUTION TAPE	625 NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	625 NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	625 TRENCH, 24" DEEP	625 LUMINAIRE, MISC.: TYPE B OR C	625 REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN
							FT	EACH	EACH	EACH	EACH	EACH	FT	FT	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH
		12TH STREET																					
126	E-27	167+75.55	167+93.07	LT	18.00	1					1	1	18					18.00		54	18.00		
126	E-28	168+45.75	168+67.79	LT	22.00	1					1	1	22					22.00		66	22.00		
126	E-29	168+67.79	168+86.41	LT	19.00	1					1		19					19.00		57	19.00		
126	E-30	168+86.41	169+24.31	LT	40.00	1					1		40					40.00		120	40.00		
126	E-31	167+91.31	168+06.67	RT	20.00	1					1		20					20.00		60	20.00		
126	E-32	168+06.67	168+21.27	RT	15.00	1					1		15					15.00		45	15.00		
126	E-33	168+78.93	169+00.63	RT	22.00	1					1		22					22.00		66	22.00		
126	E-34	169+00.63	169+16.48	RT	16.00	1					1		16					16.00		48	16.00		
126	E-35	169+16.48	169+50.00	RT	30.00	1					1		30					30.00		90	30.00		
		STADIUM PARK DR.																					
126	E-21	2+00.00	2+15.94	LT	16.00	1							16	16				16.00	63	21			
126	E-22	2+15.94	3+38.00	LT	122.00	1		1	1	1			122	122			1	122.00	381	127			
126	E-23	3+38.00	167+29.53 12TH	LT	69.00	1		1	1	1			69	69			1	69.00	222	74			
126	E-24	167+55.20 12TH	5+14.13	RT	22.00	1							22	22				22.00	81	27			
126	E-25	5+14.13	6+00.00	RT	86.00	1		1	1	1			86	86			1	86.00	273	91			
126	E-26	5+14.13	167+75.55 12TH	LT	49.00	1					1		49					49.00		147	49.00		
127	E-1	6+00.00	6+80.86	RT	81.00	1		1	1	1			81	81			1	81.00	258	86			
		PEDESTRIAN & MULTI-PURPOSE TRAILS																					
127	E-2	120+89.70	122+30.00	LT	140.00	1							140	140			1	140.00	435	145			
127	E-3	122+30.00	124+25.00	LT	195.00	1							195	195			1	195.00	600	200			
127	E-4	124+25.00	125+45.31	LT/RT	120.00	1							120	120	1		1	120.00	375	125			
SUBTOTAL (FROM SHEET 118)							0	22	22	22	0	0	3805	2345	10	1	23	2345	7650	2550	0	0	1
SUBTOTAL (FROM SHEET 119)							202	18	18	14	0	0	2942	1659	14	1	15	2039	6702	2885	0	8	0
SUBTOTAL (THIS SHEET)							0	4	4	4	10	2	1102	851	1	0	7	1102	2688	1649	251	0	0
TOTAL CARRIED TO THE GENERAL SUMMARY							202	44	44	40	10	2	7849	4855	25	2	45	5486	17040	7084	251	8	1

CALCULATED DRG
CHECKED JMS

LIGHTING SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

120
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LS01.dwg 31-Aug-16 5:40 PM

						659	671	661	661	661	661	661	661
SHEET NO.	REFERENCE NO.	STATION		SIDE	AREA OF PLANTING BED	SEEDING AND MULCHING, AS PER PLAN	EROSION CONTROL MAT, TYPE B	DECIDUOUS TREE, 2" CALIPER, "AMERICAN HORNBEAM"	DECIDUOUS TREE, 2" CALIPER, "FRONTIER ELM"	DECIDUOUS TREE, 2" CALIPER, "KWANZAN CHERRY"	PERENNIALS, 1 GAL., "HAMLN GRASS"	GROUNDCOVER AND VINES, 4" POT, "VINCA MINOR"	MULCH
		FROM	TO		SF	SY	SY	EACH	EACH	EACH	EACH	EACH	CY
122		150+00.00	153+50.00	LT/RT						12			
123		153+50.00	158+00.00	LT/RT				8		9			
124		158+00.00	163+00.00	LT/RT				12	8				
125		163+00.00	167+00.00	LT/RT					10				
128	LS-1	165+57	165+74	RT	115						1	60	1.4
128	LS-2	165+83	165+92	RT	77						1	40	1
128	LS-3	165+71	165+85	RT	133							70	1.6
129	LS-4	120+00 PED. B	120+92 PED. B	LT	3902	434							
129	LS-5	4+57 STADIUM PARK	5+16 STADIUM PARK	RT	1303	145							
128	LS-6	2+85 STADIUM PARK	3+56 STADIUM PARK	RT	266	30	30						
128	LS-7	169+38	169+61	RT	261	29	29						
TOTAL CARRIED TO THE GENERAL SUMMARY						638	59	20	18	21	2	170	4

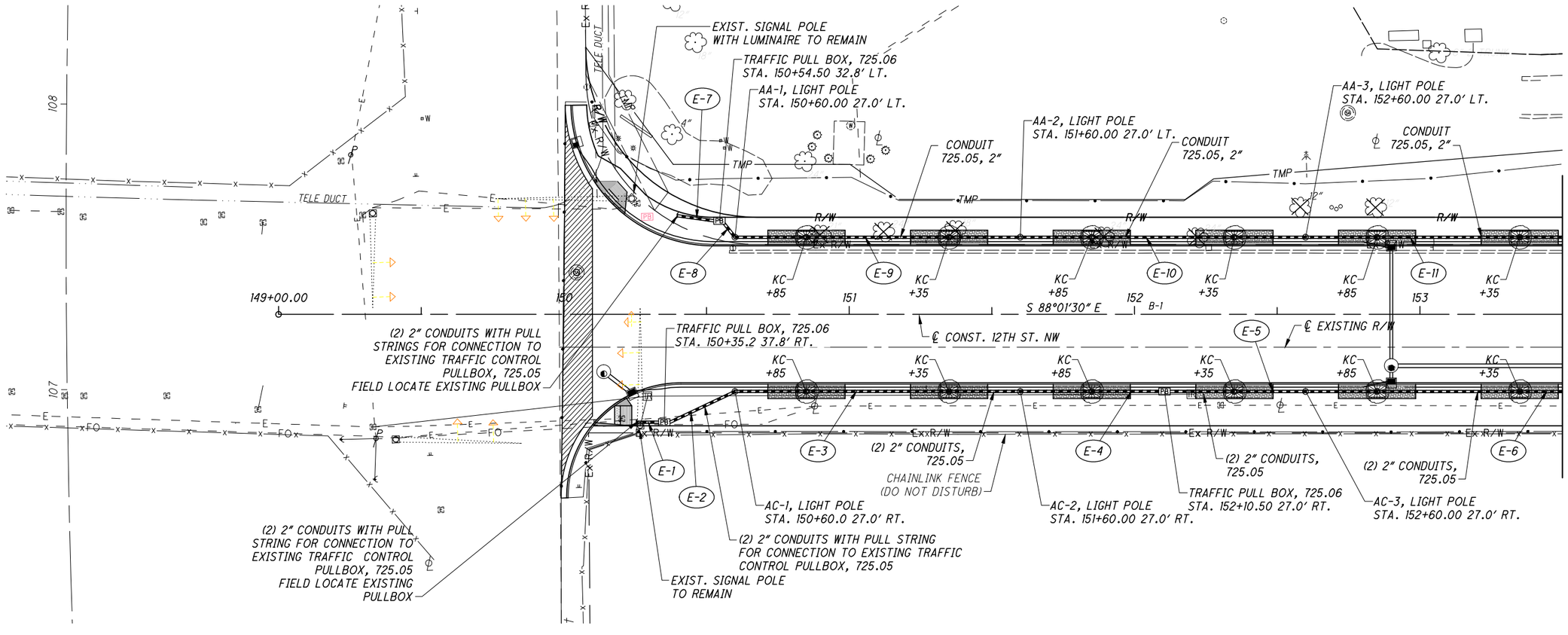
CALCULATED MAL
CHECKED SMG

LANDSCAPE SUBSUMMARY

STA - 12TH STREET IMPROVEMENTS

121
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LS01.dwg 31-Aug-16 5:40 PM



NOTES:

1. FOR PAVERS AND TREE GRATE QUANTITIES SEE ROADWAY SUBSUMMARY SHEET 33-35.

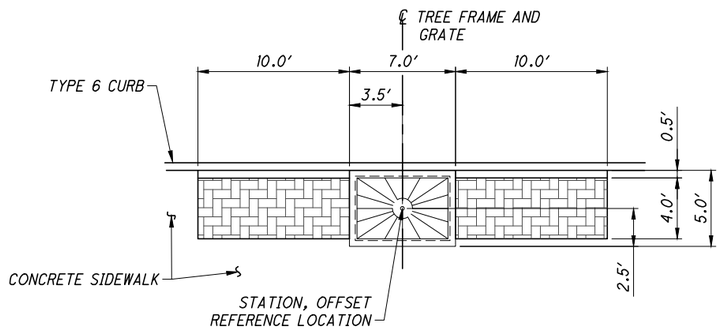
2. FOR LANDSCAPE SUBSUMMARY SEE SHEET 120.

3. FOR LIGHTING SUBSUMMARY SEE SHEETS 118-120.

4. STUB UP CONDUITS 7" FROM POLE BASE. COIL 40' OF CONDUCTORS FOR CONTINUATION BY AEP.

LEGEND (THIS SHEET)
LIGHT POLE
BRICK PAVERS
FRAME AND GRATE
TREE

SYMBOL	BOTANICAL NAME	COMMON NAME
AH	CARPINUS CAROLINIANA	AMERICAN HORNBEAM
FE	ULMUS CARPINIFOLIA X PARVIFOLIA	FRONTIER ELM
KC	PRUNUS SERRULATA	KWANZAN CHERRY



TYPICAL STREETSCAPE PLAN

TYPICAL PLAN LAYOUT UNLESS NOTED OTHERWISE IN LIGHTING AND LANDSCAPE PLANS. REFER TO CITY STANDARD DRAWINGS AND ROADWAY TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.

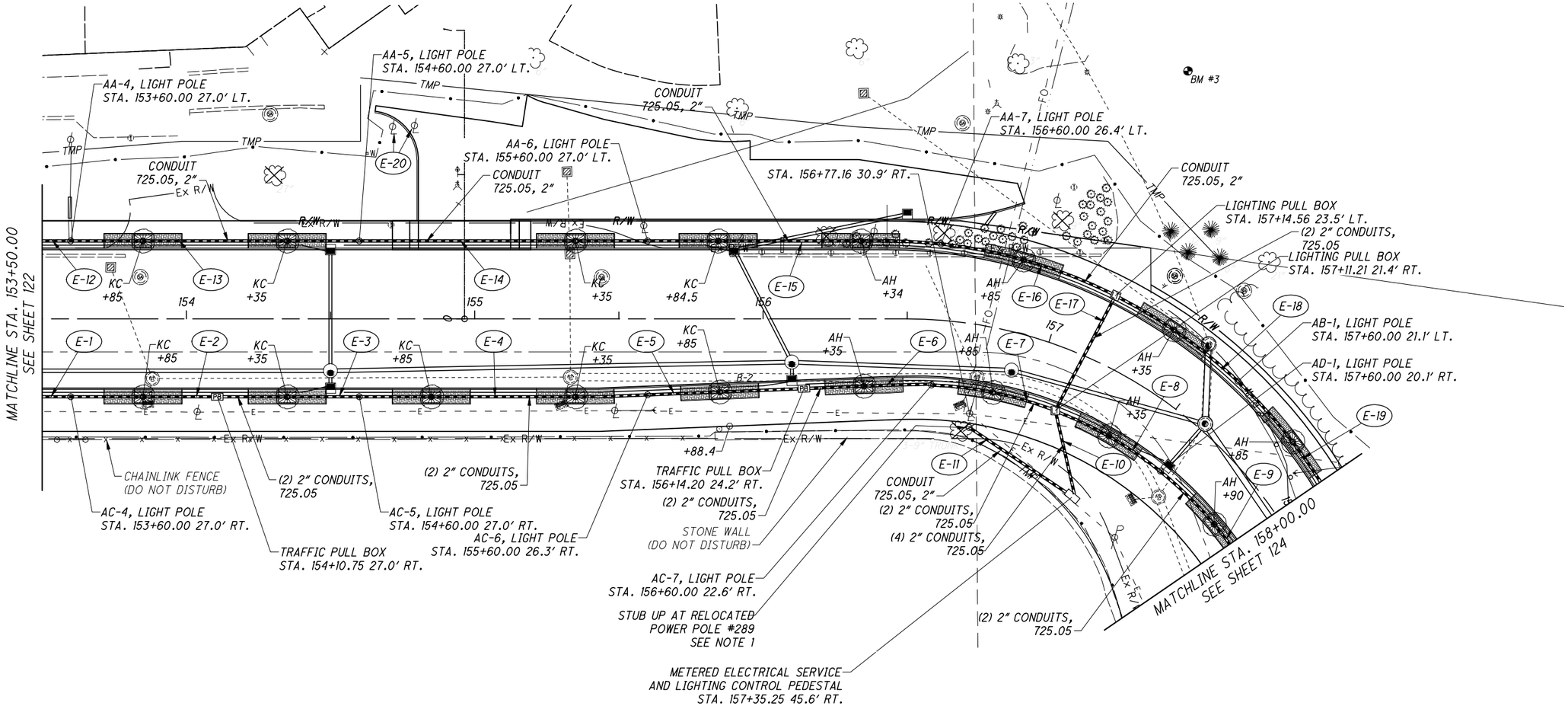
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED BRO
CHECKED DRG

LIGHTING AND LANDSCAPING PLAN STA. 149+00 TO STA. 153+50.00

STA - 12TH STREET IMPROVEMENTS

122
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LP01.dwg 31-Aug-16 5:43 PM



NOTES:

1. FOR PAVERS AND TREE GRATE QUANTITIES SEE ROADWAY SUBSUMMARY SHEET 33-35.

2. FOR LANDSCAPE SUBSUMMARY SEE SHEET 120.

3. FOR LIGHTING SUBSUMMARY SEE SHEETS 118-120.

4. STUB UP CONDUITS 7" FROM POLE BASE. COIL 40' OF CONDUCTORS FOR CONTINUATION BY AEP.

LEGEND (THIS SHEET)
LIGHT POLE
BRICK PAVERS
FRAME AND GRATE
TREE

SYMBOL	BOTANICAL NAME	COMMON NAME
AH	CARPINUS CAROLINIANA	AMERICAN HORNBEAM
FE	ULMUS CARPINIFOLIA X PARVIFOLIA	FRONTIER ELM
KC	PRUNUS SERRULATA	KWANZAN CHERRY

N

0 10 20 40
HORIZONTAL
SCALE IN FEET

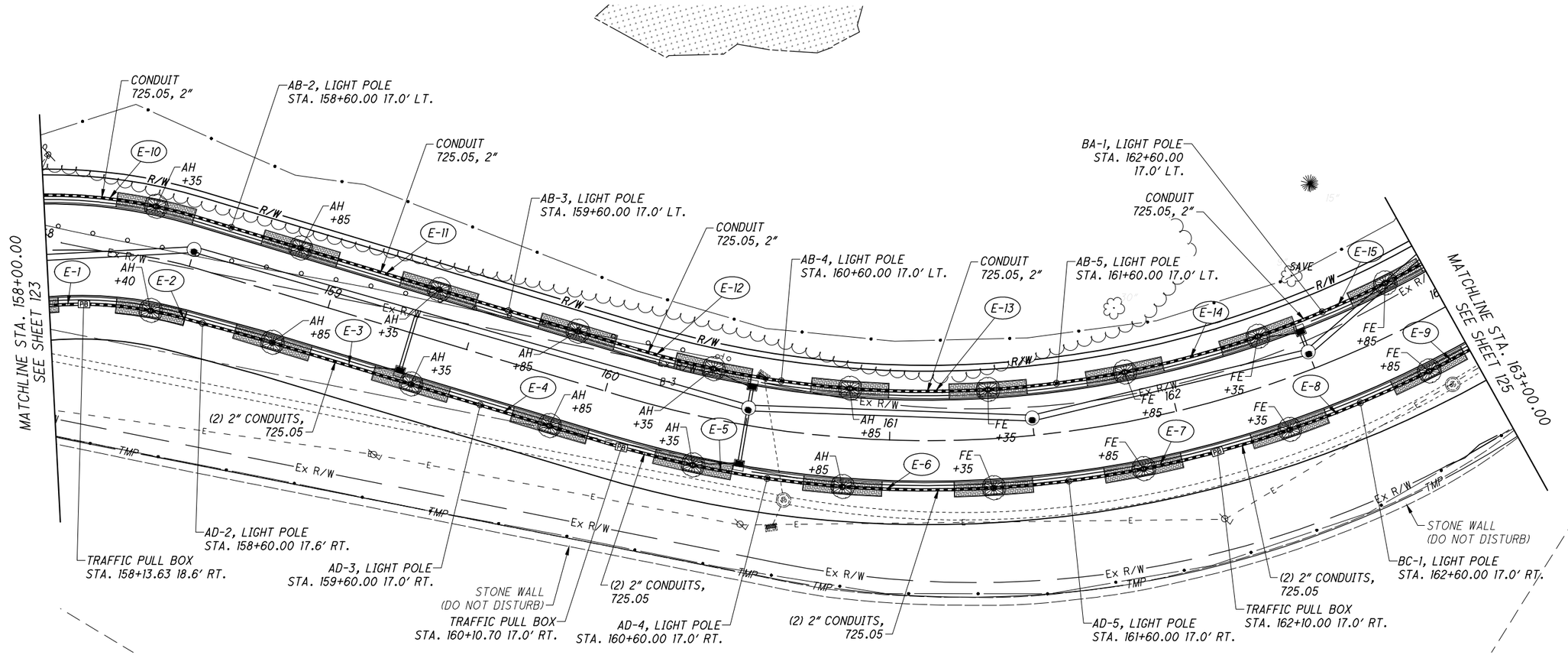
CALCULATED BRO
CHECKED DRG

LIGHTING AND LANDSCAPING PLAN
STA. 153+50.00 TO STA. 158+00.00

STA - 12TH STREET
IMPROVEMENTS

123
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LP01.dwg 31-Aug-16 5:43 PM



LEGEND (THIS SHEET)
LIGHT POLE
BRICK PAVERS
FRAME AND GRATE
TREE

NOTES:

1. FOR PAVERS AND TREE GRATE QUANTITIES SEE ROADWAY SUBSUMMARY SHEET 33-35.
2. FOR LANDSCAPE SUBSUMMARY SEE SHEET 120.
3. FOR LIGHTING SUBSUMMARY SEE SHEETS 118-120.
4. STUB UP CONDUITS 7" FROM POLE BASE. COIL 40' OF CONDUCTORS FOR CONTINUATION BY AEP.

SYMBOL	BOTANICAL NAME	COMMON NAME
AH	CARPINUS CAROLINIANA	AMERICAN HORNBEAM
FE	ULMUS CARPINIFOLIA X PARVIFOLIA	FRONTIER ELM
KC	PRUNUS SERRULATA	KWANZAN CHERRY

HORIZONTAL SCALE IN FEET
0 10 20 40

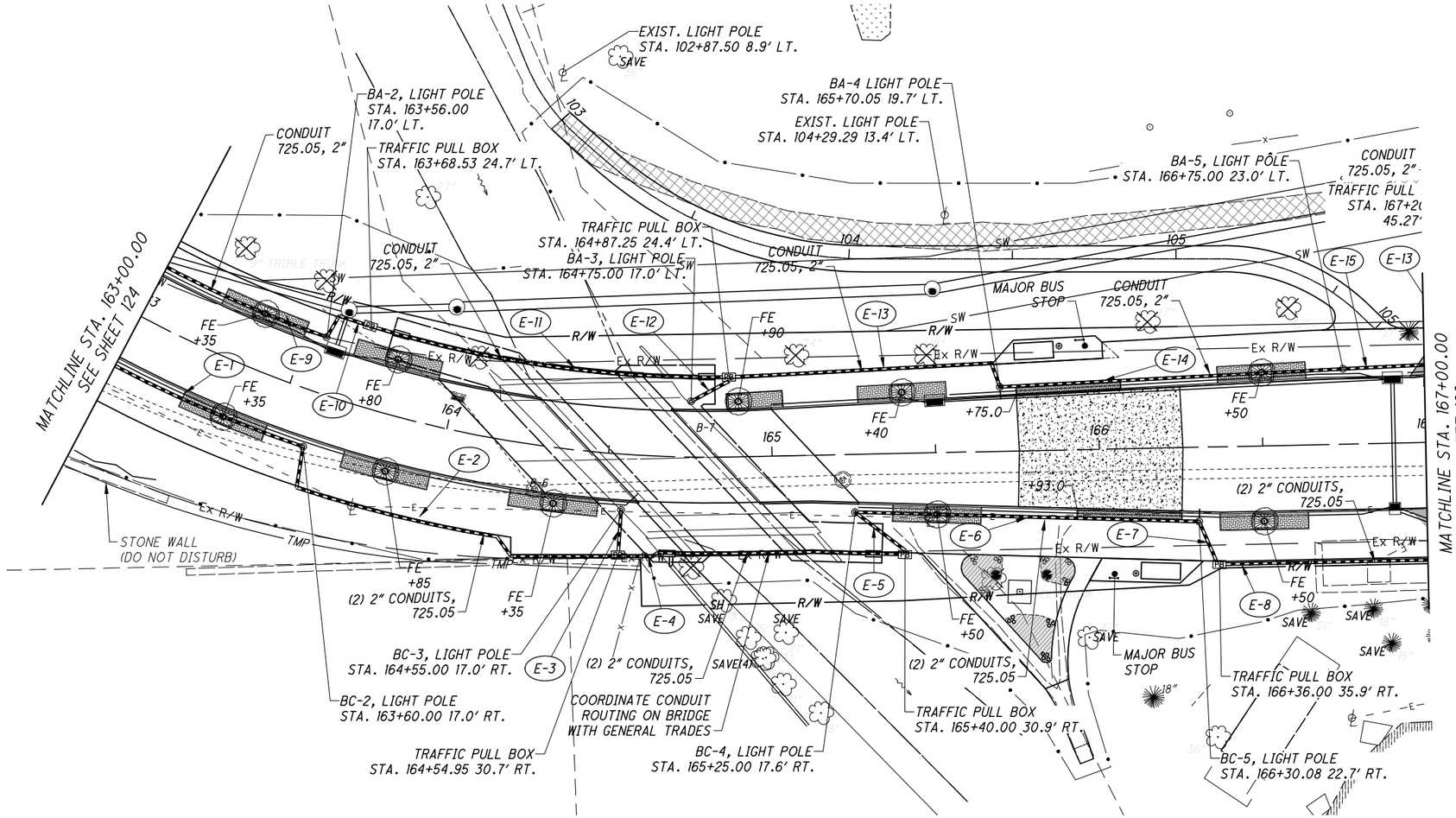
CALCULATED BRO
CHECKED DRG

LIGHTING AND LANDSCAPING PLAN STA. 158+00.00 TO STA. 163+00.00

STA - 12TH STREET IMPROVEMENTS

124
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LP01.dwg 31-Aug-16 5:44 PM



LEGEND (THIS SHEET)
LIGHT POLE
BRICK PAVERS
FRAME AND GRATE
TREE

NOTES:

1. FOR PAVERS AND TREE GRATE QUANTITIES SEE ROADWAY SUBSUMMARY SHEET 33-35.
2. FOR LANDSCAPE SUBSUMMARY SEE SHEET 120.
3. FOR LIGHTING SUBSUMMARY SEE SHEETS 118-120.
4. STUB UP CONDUITS 7" FROM POLE BASE. COIL 40' OF CONDUCTORS FOR CONTINUATION BY AEP.

PROPOSED MULCH LANDSCAPE BED SEE SHEET 128 FOR PLANTING DETAILS

SYMBOL	BOTANICAL NAME	COMMON NAME
AH	CARPINUS CAROLINIANA	AMERICAN HORNBEAM
FE	ULMUS CARPINIFOLIA X PARVIFOLIA	FRONTIER ELM
KC	PRUNUS SERRULATA	KWANZAN CHERRY

N

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED BRO
CHECKED DRG

LIGHTING AND LANDSCAPING PLAN
STA. 163+00.00 TO STA. 167+00.00

STA - 12TH STREET
IMPROVEMENTS

125
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LP01.dwg 31-Aug-16 5:45 PM

MATCHLINE STA. 6+00.00
SEE SHEET 127

MATCHLINE STA. 167+00.00
SEE SHEET 125

CONDUIT
725.05, 2"

SAVE

E-2

EX. LIGHT POLE
TO BE RELOCATED

EXISTING RELOCATED
DIRECT BURIED LIGHT POLE.
SEE NOTE 5.
STA. 120+89.7 6.0' LT.

BB-2, LIGHT POLE
STA. 5+14.13 15.0' RT.
SEE NOTE 8

BB-6, LIGHT POLE
STA. 168+50.23
35.58' LT.

BARRIER BOX
STA. 167+55.20
64.29' LT.

BB-5, LIGHT POLE
STA. 167+95.52
35.58' LT.

CONDUIT
725.05, 2"

TRAFFIC PULL BOX
STA. 167+20.06
45.27' LT.

E-25, E-24, E-26, E-14, E-15, E-27, E-31, E-32, E-4, E-3, E-1, E-23, E-22, E-21, E-16, E-28, E-17, E-29, E-30, E-18, E-5, E-19, E-12, E-10, E-11, E-6, E-8, E-9, E-7, E-20

Ex R/W

R/W

SW

B-8, B-9

A, B, C, D, E, F, G, H

AKRON METRO RAILROAD

Ex RR

F BD-8, LIGHT POLE
STA. 168+78.93 41.67' RT.

G BD-9, LIGHT POLE
STA. 169+00.63 41.42' RT.

H BD-10, LIGHT POLE
STA. 169+16.48 40.95' RT.

BB-10, LIGHT POLE
STA. 169+85.00 23.0' LT.
SEE NOTE 8

LIGHTING PULL BOX
STA. 170+15.00 23.0' LT.

(2) 2" CONDUITS 725.05, TO
CONNECT TO EXISTING
CONDUIT OR PULLBOX, AS
APPLICABLE, FOR LIGHTING
AND TRAFFIC SYSTEMS

(2) 2" CONDUITS,
725.05

170+92.50

TRAFFIC PULL BOX
STA. 169+24.31
35.55' LT.

(2) 2" CONDUITS,
725.05

TRAFFIC PULL BOX
STA. 169+38.97
34.29' RT.

LIGHTING PULL BOX
STA. 170+15.00 23.0' RT.

BB-11, LIGHT POLE
STA. 169+80.00 23.0' RT.

(2) 2" CONDUITS,
725.05

BX #1
(2) 2" CONDUITS 725.05,
TO CONNECT TO EXISTING
CONDUIT OR PULLBOX, AS
APPLICABLE, FOR
LIGHTING AND TRAFFIC
SYSTEMS

CONDUIT
725.05, 2"

BD-7, LIGHT POLE
STA. 168+76.56 35.58' RT.

METERED ELECTRICAL SERVICE
AND LIGHTING CONTROL PEDESTAL

SEE BRIDGE PLANS FOR CONDUIT
ROUTING WITHIN STRUCTURE.

LIGHTING PULL BOX
STA. 169+50.00 35.5' RT.

(4) 2" CONDUITS,
725.05

LIGHTING PULL BOX
STA. 169+34.16 37.0' RT.

TO BE REMOVED BY AEP
EXIST. LIGHT POLE
STA. 1+79.6 14.3' LT.

CONDUIT
725.05, 2"

BD-1, LIGHT POLE
STA. 2+15.94 15.66' LT.

BARRIER BOX

TRAFFIC PULL BOX
STA. 167+29.53
35.9' RT.

BD-2, LIGHT POLE
STA. 3+38.00 15.0' LT.

BARRIER BOX
STA. 167+91.31
54.7' RT.

BD-4, WELL LIGHT
STA. 168+06.67 42.15' RT.

BD-6, LIGHT POLE
STA. 168+21.73 35.58' RT.

BD-5, WELL LIGHT
STA. 168+21.27 42.74' RT.

SAVE(4)

SAVE

A BB-3, WELL LIGHT
STA. 167+75.55 44.79' LT.

B BB-4, WELL LIGHT
STA. 167+93.07 44.82' LT.

C BB-7, WELL LIGHT
STA. 168+45.75 42.74' LT.

D BB-8, WELL LIGHT
STA. 168+67.79 42.48' LT.

E BB-8, WELL LIGHT
STA. 168+86.41 41.94' LT.

LEGEND (THIS SHEET)
LIGHT POLE
BRICK PAVERS

NOTES:

1. FOR PAVERS AND TREE GRATE QUANTITIES SEE ROADWAY SUBSUMMARY SHEET 33-35.

2. FOR LANDSCAPE SUBSUMMARY SEE SHEET 120.

3. FOR LIGHTING SUBSUMMARY SEE SHEETS 118-120.

4. STUB UP CONDUITS 7" FROM POLE BASE. COIL 40' OF CONDUCTORS FOR CONTINUATION BY AEP.

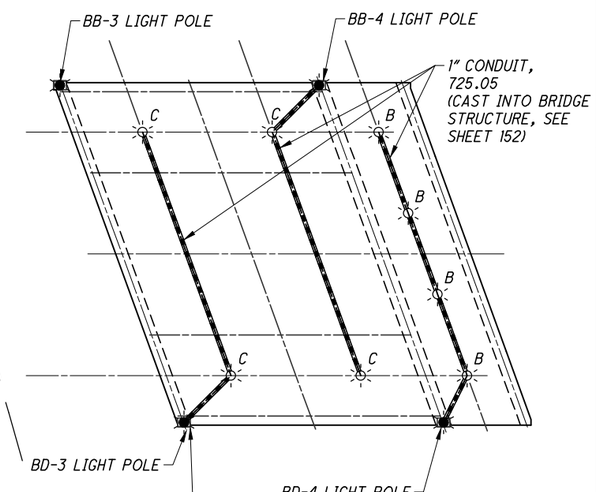
5. REMOVE EXISTING DIRECT BURIED FIBERGLASS LIGHT POLE IN ACCORDANCE WITH ODOT 625.21 (A) AND (B). REMOVE FEEDER CONDUCTORS FROM EXISTING CONDUIT, CUT OFF EXISTING CONDUIT BELOW GRADE AND ABANDON IN PLACE. RE-INSTALL POLES TO ORIGINAL DEPTH IN NEW LOCATIONS SHOWN. SWEEP NEW CONDUITS TO POINT ABOVE GRADE WITHIN POLES. INSTALL FUSES TO MATCH EXISTING AND RE-CONNECT TO EXISTING CIRUCIT

6. PROVIDE HAND HOLE TO INTERRUPT EXISTING LIGHTING CONDUIT. ROUTE NEW CONDUIT FROM HANDHOLE TO RELOCATED POLES. PROVIDE NEW CONDUCTORS FROM EXISTING LIGHT POLE TO RELOCATED POLES WITH NO TAPS OR SPLICES BELOW GRADE.

7. TEMPORARILY ENERGIZE WELL LIGHTS WHILE SETTING ON GRADE, PRIOR TO EXCAVATION. COORDINATE LIGHT AIMING TEST AFTER DUSK WITH CITY OF CANTON REPRESENTATIVE TO SET FINAL LOCATIONS IN THE FIELD.

8. TAP 240V POLE CIRCUIT DOWNSTREAM OF FUSES IN POLE BASE TO POWER ADJACENT WELL LIGHTING. ROUTE CONDUCTORS IN LIGHTING CONDUIT TO NEAREST PULL BOX OR POLE BASE THEN CONTINUE IN DEDICATED CONDUIT.

PROPOSED SHORTGRASS AND
WILDFLOWER MIX LANDSCAPE, SEE SHEET
129 FOR DETAILS



TAP CIRCUIT DOWNSTREAM OF
FUSES IN POLE BASE TO FEED
UNDER BRIDGE LIGHTING, TYP.

UNDER - BRIDGE LIGHTING KEY

SEE BRIDGE SHEET 152 FOR ADDITIONAL DETAILS.

N

0 10 20 40
HORIZONTAL
SCALE IN FEET

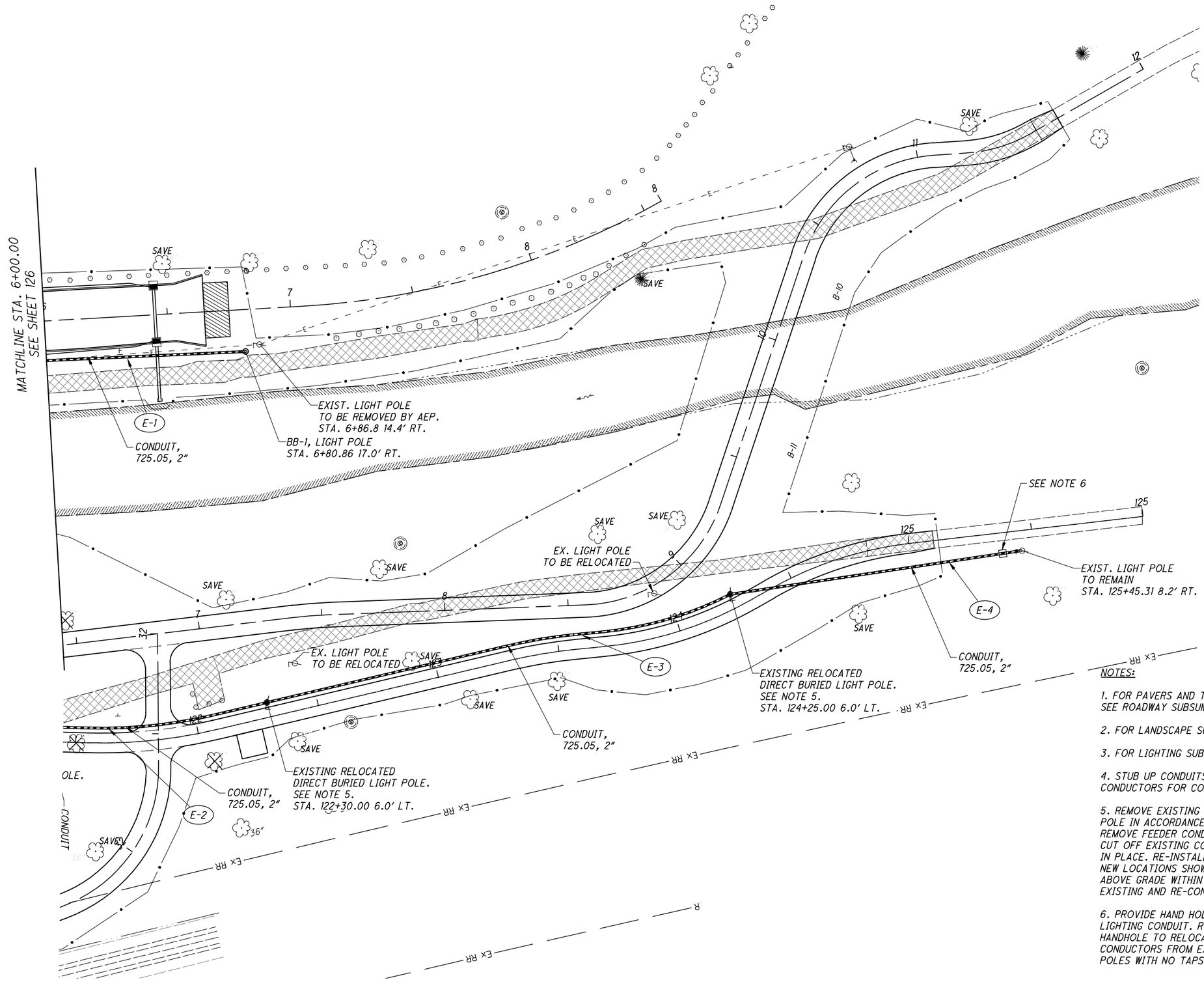
CALCULATED BRO
CHECKED DRG

LIGHTING AND LANDSCAPING PLAN
STA. 167+00.00 TO STA. 71+50

STA - 12TH STREET
IMPROVEMENTS

126
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LP01.dwg 31-Aug-16 5:46 PM



NOTES:

1. FOR PAVERS AND TREE GRATE QUANTITIES SEE ROADWAY SUBSUMMARY SHEET 33-35.

2. FOR LANDSCAPE SUBSUMMARY SEE SHEET 120.

3. FOR LIGHTING SUBSUMMARY SEE SHEETS 118-120.

4. STUB UP CONDUITS 7" FROM POLE BASE. COIL 40' OF CONDUCTORS FOR CONTINUATION BY AEP.

5. REMOVE EXISTING DIRECT BURIED FIBERGLASS LIGHT POLE IN ACCORDANCE WITH ODOT 625.21 (A) AND (B). REMOVE FEEDER CONDUCTORS FROM EXISTING CONDUIT, CUT OFF EXISTING CONDUIT BELOW GRADE AND ABANDON IN PLACE. RE-INSTALL POLES TO ORIGINAL DEPTH IN NEW LOCATIONS SHOWN. SWEEP NEW CONDUITS TO POINT ABOVE GRADE WITHIN POLES. INSTALL FUSES TO MATCH EXISTING AND RE-CONNECT TO EXISTING CIRUCIT

6. PROVIDE HAND HOLE TO INTERRUPT EXISTING LIGHTING CONDUIT. ROUTE NEW CONDUIT FROM HANDHOLE TO RELOCATED POLES. PROVIDE NEW CONDUCTORS FROM EXISTING LIGHT POLE TO RELOCATED POLES WITH NO TAPS OR SPLICES BELOW GRADE.

N

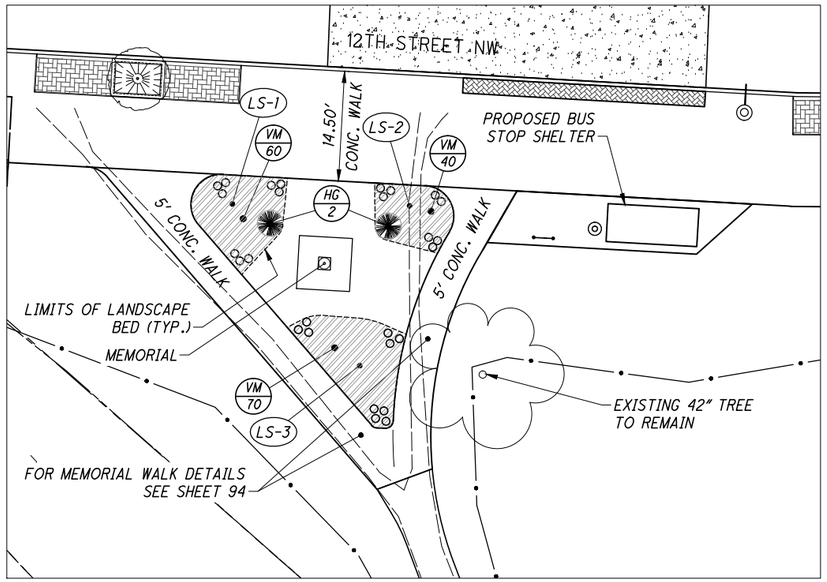
0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED BRO
CHECKED DRG

LIGHTING AND LANDSCAPING PLAN
STADIUM PARK DR. & TRAILS (NORTH)

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LP01.dwg 01-Sep-16 12:38 PM



LEGEND

HG - HAMELN GRASS

VM - VINCA MINOR AND MULCHED BED

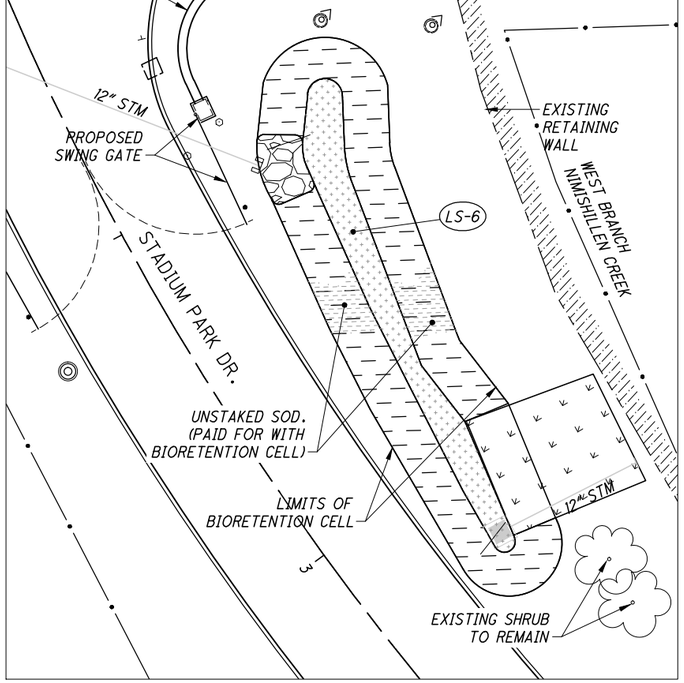
659, SEEDING AND MULCHING, AS PER PLAN (SHORTGRASS AND WILDFLOWER MIX)

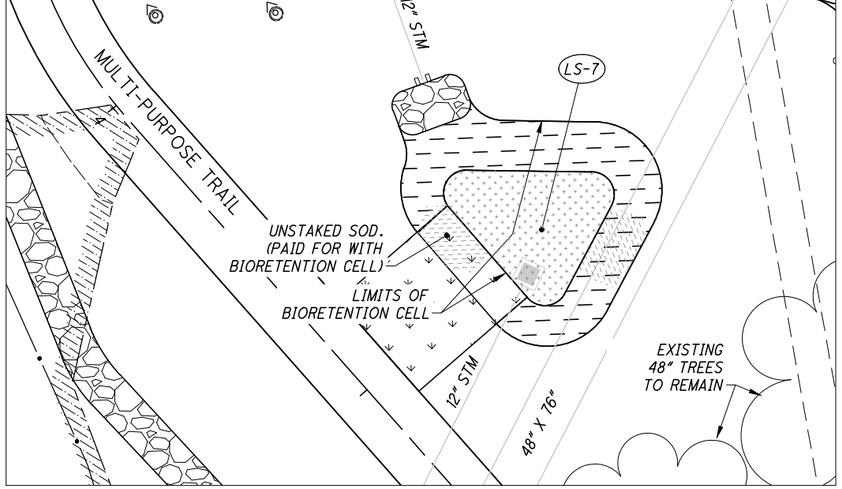
WH 3 — PLANT ABBREVIATION / QUANTITY

LS-# LANDSCAPE BED

NOTES

1. ALL PLANTINGS SHALL BE IN ACCORDANCE WITH ODOT CMS 661. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLANTINGS, ESTABLISHMENT, WATERING, AND REPLACEMENT PLANTS TO THE SATISFACTION OF THE ENGINEER UP TO FINAL ACCEPTANCE. BACKFILL MIX AND LANDSCAPE WATERING SHALL BE INCLUDED WITH ITEM 661 AND NO ADDITIONAL PAYMENT SHALL BE MADE.
2. LANDSCAPE MULCH ACCORDING TO ODOT CMS 661 SHALL BE PROVIDED FOR THE PLANTING BEDS CONTAINING THE VINCA MINOR GROUND COVER.
3. DISTURBED GRADED AREAS THAT ARE NOT DESIGNATED FOR LANDSCAPING (BEDS, STONE WALL, SHORTGRASS/WILDFLOWER MIX) AS SHOWN IN THESE PLANS SHALL BE SEEDED AND MULCHED ACCORDING TO ITEM 659.
4. REFER TO SHEET 102 FOR BIORETENTION CELL DETAILS AND NOTES.
5. SEEDING WITHIN THE AREA OF THE BIORETENTION CELL. THE INTERIOR BOTTOM OF THE BIORETENTION CELL SHALL BE PLANTED WITH ITEM 659, SEEDING AND MULCHING, AS PER PLAN (SHORTGRASS AND WILDFLOWER MIX). EROSION CONTROL MAT, TYPE B SHALL BE INSTALLED IN THE SEEDED AREA OF THE BIORETENTION CELL. QUANTITIES FOR THE SEEDING AND MULCHING, AS PER PLAN AND EROSION CONTROL MAT, HAVE BEEN PROVIDED ON SHEET 121. FERTILIZER SHALL NOT BE APPLIED TO THE SEEDING WITHIN THE BIORETENTION CELL. THE SOIL MATERIALS SHALL BE PROVIDED UNDER THE DETAILS OF THE BIORETENTION CELL AND NO ADDITIONAL LANDSCAPE TOPSOIL SHALL BE REQUIRED.
6. STREETSCAPING TREES SHALL BE IN ACCORDANCE WITH ODOT CMS 661 AND CITY OF CANTON STANDARD NO. 43. ALL MATERIALS, LABOR, AND EQUIPMENT TO INSTALL COMPLETE THE TREES SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE FOR ITEM 661, DECIDUOUS TREE, 2" CAL. (SPECIES).
7. FOR LANDSCAPING SUBSUMMARY, SEE SHEET 121.





SYMBOL	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	HT.	NOTES
VM	VINCA MINOR	DWARF PERIWINKLE	18" O.C.	4" POT	15"	
HG	PENNISETUM ALOPECUROIDES	HAMELN FOUNTAIN GRASS	36" O.C.	1 GAL	24"	FULL

N

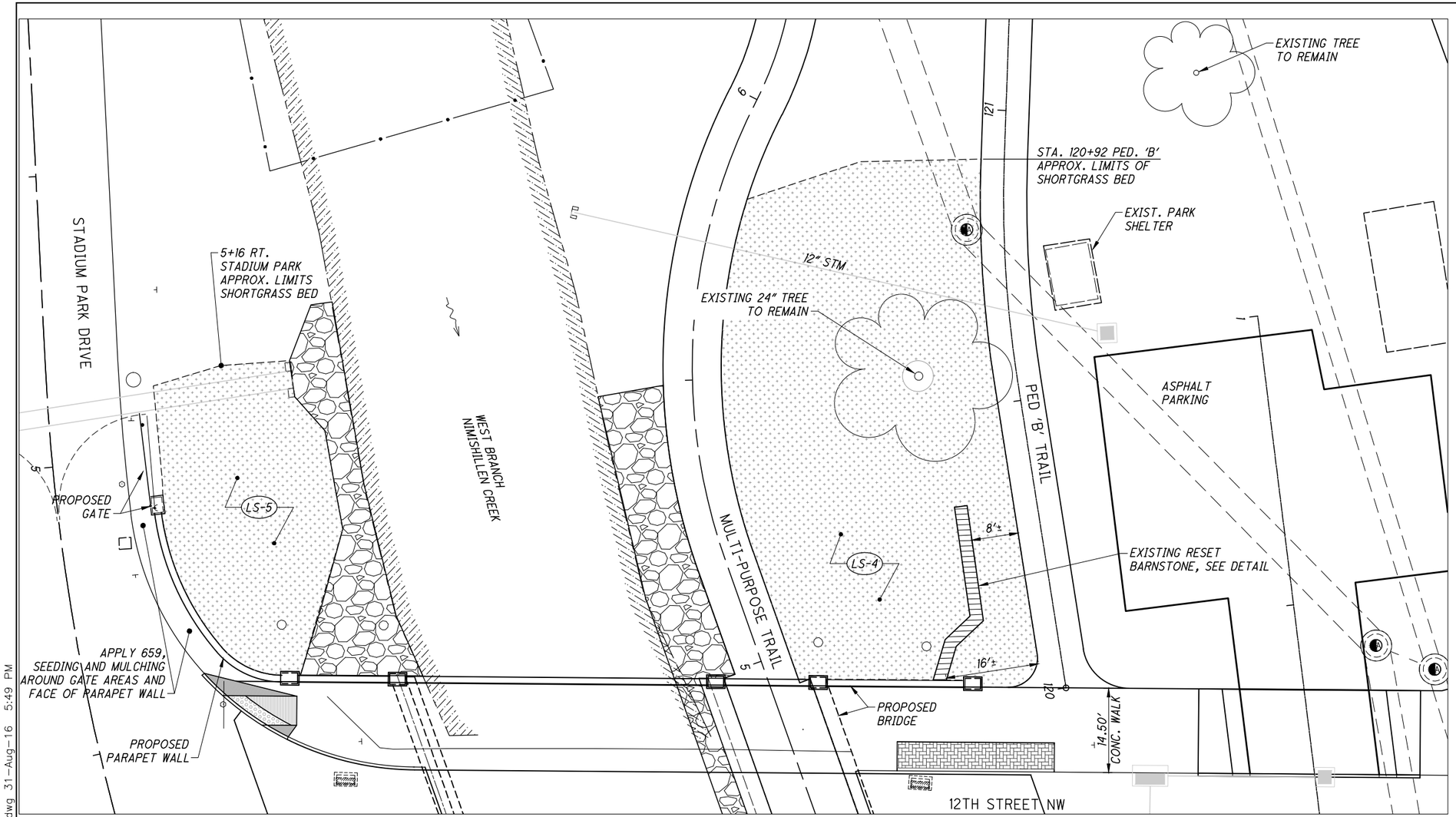
HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED MAL
CHECKED AHS

LANDSCAPING PLAN

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671PD01.dwg 31-Aug-16 5:49 PM



LEGEND

- HG - HAMELN GRASS
- VM - VINCA MINOR AND MULCHED BED
- 659, SEEDING AND MULCHING, AS PER PLAN (SHORTGRASS AND WILDFLOWER MIX)
- WH / 3 — PLANT ABBREVIATION / QUANTITY
- LS-# — LANDSCAPE BED

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN

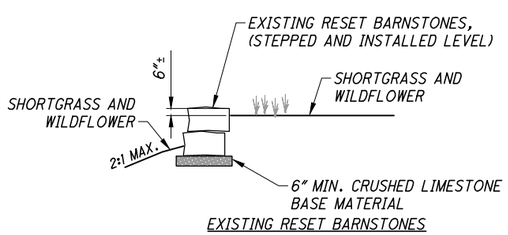
AT THE LOCATIONS DESIGNATED IN THE PLANS, A SEED MIXTURE OF NATIVE SHORTGRASS AND MIDWEST WILDFLOWER MIX SHALL BE SOWN. ALL PROVISIONS OF ODOT CMS 659 SHALL APPLY WITH THE FOLLOWING AMENDMENTS AND REVISIONS:

A CLEAR BOUNDARY OF THE LIMITS OF THE SHORTGRASS-WILDFLOWER SEEDING SHALL BE DEFINED IN THE FIELD AND REMAIN IN PLACE UNTIL THE VEGETATION BEGINS TO BE ESTABLISHED. OVERLAPPING IN THE APPLICATIONS OF THE TRADITIONAL SEEDING AND SHORTGRASS-WILDFLOWER SEEDING SHOULD BE AVOIDED. FERTILIZER, RATES AND METHODS OF SEEDING AND MULCHING, AND WATERING SHALL BE PER SEED DISTRIBUTOR'S RECOMMENDATIONS. NO MOWING WILL BE PERFORMED ON THE SHORTGRASS-WILDFLOWER AREAS. THE CONTRACTOR SHALL MAINTAIN, AND REPAIR ANY DAMAGED OR ERODED AREAS BEFORE COMPLETION OF PROJECT. FERTILIZER, MULCHING, WATERING, AND REPAIR SEEDING SHALL BE INCLUDED IN THE COST OF ITEM-SEEDING AND MULCHING, AS PER PLAN.

THE NATIVE SHORTGRASS AND WILDFLOWER MIXTURE SHALL BE A TYPE AND BLEND AS PROVIDED BY THE DISTRIBUTOR BELOW OR APPROVED EQUAL:

APPLEWOOD SEED COMPANY
5380 VIVIAN STREET
ARVADA, COLORADO 80002
(303) 431-7333

ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS TO COMPLETE THE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE PER SQUARE YARD OF ITEM 659 - SEEDING AND MULCHING, AS PER PLAN.



EXISTING RESET BARNSTONES

REFER TO GENERAL NOTE, SHEET 11 FOR ADDITIONAL INFORMATION.

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED MAL
CHECKED AHS

LANDSCAPING PLAN

STA - 12TH STREET IMPROVEMENTS

129
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671PD01.dwg 31-Aug-16 5:49 PM

VOLTAGE DROP CALCULATIONS

VOLTAGE: 240 WIRE FACTOR USED (THREE - NO. 6 AWG WIRES) 0.516 ohms/mft/1000 CIRCUIT: A

VOLTAGE DROP (IN SECTION) = AMPS IN & BEYOND SECTION X SECTION LENGTH X WIRE FACTOR

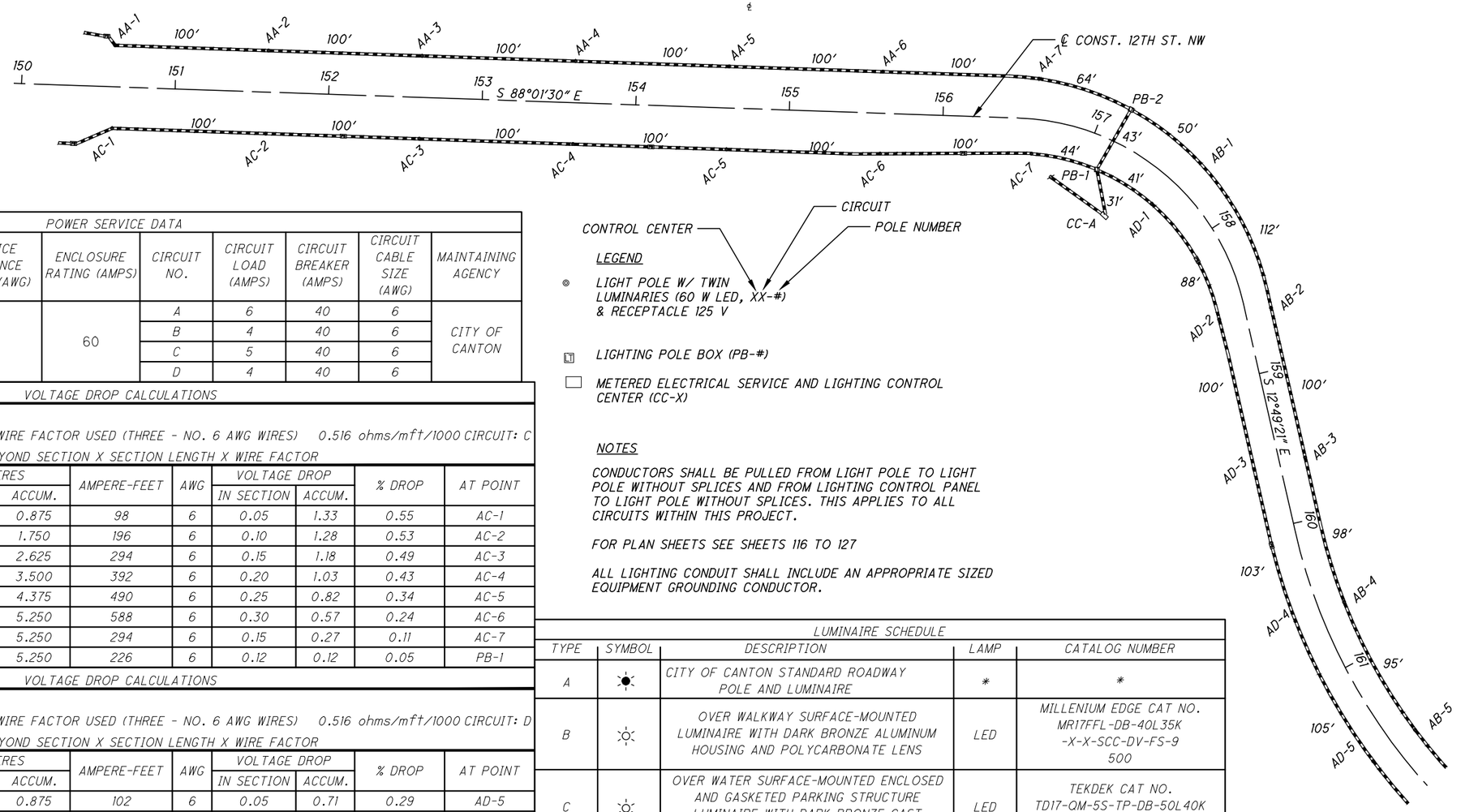
SECTION			AMPERES		AMPERE-FEET	AWG	VOLTAGE DROP		% DROP	AT POINT
FROM	TO	FEET	AT POINT	ACCUM.			IN SECTION	ACCUM.		
AA-1	AA-2	112	0.875	0.875	98	6	0.05	1.31	0.55	AA-1
AA-2	AA-3	112	0.875	1.750	196	6	0.10	1.26	0.52	AA-2
AA-3	AA-4	112	0.875	2.625	294	6	0.15	1.16	0.48	AA-3
AA-4	AA-5	112	0.875	3.500	392	6	0.20	1.01	0.42	AA-4
AA-5	AA-6	112	0.875	4.375	490	6	0.25	0.80	0.33	AA-5
AA-6	AA-7	112	0.875	5.250	588	6	0.30	0.61	0.26	AA-6
AA-7	PB-2	76	0.875	6.125	466	6	0.24	0.55	0.23	AA-7
PB-2	PB-1	55	0	6.125	337	6	0.17	0.31	0.13	PB-2
PB-1	CC-A	43	0	6.125	263	6	0.14	0.14	0.06	PB-1

VOLTAGE DROP CALCULATIONS

VOLTAGE: 240 WIRE FACTOR USED (THREE - NO. 6 AWG WIRES) 0.516 ohms/mft/1000 CIRCUIT: B

VOLTAGE DROP (IN SECTION) = AMPS IN & BEYOND SECTION X SECTION LENGTH X WIRE FACTOR

SECTION			AMPERES		AMPERE-FEET	AWG	VOLTAGE DROP		% DROP	AT POINT
FROM	TO	FEET	AT POINT	ACCUM.			IN SECTION	ACCUM.		
AB-5	AB-4	107	0.875	0.875	94	6	0.05	0.88	0.37	AB-5
AB-4	AB-3	110	0.875	1.750	193	6	0.10	0.84	0.35	AB-4
AB-3	AB-2	112	0.875	2.625	294	6	0.15	0.74	0.31	AB-3
AB-2	AB-1	124	0.875	3.500	434	6	0.22	0.59	0.24	AB-2
AB-1	PB-2	62	0.875	4.375	271	6	0.14	0.36	0.15	AB-1
PB-2	PB-1	55	0	4.375	241	6	0.12	0.22	0.09	PB-2
PB-1	CC-A	43	0	4.375	188	6	0.10	0.10	0.04	PB-1



POWER SERVICE DATA

POWER SERVICE	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CABLE (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT BREAKER (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
PS-A	240	4.56	#1	60	A	6	40	6	CITY OF CANTON
					B	4	40	6	
					C	5	40	6	
					D	4	40	6	

VOLTAGE DROP CALCULATIONS

VOLTAGE: 240 WIRE FACTOR USED (THREE - NO. 6 AWG WIRES) 0.516 ohms/mft/1000 CIRCUIT: C

VOLTAGE DROP (IN SECTION) = AMPS IN & BEYOND SECTION X SECTION LENGTH X WIRE FACTOR

SECTION			AMPERES		AMPERE-FEET	AWG	VOLTAGE DROP		% DROP	AT POINT
FROM	TO	FEET	AT POINT	ACCUM.			IN SECTION	ACCUM.		
AC-1	AC-2	112	0.875	0.875	98	6	0.05	1.33	0.55	AC-1
AC-2	AC-3	112	0.875	1.750	196	6	0.10	1.28	0.53	AC-2
AC-3	AC-4	112	0.875	2.625	294	6	0.15	1.18	0.49	AC-3
AC-4	AC-5	112	0.875	3.500	392	6	0.20	1.03	0.43	AC-4
AC-5	AC-6	112	0.875	4.375	490	6	0.25	0.82	0.34	AC-5
AC-6	AC-7	112	0.875	5.250	588	6	0.30	0.57	0.24	AC-6
AC-7	PB-1	56	0	5.250	294	6	0.15	0.27	0.11	AC-7
PB-1	CC-A	43	0	5.250	226	6	0.12	0.12	0.05	PB-1

VOLTAGE DROP CALCULATIONS

VOLTAGE: 240 WIRE FACTOR USED (THREE - NO. 6 AWG WIRES) 0.516 ohms/mft/1000 CIRCUIT: D

VOLTAGE DROP (IN SECTION) = AMPS IN & BEYOND SECTION X SECTION LENGTH X WIRE FACTOR

SECTION			AMPERES		AMPERE-FEET	AWG	VOLTAGE DROP		% DROP	AT POINT
FROM	TO	FEET	AT POINT	ACCUM.			IN SECTION	ACCUM.		
AD-5	AD-4	117	0.875	0.875	102	6	0.05	0.71	0.29	AD-5
AD-4	AD-3	115	0.875	1.750	201	6	0.10	0.65	0.27	AD-4
AD-3	AD-2	112	0.875	2.625	294	6	0.15	0.55	0.23	AD-3
AD-2	AD-1	100	0.875	3.500	350	6	0.18	0.40	0.17	AD-2
AD-1	PB-1	53	0.875	4.375	232	6	0.12	0.22	0.09	AD-1
PB-1	CC-A	43	0	4.375	188	6	0.10	0.10	0.04	PB-1

LEGEND

◎ LIGHT POLE W/ TWIN LUMINARIES (60 W LED, XX-#) & RECEPTACLE 125 V

LIGHTING POLE BOX (PB-#)

METERED ELECTRICAL SERVICE AND LIGHTING CONTROL CENTER (CC-X)

NOTES

CONDUCTORS SHALL BE PULLED FROM LIGHT POLE TO LIGHT POLE WITHOUT SPLICES AND FROM LIGHTING CONTROL PANEL TO LIGHT POLE WITHOUT SPLICES. THIS APPLIES TO ALL CIRCUITS WITHIN THIS PROJECT.

FOR PLAN SHEETS SEE SHEETS 116 TO 127

ALL LIGHTING CONDUIT SHALL INCLUDE AN APPROPRIATE SIZED EQUIPMENT GROUNDING CONDUCTOR.

LUMINAIRE SCHEDULE

TYPE	SYMBOL	DESCRIPTION	LAMP	CATALOG NUMBER
A	☀	CITY OF CANTON STANDARD ROADWAY POLE AND LUMINAIRE	*	*
B	☼	OVER WALKWAY SURFACE-MOUNTED LUMINAIRE WITH DARK BRONZE ALUMINUM HOUSING AND POLYCARBONATE LENS	LED	MILLENIUM EDGE CAT NO. MR17FFL-DB-40L35K -X-X-SCC-DV-FS-9 500
C	☼	OVER WATER SURFACE-MOUNTED ENCLOSED AND GASKETED PARKING STRUCTURE LUMINAIRE WITH DARK BRONZE CAST ALUMINUM HOUSING.	LED	TEKDEK CAT NO. TD17-QM-5S-TP-DB-50L40K -DV-FS-BG
D		13" PROGRAMMABLE RGBW LED IN-GRADE WELL LIGHT WITH EYEBALL FRAME, IP68 WATERPROOF HOUSING AND MANUFACTURER'S REBAR SUPPORT	LED	KIM CAT NO. LTV81EBNF 12L/RGBWUV PL/RCA81

* SEE 'LIGHTING DETAILS' SHEET FOR DETAILS

HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED BRO CHECKED DRG

LIGHTING CIRCUIT DIAGRAM
STA. 150+10.00 TO STA. 162+00.00

STA - 12TH STREET IMPROVEMENTS

130
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LD01.dwg 01-Sep-16 12:40 PM

VOLTAGE DROP CALCULATIONS

VOLTAGE: 240 WIRE FACTOR USED (THREE - NO. 6 AWG WIRES) 0.516 ohms/mft/1000 CIRCUIT: A

VOLTAGE DROP (IN SECTION) = AMPS IN & BEYOND SECTION X SECTION LENGTH X WIRE FACTOR

SECTION			AMPERES		AMPERE-FEET	AWG	VOLTAGE DROP		% DROP	AT POINT
FROM	TO	FEET	AT POINT	ACCUM.			IN SECTION	ACCUM.		
BA-1	BA-2	104	0.875	0.875	91	6	0.05	1.79	0.74	BA-1
BA-2	BA-3	155	0.875	1.750	271	6	0.14	1.74	0.72	BA-2
BA-3	BA-4	101	0.875	2.625	265	6	0.14	1.60	0.67	BA-3
BA-4	BA-5	117	0.875	3.500	410	6	0.21	1.46	0.61	BA-4
BA-5	PB-4	391	0.875	4.375	1711	6	0.88	1.25	0.52	BA-5
PB-4	PB-3	58	0	4.375	254	6	0.13	0.37	0.15	PB-4
PB-3	PB-5	85	0	4.375	372	6	0.19	0.24	0.10	PB-3
PB-5	CC-B	20	0	4.375	88	6	0.05	0.05	0.02	PB-5

VOLTAGE DROP CALCULATIONS

VOLTAGE: 240 WIRE FACTOR USED (THREE - NO. 6 AWG WIRES) 0.516 ohms/mft/1000 CIRCUIT: C

VOLTAGE DROP (IN SECTION) = AMPS IN & BEYOND SECTION X SECTION LENGTH X WIRE FACTOR

SECTION			AMPERES		AMPERE-FEET	AWG	VOLTAGE DROP		% DROP	AT POINT
FROM	TO	FEET	AT POINT	ACCUM.			IN SECTION	ACCUM.		
BC-1	BC-2	117	0.875	0.875	102	6	0.05	1.43	0.59	BC-1
BC-2	BC-3	138	0.875	1.750	242	6	0.12	1.37	0.57	BC-2
BC-3	BC-4	132	0.875	2.625	347	6	0.18	1.25	0.52	BC-3
BC-4	BC-5	117	0.875	3.500	410	6	0.21	1.07	0.45	BC-4
BC-5	PB-3	360	0.875	4.375	1575	6	0.81	0.86	0.36	BC-5
PB-5	CC-B	20	0	4.375	88	6	0.05	0.05	0.02	PB-5

POWER SERVICE DATA

POWER SERVICE	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CABLE (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT BREAKER (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
PS-B	240	4.08	#1	60	A	4	40	6	CITY OF CANTON
					B	5	40	6	
					C	4	40	6	
					D	4	40	6	

CONTROL CENTER — CIRCUIT — POLE NUMBER

LEGEND

◎ LIGHT POLE W/ TWIN LUMINARIES (60 W LED, XX-#) & RECEPTACLE 125 V

▣ LIGHTING POLE BOX (PB-#)

▭ METERED ELECTRICAL SERVICE AND LIGHTING CONTROL CENTER (CC-X)

NOTES

CONDUCTORS SHALL BE PULLED FROM LIGHT POLE TO LIGHT POLE WITHOUT SPLICES AND FROM LIGHTING CONTROL PANEL TO LIGHT POLE WITHOUT SPLICES. THIS APPLIES TO ALL CIRCUITS WITHIN THIS PROJECT.

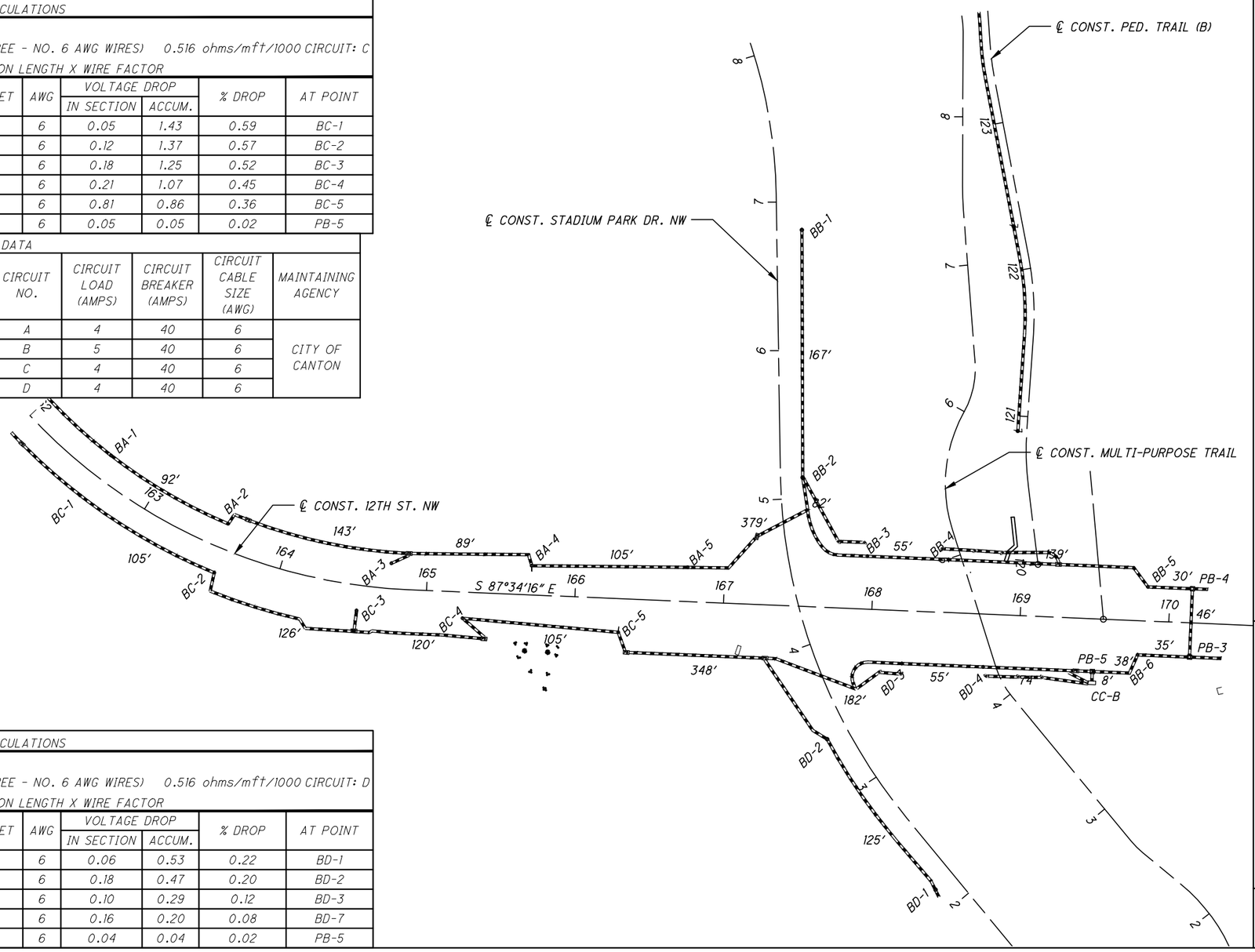
FOR PLAN SHEETS SEE SHEETS 116 TO 127

VOLTAGE DROP CALCULATIONS

VOLTAGE: 240 WIRE FACTOR USED (THREE - NO. 6 AWG WIRES) 0.516 ohms/mft/1000 CIRCUIT: B

VOLTAGE DROP (IN SECTION) = AMPS IN & BEYOND SECTION X SECTION LENGTH X WIRE FACTOR

SECTION			AMPERES		AMPERE-FEET	AWG	VOLTAGE DROP		% DROP	AT POINT
FROM	TO	FEET	AT POINT	ACCUM.			IN SECTION	ACCUM.		
BB-1	BB-2	179	0.875	0.875	157	6	0.08	1.11	0.46	BB-1
BB-2	BB-5	94	0.875	1.890	178	6	0.08	1.03	0.43	BB-2
BB-5	BB-6	67	0.875	2.765	185	6	0.10	0.94	0.39	BB-5
BB-6	BB-10	151	0.875	3.640	550	6	0.28	0.84	0.35	BB-6
BB-10	PB-4	42	1.085	4.725	198	6	0.10	0.56	0.23	BB-10
PB-4	PB-3	58	0	4.725	274	6	0.14	0.46	0.19	PB-4
PB-3	BB-11	47	0	4.725	222	6	0.11	0.32	0.13	PB-3
BB-11	PB-5	50	0.875	5.600	280	6	0.14	0.20	0.08	BB-11
PB-5	CC-B	20	0	5.600	112	6	0.06	0.06	0.02	PB-5



VOLTAGE DROP CALCULATIONS

VOLTAGE: 240 WIRE FACTOR USED (THREE - NO. 6 AWG WIRES) 0.516 ohms/mft/1000 CIRCUIT: D

VOLTAGE DROP (IN SECTION) = AMPS IN & BEYOND SECTION X SECTION LENGTH X WIRE FACTOR

SECTION			AMPERES		AMPERE-FEET	AWG	VOLTAGE DROP		% DROP	AT POINT
FROM	TO	FEET	AT POINT	ACCUM.			IN SECTION	ACCUM.		
BD-1	BD-2	137	0.875	0.875	120	6	0.06	0.53	0.22	BD-1
BD-2	BD-3	194	0.875	1.750	340	6	0.18	0.47	0.20	BD-2
BD-3	BD-7	67	1.015	2.765	185	6	0.10	0.29	0.12	BD-3
BD-7	PB-5	86	0.875	3.640	313	6	0.16	0.20	0.08	BD-7
PB-5	CC-B	20	0	3.640	73	6	0.04	0.04	0.02	PB-5

N

0 20 40 80 HORIZONTAL SCALE IN FEET

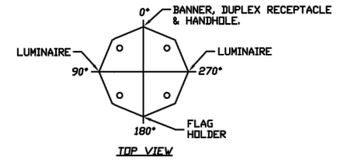
CALCULATED BRO CHECKED DRG

LIGHTING CIRCUIT DIAGRAM
STA. 162+00.00 TO STA. 170+37.70

STA - 12TH STREET IMPROVEMENTS

131
210

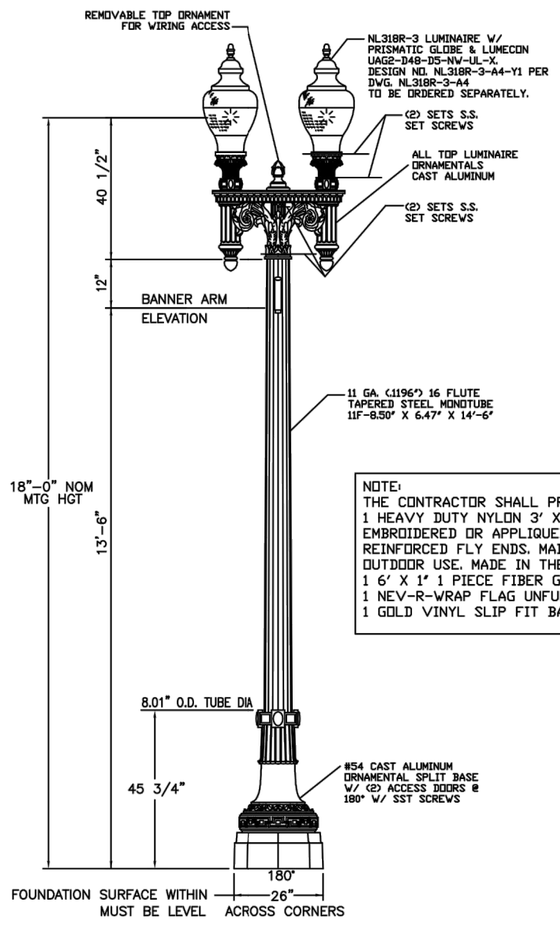
G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LD01.dwg 31-Aug-16 5:51 PM



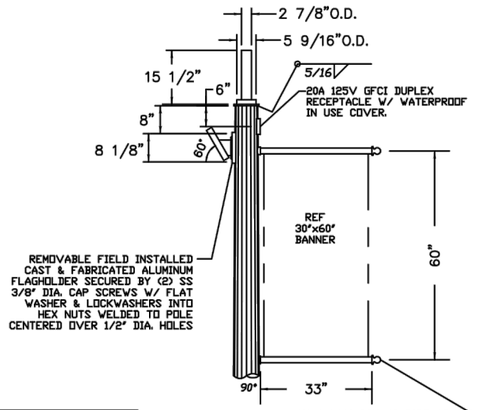
TOP VIEW

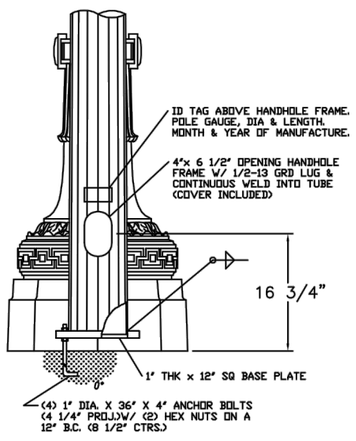
MATERIAL SPECIFICATIONS	
MONOTUBE	EQUAL TO ASTM-A595 GR A
PLATES	ASTM-A36
TUBING	ASTM-A513
PIPE	ASTM-A53 GRB, A501
ALUM CASTINGS	ASTM B26 356.0
HANDHOLE FRAME	ASTM-A529 GR50/A709 GR50
HANDHOLE COVER	C1010 STEEL
ALUM PLATE, PIPE	ASTM B209,210,221,241 6061, 6063
ANCHOR BOLTS	ASTM-F1554 GR55
ANCHOR BOLT NUTS	ASTM-A563 GRA
FLAT WASHERS	ASTM-F436
SST HARDWARE	AISI-300 SERIES (18-8)
HARDWARE FINISH	GALVANIZED ASTM-A153
STRUCTURE FINISH	GALVANIZED ASTM-A123
FINISH	POWDER OVER GALV. CANTON CBD GREEN

STRUCTURE DESIGNED IN ACCORDANCE WITH 1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY TRAFFIC SIGNS, LUMINAIRES & TRAFFIC SIGNALS FOR 90 MPH WIND ZONE.

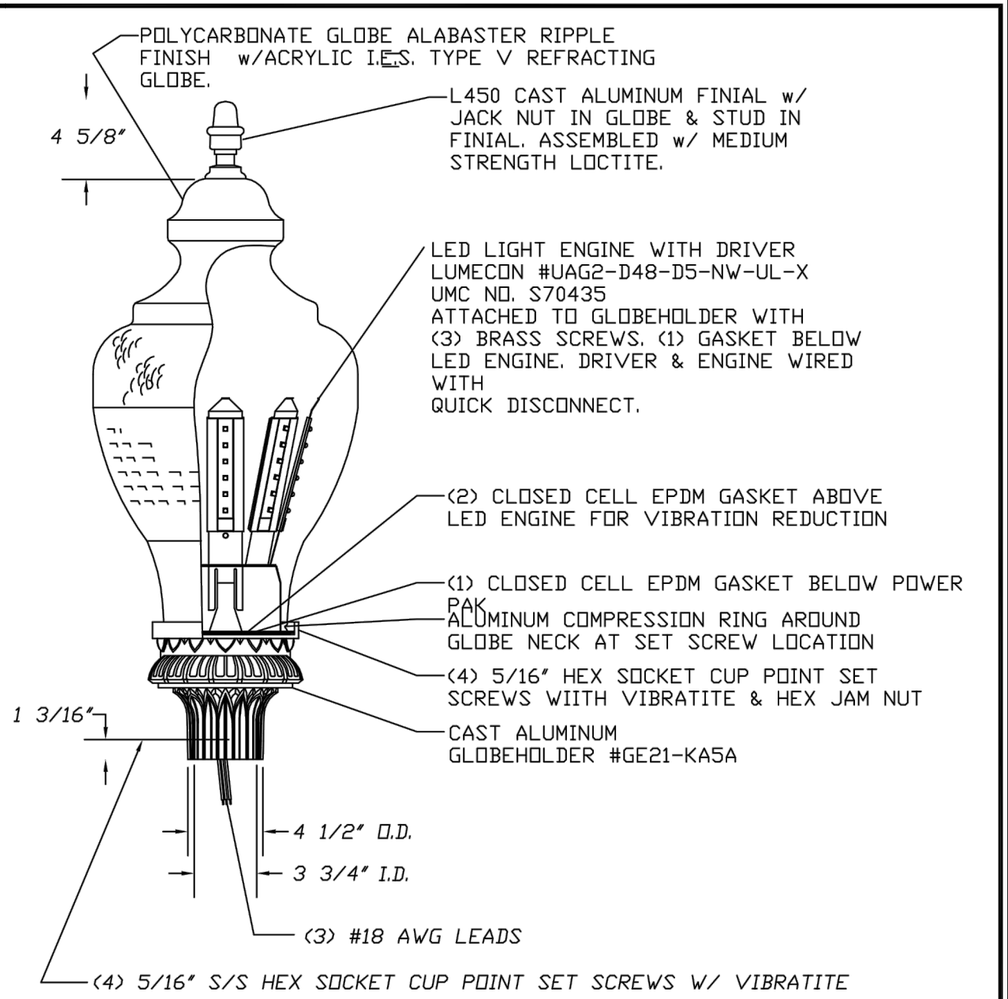


NOTE:
THE CONTRACTOR SHALL PROVIDE PER LIGHT POLE:
1 HEAVY DUTY NYLON 3' X 5' US FLAG CONSTRUCTED WITH EMBROIDERED OR APPLIQUED STARS, SEWN STRIPS AND REINFORCED FLY ENDS. MADE OF NYLON, MANUFACTURED FOR OUTDOOR USE. MADE IN THE USA.
1 6' X 1' 1 PIECE FIBER GLASS POLE.
1 NEV-R-WRAP FLAG UNFURLER THAT FITS 1" POLE DIAMETER.
1 GOLD VINYL SLIP FIT BALL THAT FITS 1" POLE DIAMETER.





NOTES:
1. HD GALV & POWDER COATED FINISH, CITY OF CANTON CBD GREEN.



NOTES:
1. GLOBEHOLDER & FINIAL POWDER COATED CITY OF CANTON CBD GREEN.
2. GLOBE STREET SIDE POSITIONED BETWEEN TWO LED BARS. STREET SIDE OF LUMINAIRE MARKED ON OUTSIDE OF GLOBEHOLDER.

REV	DESCRIPTION	DATE	REV BY	CHK BY
R1	5/16" SET SCREWS WAS 1/4". VIBRATITE WAS NYLOCK	3/10/15	MB	MB

STATE: OHIO | REQ# / SO# : NOH54053
PROJECT NAME:
REVISIONS
DESIGN_NUMBER_B2473-54-B37-Y1

This document and the contents herein are proprietary and the property of Union Metal Corporation. This document is not to be, copied, reproduced, or used for any reason except for the purposes which it was issued without the express written consent of Union Metal Corporation. Furthermore Union Metal Corporation reserves the right to recall this document and all copies at any time for any reason.

DESIGNED BY	CHECKED BY	DATE	SCALE	ENG REF
DGNR	EXXX	DATE	NONE	N2473-54-B35
N2473-54-B37			REVISION REV	SHEET SHT OF SHTS

STATE: OHIO | REQ# / SO# : NOH54508
PROJECT NAME:
REVISIONS
NOSTALGIA_LUMINAIRE_NL318R_WITH_LED_&_GE21_KA5A_GLOBEHOLDER
DESIGN_NUMBER_NL318R-3-A4-Y1

This document and the contents herein are proprietary and the property of Union Metal Corporation. This document is not to be, copied, reproduced, or used for any reason except for the purposes which it was issued without the express written consent of Union Metal Corporation. Furthermore Union Metal Corporation reserves the right to recall this document and all copies at any time for any reason.

DESIGNED BY	CHECKED BY	DATE	SCALE	ENG REF
DGNR	EXXX	DATE	NONE	NL318R-3-A3
NL318R-3-A4			REVISION REV	SHEET SHT OF SHTS

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 : 330-489-3381 : www.cantonohio.gov/engineering

APPROVED DATE: MARCH 2014
APPROVED BY: EEM
DRAWING FILE NAME: **ce_61-65_LIGHTPOLES.dwg**

REVISIONS

DESCRIPTION	DATE	BY
INSERTED UM DRAWINGS	4/17/15	EGM
N2473-54-B37 & NL318R-3-A4		

STANDARD DRAWING NO. 63
NOSTALGIA LIGHT POLE & LUMINAIRE
SHEET 3 OF 5

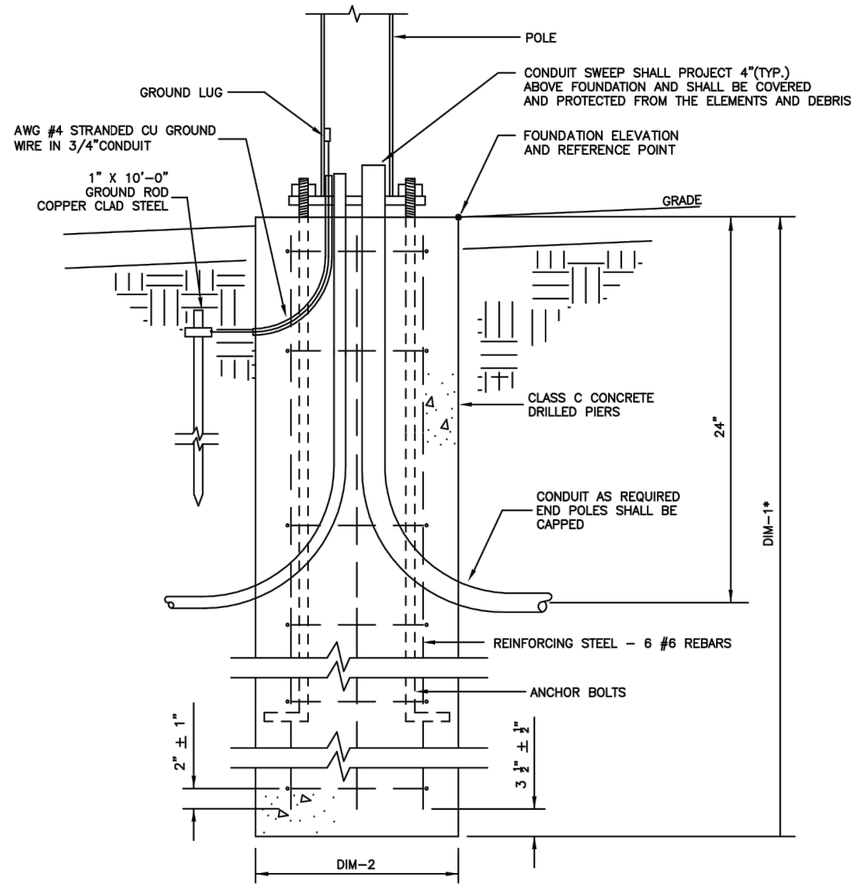
CALCULATED BRO | CHECKED DRG

LIGHTING DETAILS

STA - 12TH STREET IMPROVEMENTS

132
210

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LM01.dwg 31-Aug-16 5:51 PM



NOSTALGIC FOUNDATION DETAIL

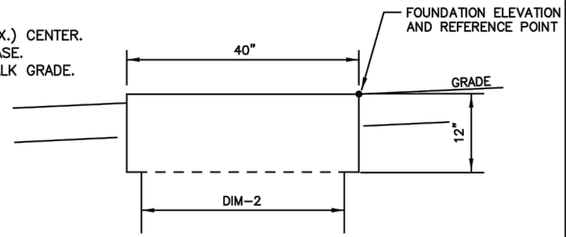
NO SCALE

NOTES:

1. ALL FOUNDATIONS SHALL BE DRILLED PIERS TO AVOID DISTURBING SURROUNDING SOIL. A TEMPORARY STEEL CASING MAY BE REQUIRED. IF UTILITIES OR ANOTHER CONFLICT IS IN CLOSE PROXIMITY TO THE FOUNDATION, THEN THOSE FOUNDATIONS MAY HAVE TO BE EXCAVATED BY HAND.
2. ANCHOR BOLT PATTERN SHALL BE PROVIDED BY POLE MANUFACTURER (U.M.C.).
3. REINFORCING STEEL SHALL BE ASSEMBLED IN CAGES USING #4 TIES AT 24" (MAX.) CENTER.
4. FOUNDATION TOP SHALL BE ROUND AND LEVEL TO ACCOMMODATE DECORATIVE BASE.
5. TOP OF FOUNDATION SHALL BE AT LEAST 1" ABOVE PROJECTED FINISHED SIDEWALK GRADE.

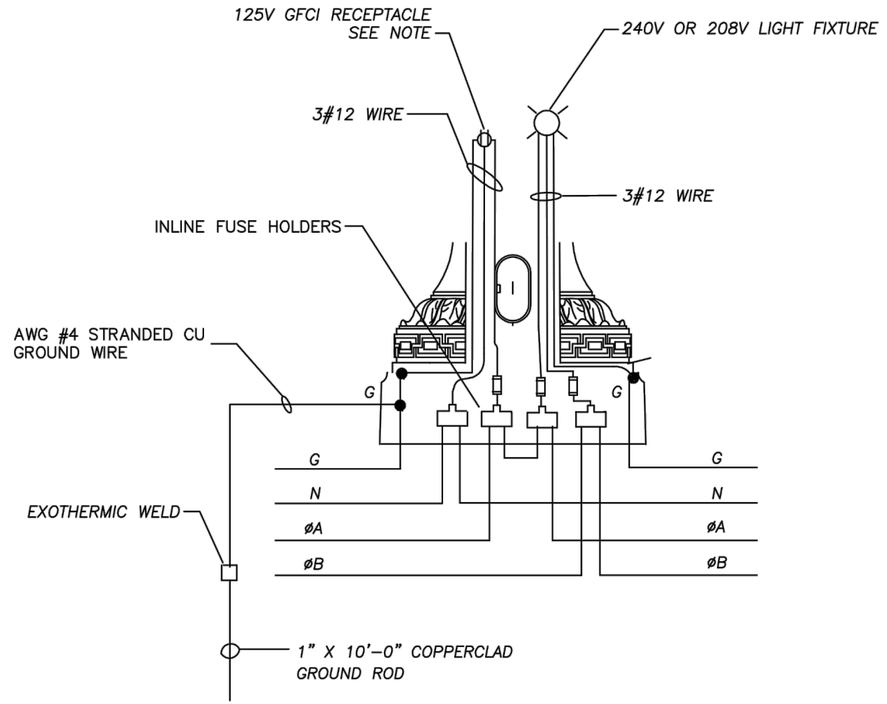
FOUNDATION	DIM-1*	DIM-2
SIGNAL (16" BOLT CIRCLE)	9'-0"	36"
SIGNAL (>16" BOLT CIRCLE)	11'-0"	36"
LUMINARIES	6'-0"	30"
PEDESTRIAN	4'-0"	24"

* MININUM DEPTH MAY VERY BASED ON SOIL CONDITION.



FOUNDATION CAP DETAIL

CAP FOR SIGNAL POLE WITH >16" BOLT CIRCLE. CAP IS NECESSARY TO ACCOMODATE DECORATIVE BASE.



POLE WIRING DIAGRAM

NO SCALE

NOTE:

1. THE COST FOR WIRING TO ALL NOSTALGIA LUMINARIES AND RECEPTACLES SHALL BE INCIDENTAL TO THE NOSTALGIA BID ITEMS. ALL WIRING IN POLES AND CONDUITS TO LIGHTS AND RECEPTACLES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

2. ALL WIRING INTO EACH NOSTALGIA POLE BASE SHALL BE NO. 6 AWG WIRE AND CONNECTED TO IN-LINE FUSE HOLDERS. THE COST FOR THIS WIRE SHALL BE INCIDENTAL TO THE NOSTALGIA BID ITEMS.

3. IN-LINE FUSE HOLDERS SHALL BE BUSSMAN (HEB-AW-RYC). INSTALL FUSES IN PHASE LINES AND SOLID LINK IN NEUTRAL (HET-AW-RYC) FOR GROUND USE SPLIT BOLT CONNECTOR. COPPER GROUND CABLE SHALL BE EXOTHERMICALLY WELDED TO THE GROUND ROD. RUN CABLE FREE END THROUGH 3/4" EMT AND CONNECTED AS SHOWN IN THE POLE WIRING DIAGRAM. THE COST FOR THE IN-LINE FUSE HOLDERS AND ALL RELATED ITEMS SHALL BE INCIDENTAL TO THE NOSTALGIA BID ITEMS.

4. THE POLE RECEPTACLE SHALL BE ALTERNATELY WIRED TO PHASE A AND PHASE B AS SHOWN IN THE POLE WIRING DIAGRAM.

5. FOR LIGHTS, USE 5 AMP FUSES. FOR RECEPTACLES, USE 10 AMP FUSES. AMP RATINGS SHALL BE BASED UPON 75 DEGREE C RATINGS.

6. UNLESS OTHERWISE NOTED IN THESE PLANS, ALL WIRING SHALL BE MINIMUM NO. 12 AWG, COPPER, 600 VOLT RATED WITH THE EXCEPTION OF NO. 14 AWG, COPPER SHALL BE PERMISSIBLE FOR CONTROL CIRCUITRY. THE FOLLOWING SHALL APPLY TO ALL WIRING:

A. ALL WIRING SHALL BE STRANDED "XHHN/XHWN".
B. UNDERGROUND BRANCH CIRCUIT WIRING SHALL BE "XHHW".

7. CONDUCTORS SHALL BE PULLED FROM LIGHT POLE TO LIGHT POLE AND FROM LIGHTING CONTROL PANEL TO LIGHT POLE WITHOUT SPLICES.

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 : 330-489-3381 : www.cantonohio.gov/engineering

APPROVED DATE: MARCH 2014

APPROVED BY: EEM

DRAWING FILE NAME: ce_61-65_LIGHTPOLES.dwg

REVISIONS

DESCRIPTION	DATE	BY
MODIFIED DIMS AND OTHER CHANGES	4/29/14	NJL

STANDARD DRAWING NO. 65

NOSTALGIC POLE FOUNDATION & WIRING DIAGRAM

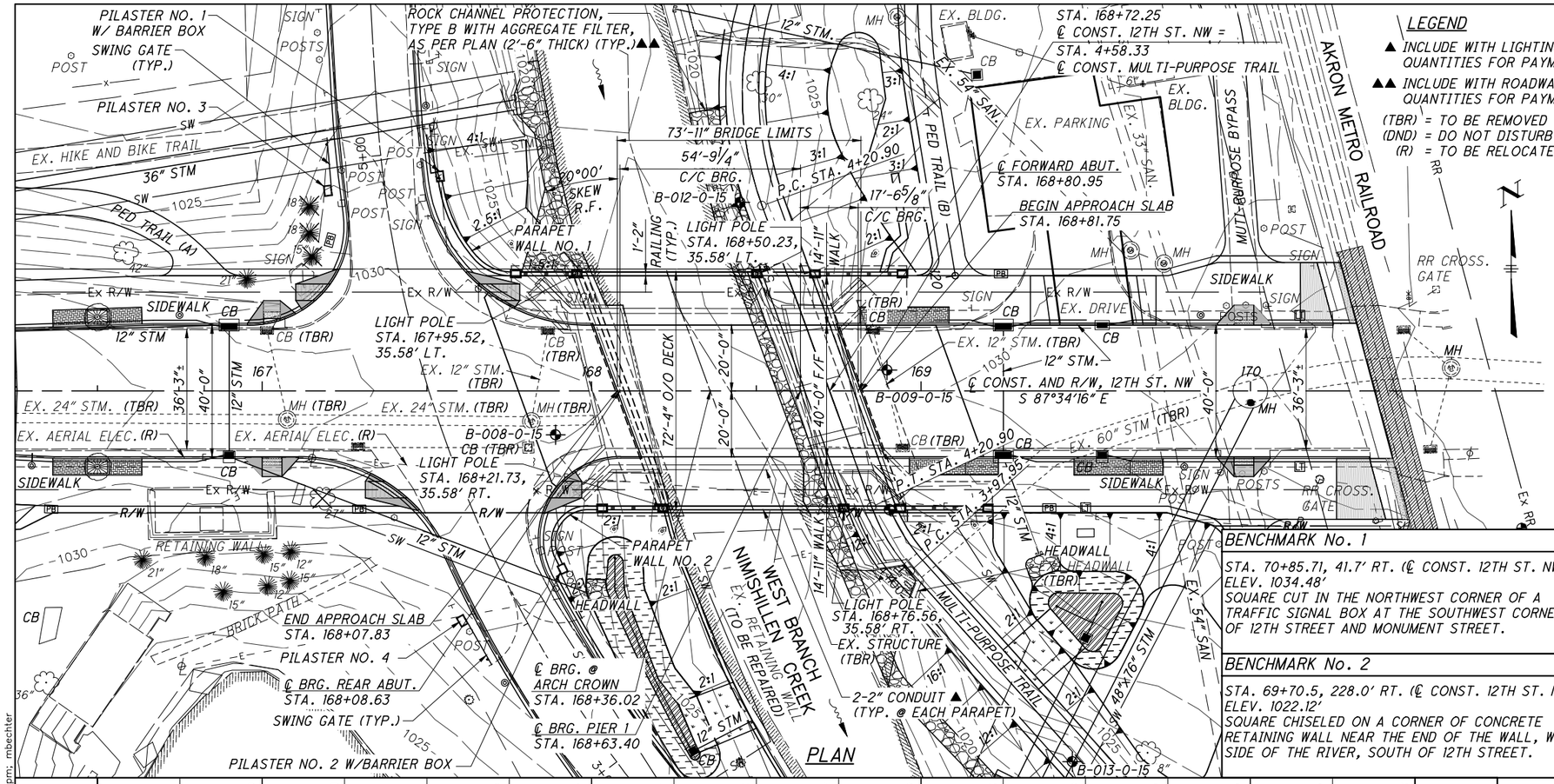
SHEET 5 OF 5

CALCULATED BRO CHECKED DRG

LIGHTING DETAILS

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\lighting\sheets\90671LM01.dwg 31-Aug-16 5:51 PM



PFOFILE ALONG ℄ CONSTRUCTION AND R/W

PLAN

LEGEND

▲ INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

▲▲ INCLUDE WITH ROADWAY QUANTITIES FOR PAYMENT

(TBR) = TO BE REMOVED
(DND) = DO NOT DISTURB
(R) = TO BE RELOCATED

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR STRUCTURAL GENERAL NOTES SEE SHEET 2 / 30.

   THE BOTTOM OF THE ARCH CLEARS THE DESIGN YEAR WATER SURFACE ELEVATION BY 1.49 FEET.
4. FOR PARAPET WALL AND SWING GATE DETAILS SEE SHEETS 24 / 30 THRU 27 / 30 .
5. FOR EXISTING RETAINING WALL REPAIR DETAILS SEE SHEET 28 / 30 .
6. FOR LIGHTING PLANS, SEE SHEETS 116 THRU 133 OF 210.

SOIL BORINGS

B-008-0-15, STA. 167+89, 13' RT., TOP ROCK EL. 1009.0
B-009-0-15, STA. 168+90, 6' LT., TOP ROCK EL. 1010.6
B-012-0-15, STA. 168+45, 57' LT., TOP ROCK EL. 1007.8
B-013-0-15, STA. 169+46, 113' RT., TOP ROCK EL. 1018.0

BENCHMARK No. 1

STA. 70+85.71, 41.7' RT. (℄ CONST. 12TH ST. NW)
ELEV. 1034.48'
SQUARE CUT IN THE NORTHWEST CORNER OF A TRAFFIC SIGNAL BOX AT THE SOUTHWEST CORNER OF 12TH STREET AND MONUMENT STREET.

BENCHMARK No. 2

STA. 69+70.5, 228.0' RT. (℄ CONST. 12TH ST. NW)
ELEV. 1022.12'
SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.

HYDRAULIC DATA

DRAINAGE AREA = 40.4 SQ. MILES
Q25 = 3,099 CFS
Q100 = 4,100 CFS
EX. : 25 YR. ELEV. = 1026.54, V = 10.11 FPS
EX. : 100 YR. ELEV. = 1028.18, V = 13.05 FPS
PROP. : 25 YR. ELEV. = 1026.25, V = 6.08 FPS
PROP. : 100 YR. ELEV. = 1027.43, V = 7.90 FPS
NORMAL WATER SURFACE ELEV. = 1016.8±

DESIGN DESIGNATION

CURRENT ADT (2015):	10,320
DESIGN ADT (2035):	10,690
DESIGN ADTT (2035):	428

EXISTING STRUCTURE

TYPE: EARTH-FILLED REINFORCED CONCRETE ARCH ON SPREAD FOOTINGS
SPAN: 50'-0"± F/F ARCH
ROADWAY: 36'-0"± TOE/TOE CURB WITH 5'-0"± SIDEWALKS
ALIGNMENT: TANGENT
SKEW: 13°00'00"± R.F.
WEARING SURFACE: 4"± BITUMINOUS ASPHALT CONCRETE
APPROACH SLABS: NONE
BUILT: JULY 1, 1929
CONDITION: POOR
STRUCTURE FILE NO.: 7631324

PROPOSED STRUCTURE

TYPE: TWO-SPAN CONTINUOUS CONCRETE SLAB WITH PRECAST CONCRETE ARCHES AND WALL TYPE ABUTMENTS/CAP AND COLUMN PIER ON SPREAD FOOTINGS

SPANS: 54'-9 1/4" AND 17'-6 5/8" C/C BRGS.
ROADWAY: 40'-0" TOE/TOE SIDEWALKS WITH TWO 14'-11" SIDEWALKS
ALIGNMENT: TANGENT
SKEW: 20° 00'00" R.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 30'-0" (AS-1-15)
LOADING: HL-93 AND FWS (60 P.S.F.)

CROWN: 0.016 FT./FT.
LONGITUDE: N 81° 23' 30"
LATITUDE: W 40° 48' 35"

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

STARK COUNTY
STA. 168+07.83
TO STA. 168+81.75

SITE PLAN

BRIDGE NO. STA M12TH CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

1 / 30

134 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA05115CSP001.dwg; 9/22/16 - 3:22pm; mbechter

STRUCTURAL GENERAL NOTES

REFER TO THE FOLLOWING STANDARD DRAWINGS

BRIDGE:
AS-1-15 REVISED 07-17-15

LIGHTING:
HL-20.14 DATED 01-16-15
HL-30.31 DATED 01-17-14
HL-50.21 DATED 07-15-16

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 7TH EDITION - 2014, INCLUDING THE 2015 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT^2

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI
(DECK, PARAPETS, ARCHES)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(ABUTMENT/WINGWALLS, FOOTINGS)
(PIER WALL, COLUMN, FOOTING)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

FOUNDATION BEARING RESISTANCE

ABUTMENT FOOTINGS AS DESIGNED PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 7.4 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 9.1 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 19.4 KIPS PER SQUARE FOOT.

FOOTINGS

FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE REMOVAL OF THE EXISTING BRIDGE AND PARTIAL REMOVAL OF THE EXISTING CONCRETE GRAVITY RETAINING WALL AT THE SOUTHWEST CORNER OF THE BRIDGE. FOR REMOVAL LIMITS OF EXISTING CONCRETE RETAINING WALL SEE SHEET 28 | 30 . DURING REMOVAL OF THE EXISTING STRUCTURE AND CONSTRUCTION OF THE NEW BRIDGE, EXTRA CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THE PORTION OF THE EXISTING CONCRETE RETAINING WALL (SOUTHWEST CORNER) THAT IS TO REMAIN.

PORTIONS OF THE FOOTINGS THAT ARE WITHIN THE FOOTPRINT OF THE NEW FOOTINGS SHALL BE REMOVED. BACKFILL AREAS BELOW THE PROPOSED FOOTING ELEVATIONS WITH CLASS QC1 CONCRETE.

THE EXISTING BRIDGE RAILING SHALL BE CAREFULLY DISMANTLED. THE SPINDLES ARE TO BE SALVAGED AND DELIVERED TO STARK COUNTY ENGINEER.

ITEM 517 - RAILING, MISC.: ORNAMENTAL RAILING

THIS WORK CONSISTS OF FURNISHING, CONSTRUCTING, COATING, AND ERECTING THE ORNAMENTAL RAILING ON THE BRIDGE PARAPETS, WINGWALLS, AND PIER. ALL RAILING COMPONENTS INCLUDING POSTS, BASE PLATES, RAILS, RAIL BRACKETS, PIPE RINGS, PICKETS, ANCHOR BOLTS, BUTTON HEAD BOLTS, AND OTHER HARDWARE SHALL BE INCLUDED WITH THIS ITEM. FOR DETAILS OF THE ORNAMENTAL RAILING, SEE SHEET 20 | 30 AND 21 | 30

MATERIALS:
POSTS, RAILS, PIPE RINGS - ASTM A500 GRADE B
PICKETS, BASE PLATES - ASTM A709, GRADE 50
ANCHOR BOLTS - ASTM A449
BUTTON HEAD BOLTS - ASTM A307

THE ORNAMENTAL RAILING SHALL BE GALVANIZED AND POWDER COATED IN ACCORDANCE WITH AAMA 2605. THE GALVANIZED SURFACES SHALL MEET SURFACE PREPARATION REQUIREMENTS OF ASTM D7803 PRIOR TO POWDER COATING. THE FINAL COLOR SHALL BE FEDERAL COLOR STANDARD NO. 595B-17038 (BLACK).

ITEM SPECIAL - STRUCTURE, MISC.: SWING GATE

THIS WORK CONSISTS OF FURNISHING, CONSTRUCTING, COATING, AND ERECTING THE SWING GATES. ALL SWING GATE COMPONENTS INCLUDING FRAME, PIPE RINGS, HINGES, ANCHOR BOLTS, ETC., SHALL BE INCLUDED WITH THIS ITEM. FOR DETAILS SEE SHEET 27 | 30 .

MATERIALS:
FRAME, PICKETS - ASTM A709 GRADE 50
PIPE RINGS - ASTM A500, GRADE B
ANCHOR BOLTS - ASTM A449

THE SWING GATES SHALL BE GALVANIZED AND POWDER COATED IN ACCORDANCE WITH AAMA 2605. THE GALVANIZED SURFACES SHALL MEET SURFACE PREPARATION REQUIREMENTS OF ASTM D7803 PRIOR TO POWDER COATING. THE FINAL COLOR SHALL BE FEDERAL COLOR STANDARD NO. 595B-17038 (BLACK).

ABBREVIATIONS

AGGR.	=	AGGREGATE
ABUT.	=	ABUTMENT
APPR.	=	APPROACH
BOTT.	=	BOTTOM
BRG.	=	BEARING
CLR.	=	CLEAR
CONST.	=	CONSTRUCTION
C.P.P.	=	CORRUGATED PLASTIC PIPE
E.F.	=	EACH FACE
EL.	=	ELEVATION
EQ.	=	EQUAL
EX.	=	EXISTING
F.F.	=	FAR FACE
FWD.	=	FORWARD
INV.	=	INVERT
LT.	=	LEFT
MIN.	=	MINIMUM
N.F.	=	NEAR FACE
O.H.W.M.	=	ORDINARY HIGH WATER MARK
P.E.J.F.	=	PREFORMED EXPANSION JOINT FILLER
RT.	=	RIGHT
SER.	=	SERIES
SPA.	=	SPACES
STA.	=	STA.
STM.	=	STORM
TYP.	=	TYPICAL

EMBANKMENT CONSTRUCTION

EMBANKMENT MATERIAL BETWEEN STATIONS 167+50 TO 169+50 SHALL BE PLACED UP TO ELEVATION 1017.35 PRIOR TO ERECTION OF THE ARCH RIBS. UPON COMPLETION OF THE ARCH CLOSURE POURS, EMBANKMENT MATERIAL SHALL BE PLACED UP TO ELEVATION 1021.08. PRIOR TO CONSTRUCTION OF THE DECK SLAB, THE REMAINING EMBANKMENT MATERIAL SHALL BE PLACED UP TO THE LEVEL OF THE SUBGRADE. THE EMBANKMENT MATERIAL SHALL BE PLACED AND COMPACTED IN 6 INCH LIFTS.

ITEM SPECIAL - STRUCTURE, MISC.: STONE FACADE

THIS WORK CONSISTS OF FURNISHING AND INSTALLING THE STONE FACADE ON THE BRIDGE COLUMNS/PILASTERS AS SHOWN IN THESE PLANS.

MATERIALS: THE STONE FACADE SHALL BE CONSTRUCTED FROM MANUFACTURED STONE MASONRY VENEER (ASTM C1670) THAT MIMICS THE TEXTURE AND COLOR OF NATURAL STONE.

ALL MORTAR AND GROUT SHALL BE HIGH QUALITY PREMIXED TYPE N OR TYPE S MORTAR (ASTM C270) WITH SUITABLE ADMIXTURES TO MAXIMIZE ADHESION, WEATHERING RESISTANCE, AND WORKABILITY.

MANUFACTURERS:
DUTCH QUALITY STONE
P.O. BOX 308
MOUNT EATON, OH 44624
(330) 359-7866

PRESTIGE STONE PRODUCTS
9290 WINESBURG ROAD
DUNDEE, OH 44625
(330) 439-5318

HERITAGE STONE BY PROVIA
2150 STATE ROUTE 39
SUGARCREEK, OH 44681
(330) 309-3040

SIZE/PATTERN/COLOR: THE SIZE/PATTERN/COLOR SHALL CLOSELY MATCH NATIVESTONE/BLUEGRASS PER PRESTIGE STONE PRODUCTS OR APPROVED EQUAL.

MASONRY CONTRACTOR: THE MASONRY CONTRACTOR SHALL HAVE AT LEAST 5 YEARS EXPERIENCE WITH SIMILAR TYPE APPLICATIONS AND SCOPE OF WORK. ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF AN AUTHORIZED REPRESENTATIVE OF THE MANUFACTURER.

SUBMITTALS: PRIOR TO ORDERING MATERIAL, THE CONTRACTOR SHALL SUBMIT DATA SHEETS/CATALOG CUTS THAT SHOW THE PATTERN, SIZE RANGES, AND COLOR VARIATIONS FOR THE MASONRY STONE VENEER. DATA SHEETS/MIX DESIGNS FOR THE MORTAR AND GROUT SHALL ALSO BE SUBMITTED. A MINIMUM OF FIVE (5) PROJECT RESUMES/REFERENCES FOR SIMILAR TYPE APPLICATIONS/SCOPE OF WORK SHALL ALSO BE SUBMITTED BY THE MASONRY SUBCONTRACTOR.

MOCK-UP: THIS WORK ALSO CONSISTS OF CONSTRUCTION OF A FULL-SCALE MOCK-UP USING JOB SPECIFIC MATERIALS AND INSTALLATION METHODS. THE MOCKUP SHALL MEASURE 4 FEET HIGH X 3 FEET WIDE X 1 FOOT DEEP. A REPRESENTATIVE FROM THE CITY OF CANTON/STARK COUNTY SHALL EVALUATE THE MOCK-UP AND DETERMINE THE ACCEPTABILITY OF THE WORKMANSHIP AND AESTHETICS. IF A MOCK-UP IS NOT ACCEPTABLE TO THE CITY OF CANTON/STARK COUNTY REPRESENTATIVE, THE CONTRACTOR SHALL MAKE CHANGES TO MATERIALS AND/OR METHODS AND PRODUCE ADDITIONAL MOCK-UPS UNTIL AN ACCEPTABLE MOCK-UP IS PRODUCED. THE ACCEPTED MOCK-UP WILL BE THE STANDARD BY WHICH THE REMAINING WORK SHALL BE EVALUATED. ANY SUBSEQUENT CHANGES IN MATERIALS OR METHODS SHALL REQUIRE APPROVAL OF A NEW MOCK-UP.

INSTALLATION: THE STONE MASONRY VENEER SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND IN ACCORDANCE WITH GUIDELINES ESTABLISHED BY THE MASONRY VENEER MANUFACTURERS ASSOCIATION.

ITEM 511 - CONCRETE MISC.: PRECAST CONCRETE ARCH RIBS

THIS WORK CONSISTS OF ALL MATERIALS (PRECAST ARCH RIBS, TEMPORARY SUPPORT FRAMES, SUPPORT STRUTS, ANCHOR BOLTS/HARDWARE, MECHANICAL CONNECTORS, ETC.), EQUIPMENT, AND LABOR REQUIRED TO FURNISH AND INSTALL THE ARCH RIBS AS SHOWN IN THESE PLANS. AT THE OPTION OF THE CONTRACTOR, THE PRECAST ARCHES MAY BE CAST IN PLACE. PAYMENT FOR THIS ITEM WILL BE FOR EACH COMPLETED ARCH RIB (5 TOTAL). THE CONTRACTOR IS PERMITTED TO CAST INSERTS INTO THE ARCHES TO ACCOMMODATE ATTACHMENTS TO TEMPORARY SUPPORT FRAMES. THE PRECAST SUPPLIER SHALL BE AN ODOT CERTIFIED PRECAST CONCRETE PRODUCER.

SUBMITTALS: THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE PRECAST ARCH MEMBERS IN ACCORDANCE WITH 501.04. WORKING DRAWINGS AND CALCULATIONS PREPARED IN ACCORDANCE WITH ITEM 501.05, SHALL BE SUBMITTED TO THE ENGINEER.

ITEM SPECIAL - STRUCTURE, MISC.: FORM LINER

THIS WORK CONSISTS OF USING FORM LINERS AND A COLORED STAIN/SEALER SYSTEM THAT SIMULATES THE APPEARANCE OF REAL BRICK. PERFORM WORK TO LIMITS DETAILED IN THE PLANS AT THE FORWARD ABUTMENT, WINGWALLS (ALL 4 LOCATIONS), PIER CAP AND COLUMNS (MULTI-PURPOSE TRAIL SIDE ONLY), AND SPANDREL WALLS (AT BRIDGE FASCIAS ONLY).

PATTERN: THE FORM LINER PATTERN SHALL CLOSELY MATCH AGED BRICK PER CUSTOM ROCK

MANUFACTURER'S:
CUSTOM ROCK
2020 WEST 7TH STREET
ST. PAUL, MN 55116
(851) 699-1345

FITZGERALD FORMLINER
1500 EAST CHESTNUT AVENUE
SANTA ANA, CA 92701
(714) 547-6710

GREENSTREAK GROUP
3400 TREE COURT INDUSTRIAL BOULEVARD
ST. LOUIS, MISSOURI 63122
(800) 325-9504

FOLLOW THE MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR HANDLING, STORAGE, PREPARATION AND INSTALLATION OF FORM LINER. DESIGN AND PATTERNING OF THE SIMULATED BRICK SURFACE SHALL FOLLOW THE MANUFACTURER'S STANDARD DRAWING. SEAM LINES OR MATCH LINES CAUSED BY TWO OR MORE MOLDS COMING TOGETHER SHALL NOT BE APPARENT WHEN VIEWING THE FINAL INSTALLATION.

STAIN/SEALER SYSTEM: THIS WORK ALSO INCLUDES APPLICATION OF A STAIN AND CONCRETE SEALER SYSTEM TO THE FORM LINED SURFACES. THE STAIN AND CONCRETE SEALER SYSTEM WILL BE SUPPLIED BY THE MANUFACTURER. THE APPLICATION OF THE STAIN AND CONCRETE SEALER SYSTEM SHALL BE PERFORMED BY PERSONNEL HAVING AT LEAST 5 YEARS EXPERIENCE WITH SIMILAR TYPE APPLICATIONS AND SCOPE OF WORK AND SHALL BE PERFORMED UNDER THE SUPERVISION OF AN AUTHORIZED REPRESENTATIVE OF THE MANUFACTURER. FINAL COLORATION OF THE BRICK SURFACE SHALL ACCURATELY SIMULATE THE APPEARANCE OF REAL BRICK.

MOCK-UP: THIS WORK ALSO CONSISTS OF CONSTRUCTION OF A FULL-SCALE MOCK-UP USING PROJECT SPECIFIC APPLICATIONS, MATERIALS, METHODS, AND WORKMANSHIP. THE MINIMUM SIZE OF THE MOCK-UP SHALL BE 25 SQ FT. THE MOCK-UP SHALL INCORPORATE CONCRETE MIX, FORMING SYSTEM, JOINTS, TEXTURES, PROFILES, REINFORCEMENT, RELEASE AGENT, PLACEMENT RATE, VIBRATING, AND STRIPPING AND STAINING/SEALING PRACTICES THAT WILL BE REPRESENTATIVE OF THE FINAL WORK. THE MOCK-UP SHALL INCORPORATE A 2 FT BY 2 FT AREA OF TEXTURED CONCRETE DEMONSTRATING PATCHING AND REPAIR PROCEDURES. A REPRESENTATIVE FROM THE CITY OF CANTON/STARK COUNTY SHALL EVALUATE THE MOCK-UP AND DETERMINE THE ACCEPTABILITY OF THE WORKMANSHIP AND AESTHETICS. IF A MOCK-UP IS NOT ACCEPTABLE TO THE CITY OF CANTON/STARK COUNTY REPRESENTATIVE, THE CONTRACTOR SHALL MAKE CHANGES TO MATERIALS AND/OR METHODS AND PRODUCE ADDITIONAL MOCK-UPS UNTIL AN ACCEPTABLE MOCK-UP IS PRODUCED. THE ACCEPTED MOCK-UP WILL BE THE STANDARD BY WHICH THE REMAINING WORK SHALL BE EVALUATED. ANY SUBSEQUENT CHANGES IN MATERIALS OR METHODS SHALL REQUIRE APPROVAL OF A NEW MOCK-UP.

CONTROL JOINTS FOR CONCRETE PARAPETS

SAWCUT 1 INCH DEEP CONTROL JOINTS ALONG THE PERIMETER OF THE PARAPET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE. USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW SAW BLADE, A NOMINAL WIDTH OF ¼ INCH.

PLACE CONTROL JOINTS AT THE LOCATIONS SHOWN ON THE PLANS. VERTICAL REINFORCING STEEL SHALL CLEAR THE CONTROL JOINTS BY 3 INCHES MINIMUM. OBTAIN CLEARANCE BY FIELD ADJUSTING THE REINFORCING STEEL SPACING OR THE LOCATION OF THE CONTROL JOINTS.

SEAL THE PERIMETER OF THE CONTROL JOINT A MINIMUM OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE 5. LEAVE THE BOTTOM ONE-HALF INCH OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

STRUCTURAL GENERAL NOTES
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET
IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA05115GN001.dwg; 9/22/16 - 3:23pm; mbechter

ESTIMATED QUANTITIES

CALC. BY: CAF 8/31/16
CHK'D BY: FJG 8/31/16

AS PER PLAN

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER	SUBSTR.	GENERAL	STR. SHT. NO.
202	11003	1	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			1	2
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING			1	
503	21104	1,022	CY	UNCLASSIFIED EXCAVATION, INCLUDING ROCK		1,022		
509	10000	308,692	LB	EPOXY COATED REINFORCING STEEL	168,784	139,908		
511	33414	456	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	456			
511	34448	59	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)	59			
511	42010	114	CY	CLASS QC1 CONCRETE, PIER ABOVE FOOTINGS		114		
511	44112	436	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING		436		
511	46512	419	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		419		
511	51510	78	CY	CLASS QC2 CONCRETE, SIDEWALK	78			
511	71200	2,192	SF	CONCRETE, MISC.: REFACING EXISTING RETAINING WALL			2,192	
511	81300	5	EACH	CONCRETE, MISC.: PRECAST CONCRETE ARCH RIBS	5			
512	10050	259	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	259			
512	10100	913	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)				
512	10600	10	FT	CONCRETE REPAIR BY EPOXY INJECTION			10	
516	13200	30	SF	1/2" PREFORMED EXPANSION JOINT FILLER			30	
516	13600	570	SF	1" PREFORMED EXPANSION JOINT FILLER			570	
516	25000	232	SF	NYLON REINFORCED NEOPRENE SHEETING			232	
516	41600	75	SF	1" ELASTOMERIC BEARING PAD	75			
516	43001	5	EACH	ELASTOMERIC BEARING WITH LOAD PLATE, AS PER PLAN	5			16
517	76300	326	FT	RAILING, MISC.: ORNAMENTAL RAILING	326			
518	21200	199	CY	POROUS BACKFILL WITH FILTER FABRIC		199		
519	11100	465	SF	PATCHING CONCRETE STRUCTURE			465	
526	30001	291	SY	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN			291	22,23
SPECIAL	53000600	1,071	SF	STRUCTURE, MISC.: STONE FAÇADE		1,071		
SPECIAL	53000600	1,223	SF	STRUCTURE, MISC.: FORM LINER		1,223		
SPECIAL	53000400	4	EACH	STRUCTURE, MISC.: SWING GATE			4	

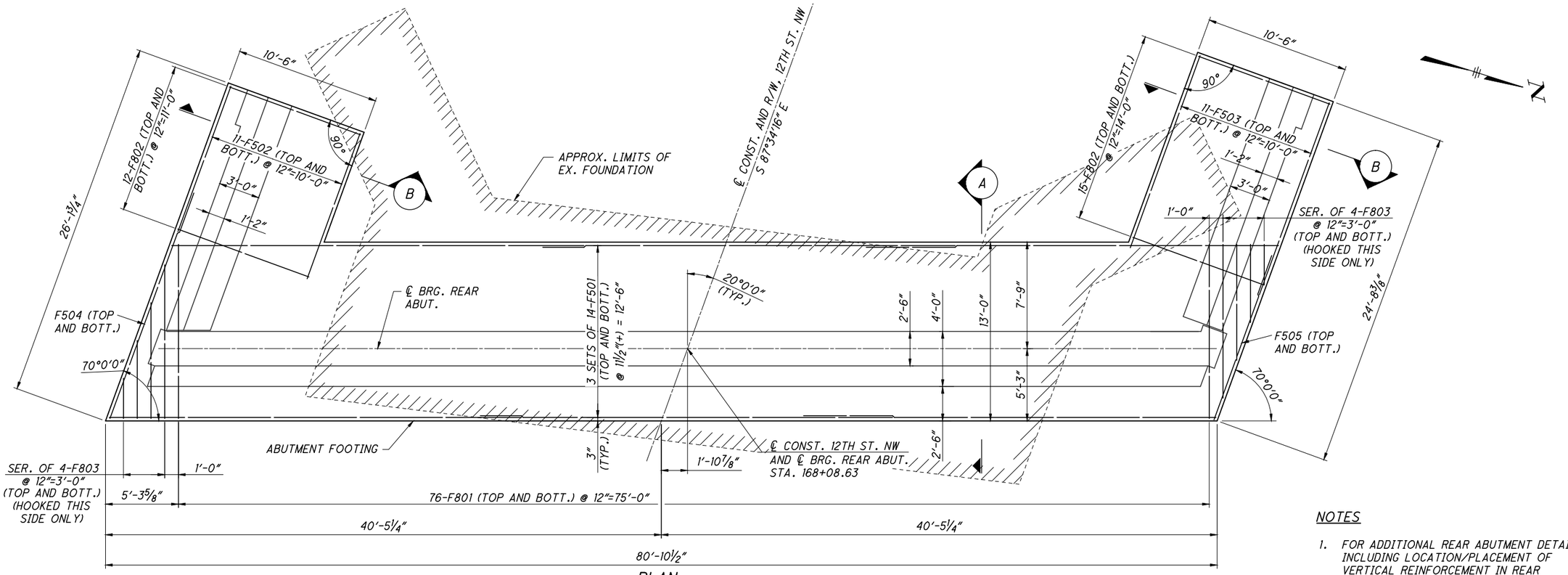
DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED RPB | DRAWN CAF | REVIEWED SKK | DATE 1/16
CHECKED FJG | REVISED | STRUCTURE FILE NO. 7636121

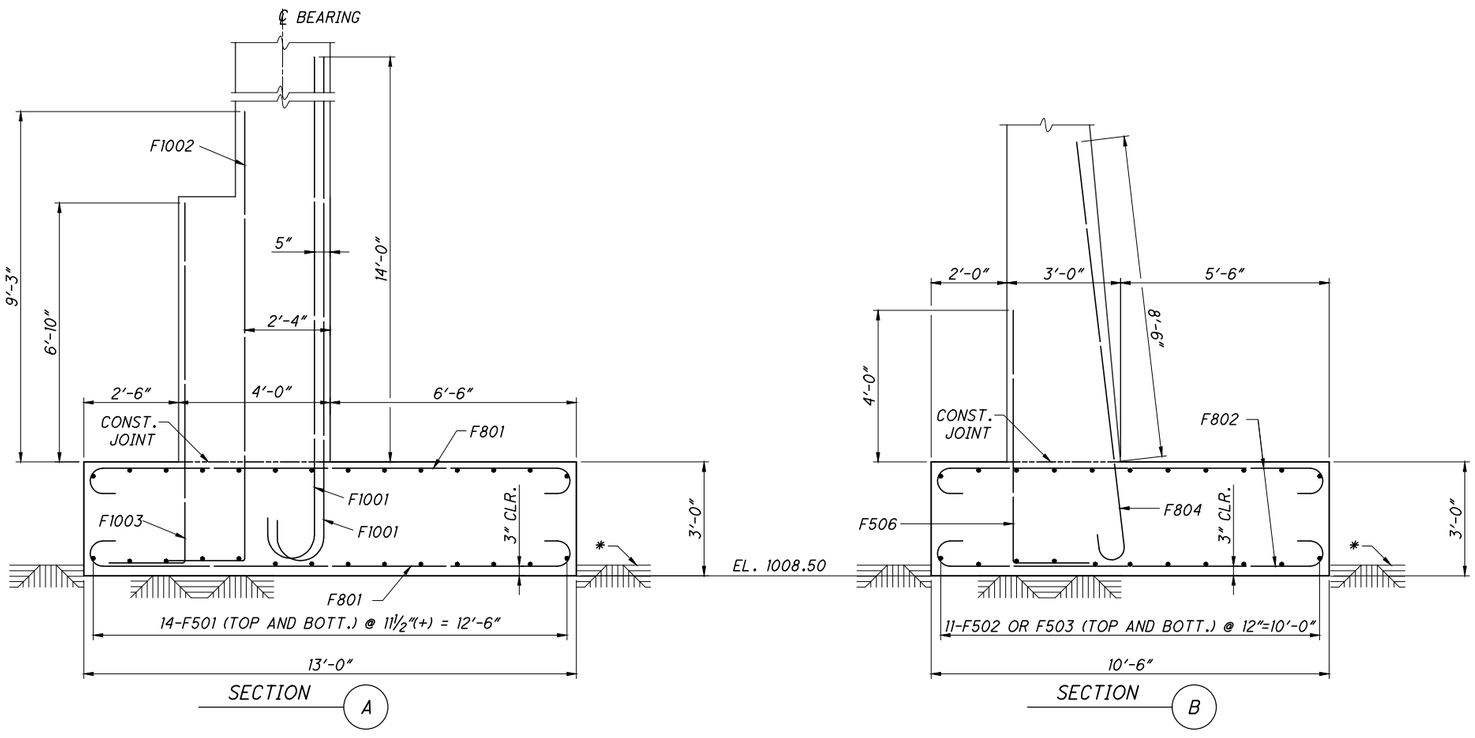
ESTIMATED QUANTITIES
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CEQ001.dwg; 9/22/16 - 3:23pm; mbechter



PLAN



NOTES

1. FOR ADDITIONAL REAR ABUTMENT DETAILS INCLUDING LOCATION/PLACEMENT OF VERTICAL REINFORCEMENT IN REAR ABUTMENT AND WINGWALL STEM, SEE SHEETS 5 / 30 THRU 7 / 30 .
2. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BAR = 43" #8 BAR = 76"

LEGEND

* - APPROX. TOP OF COMPETENT ROCK EL. 1009.00

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

REAR ABUTMENT FOOTING DETAILS

BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CFP001.dwg; 8/31/16 - 11:30am; cferrell

TABLE	
PT.	ELEVATION
A	1021.08
B	1020.12
C	1019.47
D	1018.50
E	1022.32
F	1020.52

PLAN

ELEVATION

NOTES

1. FOR REAR ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEET 4 / 30 .
2. FOR ADDITIONAL REAR ABUTMENT/WINGWALL DETAILS, SEE SHEETS 6 / 30 AND 7 / 30 .
3. FOR EXISTING RETAINING WALL REPAIR DETAILS, SEE SHEET 28 / 30 .
4. FOR PARAPET WALL DETAILS, SEE SHEETS 24 / 30 THRU 27 / 30 .
5. NEOPRENE SHEETING SHALL BE CENTERED OVER EXPANSION JOINT AND EXTENDED FROM THE TOP OF WALL DOWN TO THE TOP OF FOOTING.
6. FOR PRECAST ARCH RIB ASSEMBLY DETAILS, SEE SHEET 15 / 30 .
7. MINIMUM BAR LAP IS AS FOLLOWS: # 5 BAR = 43" #10 BAR = 139"

LEGEND

* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

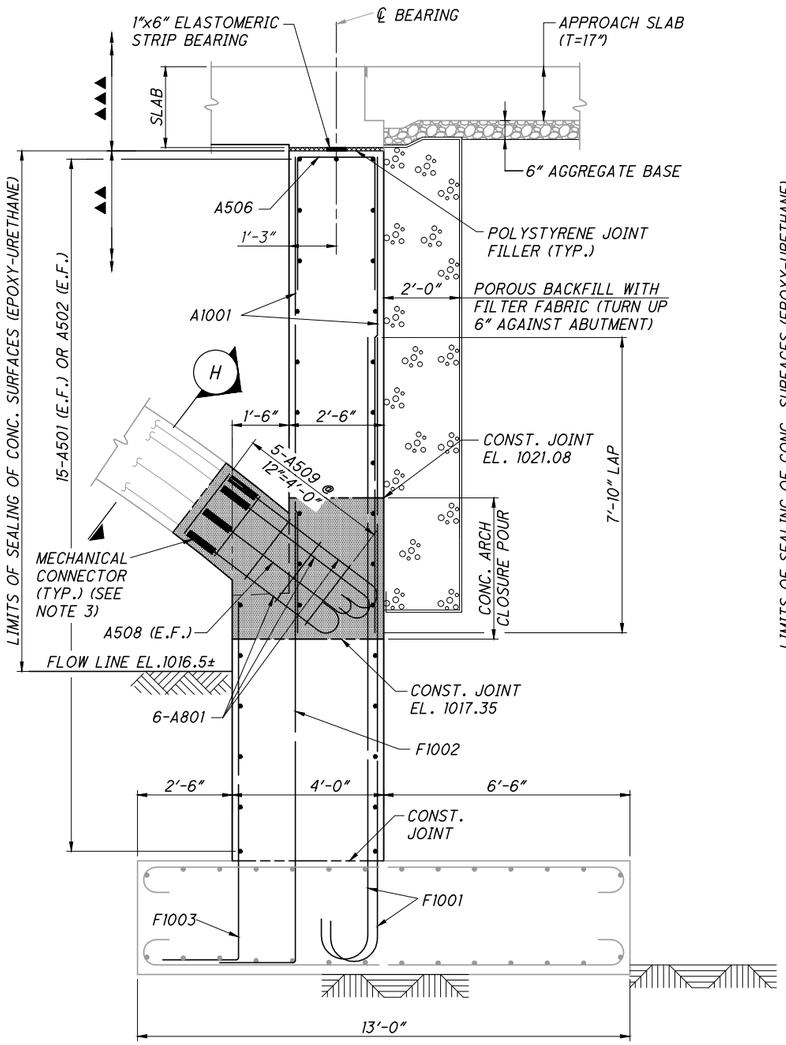
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
RPB	CAF	FJG	SKK	1/16

STRUCTURE FILE NO. 7636121

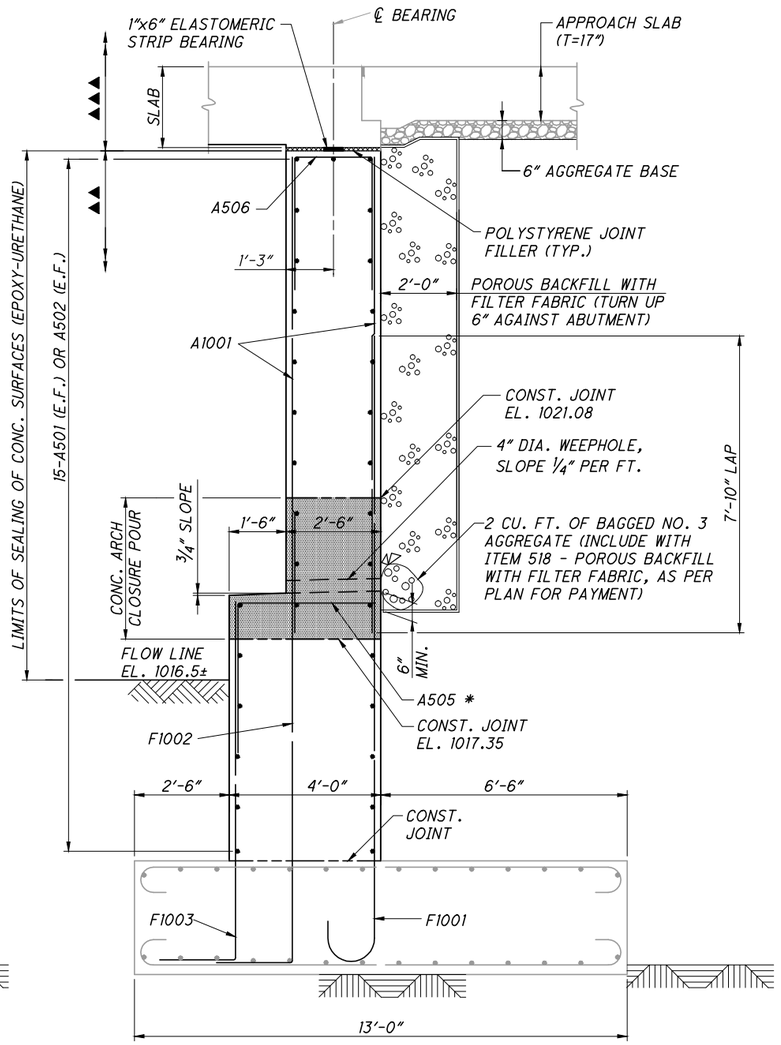
REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CAR001.dwg; 8/31/16 - 11:31am; cferrell



SECTION C 5



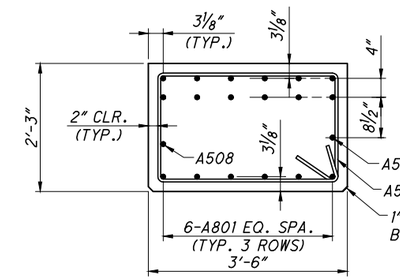
SECTION D 5

LEGEND

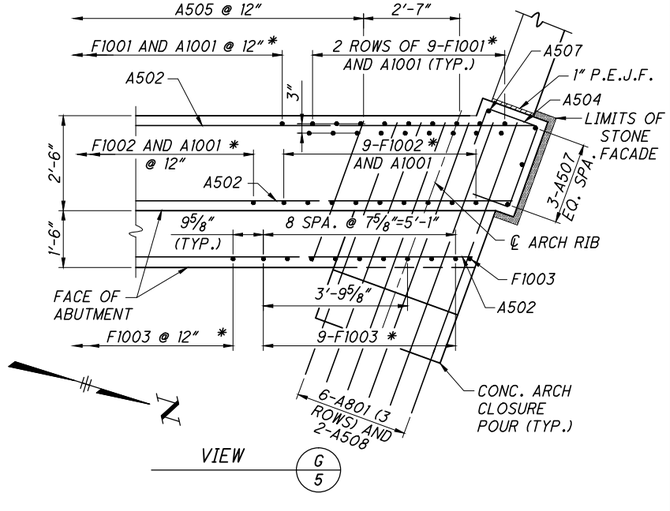
* - BARS PLACED ADJACENT AND PARALLEL TO CENTERLINE OF ARCH RIBS

▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

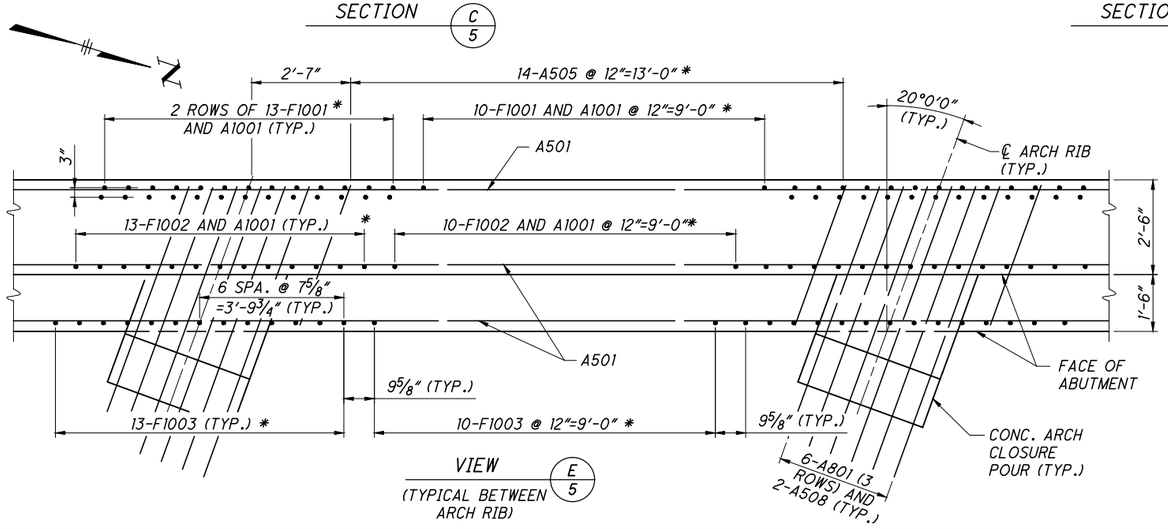
▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, SUPERSTRUCTURE



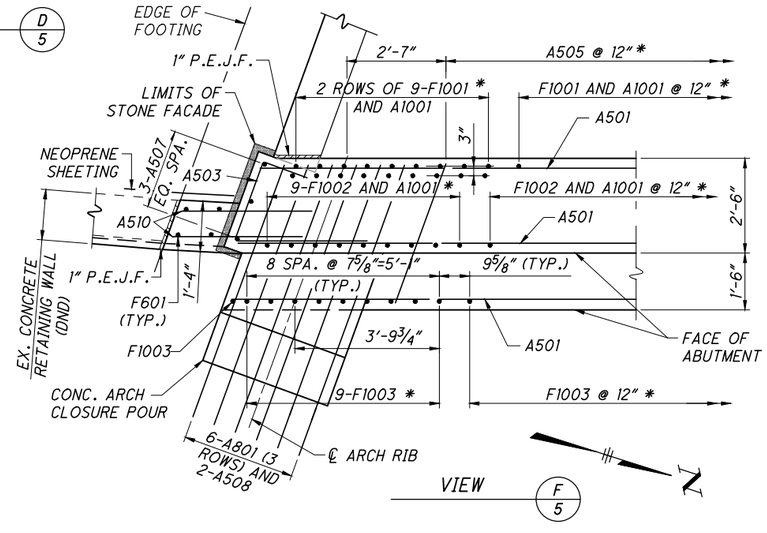
SECTION H



VIEW G 5



VIEW E 5 (TYPICAL BETWEEN ARCH RIB)



VIEW F 5

NOTES

1. FOR REAR ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEET 4 | 30 .
2. FOR REAR ABUTMENT PLAN AND ELEVATION, SEE SHEET 5 | 30 .
3. MECHANICAL SPLICE CONNECTOR SHALL BE LENTON LOCK B-SERIES COUPLER (EPOXY COATED) MANUFACTURED BY ERICO INTERNATIONAL CORP. OR APPROVED EQUAL.
4. THE A508 AND A801 BARS SHALL BE CUT TO FIT.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

REAR ABUTMENT DETAILS 1 OF 2

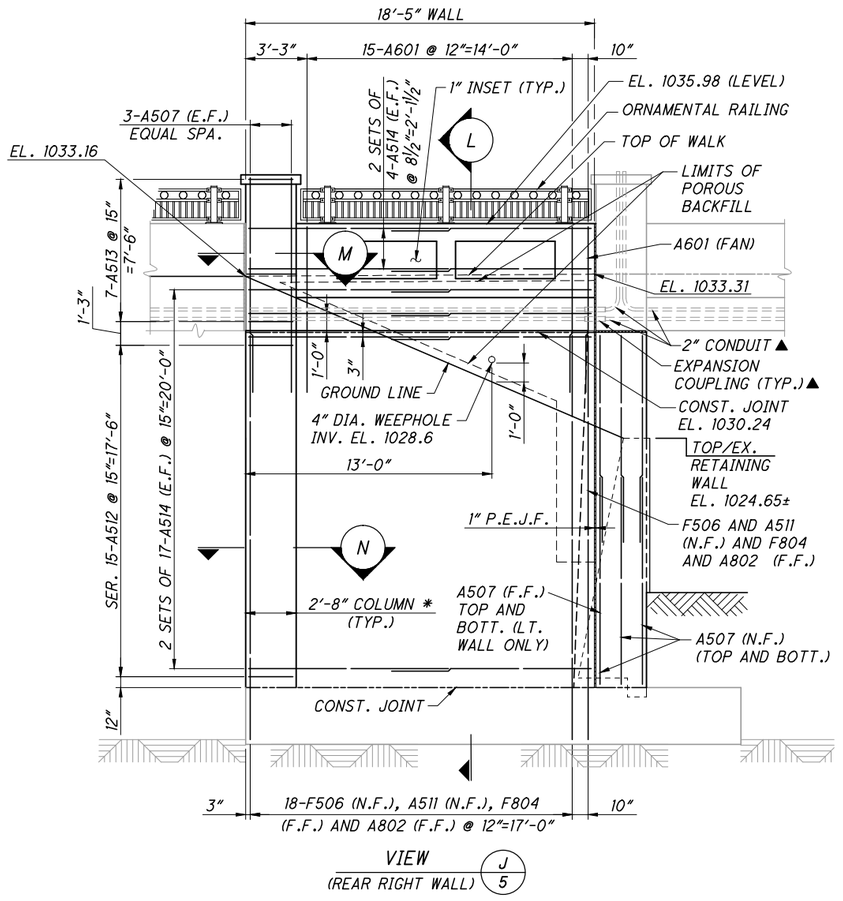
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

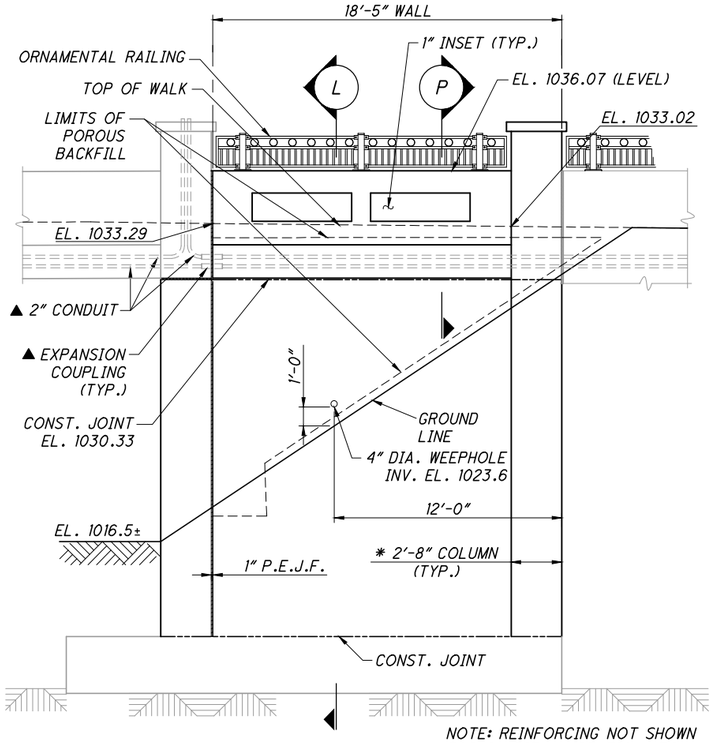
6 | 30

139
210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA05515CAR002.dwg; 8/31/16 - 11:31am; cferrell



VIEW (REAR RIGHT WALL) J / 5

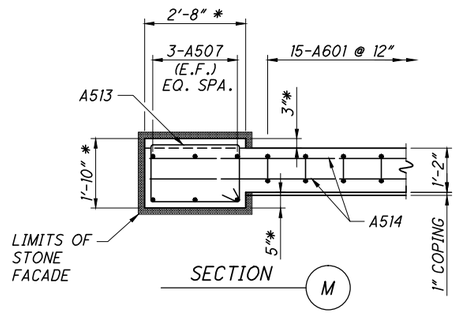


VIEW (REAR LEFT WALL) K / 5

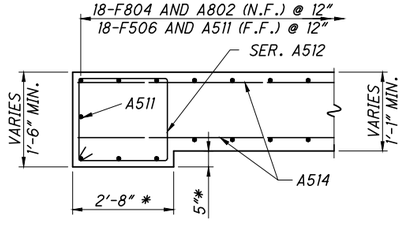
NOTE: REINFORCING NOT SHOWN FOR CLARITY. IDENTICAL TO REAR RIGHT WALL VIEW J.

NOTES

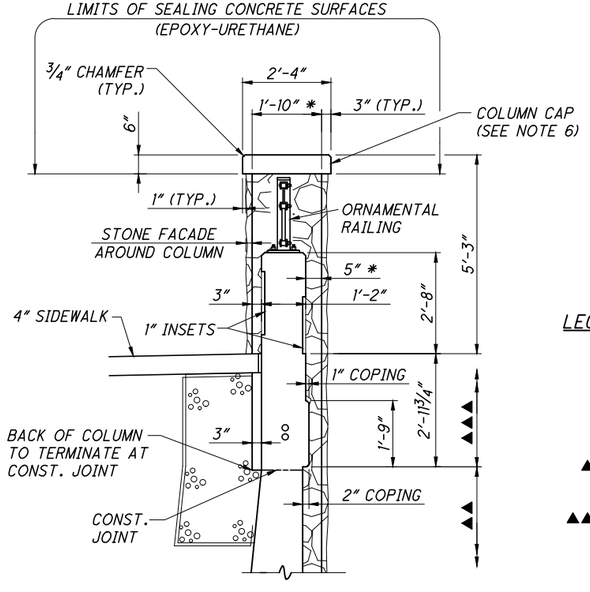
1. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BAR = 43" #8 BAR = 76"
2. FOR REAR ABUTMENT/WINGWALL FOOTING DETAILS SEE SHEET 4 / 30 .
3. FOR LIMITS OF STONE FACADE AND BRICK FORM LINER ON WINGWALLS SEE TYPICAL ARCHITECTURAL DETAIL ON SHEET 11 / 30 .
4. FOR EXISTING RETAINING WALL REPAIR AND REFACING DETAILS, SEE SHEET 28 / 30 .
5. FOR ORNAMENTAL RAILING AND PARAPET INSET DETAILS, SEE SHEETS 20 / 30 AND 21 / 30 .
6. CONCRETE COLUMN CAPS SHALL BE CAST-IN-PLACE WITH REINFORCEMENT.



SECTION M



SECTION N



VIEW (REINFORCING NOT SHOWN FOR CLARITY) P

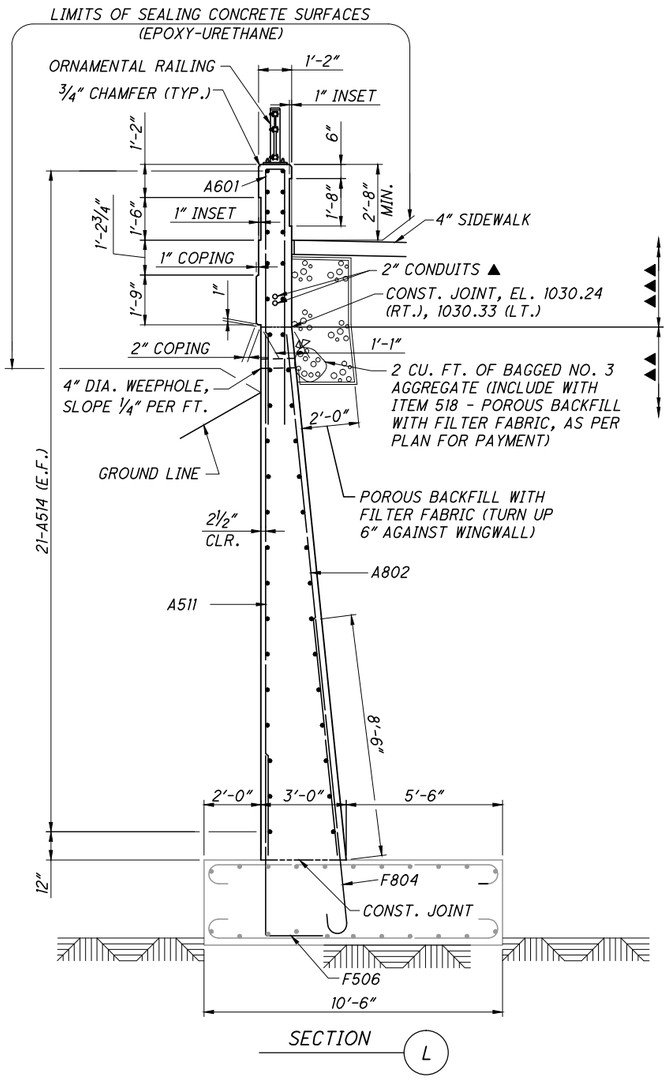
LEGEND

* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)



SECTION L

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

REAR ABUTMENT DETAILS 2 OF 2

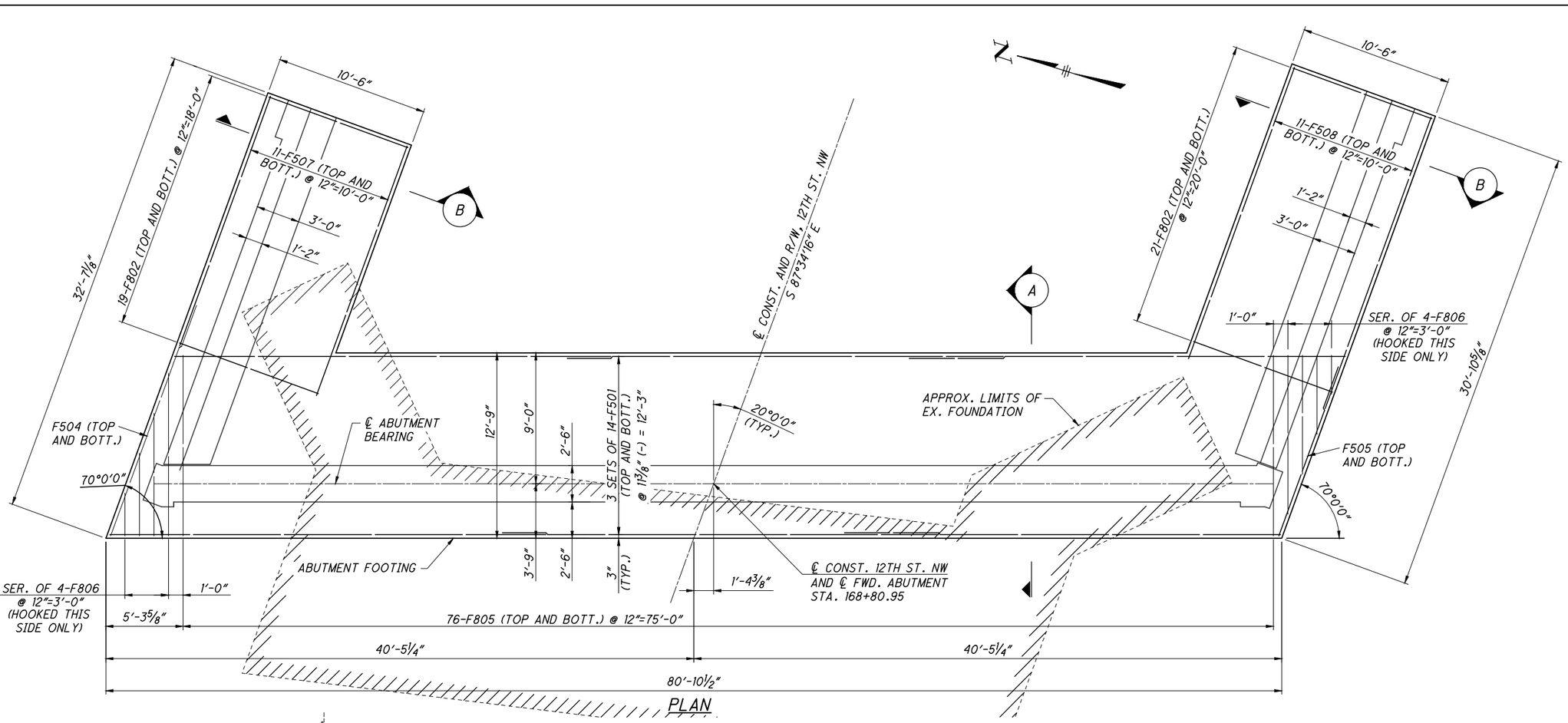
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

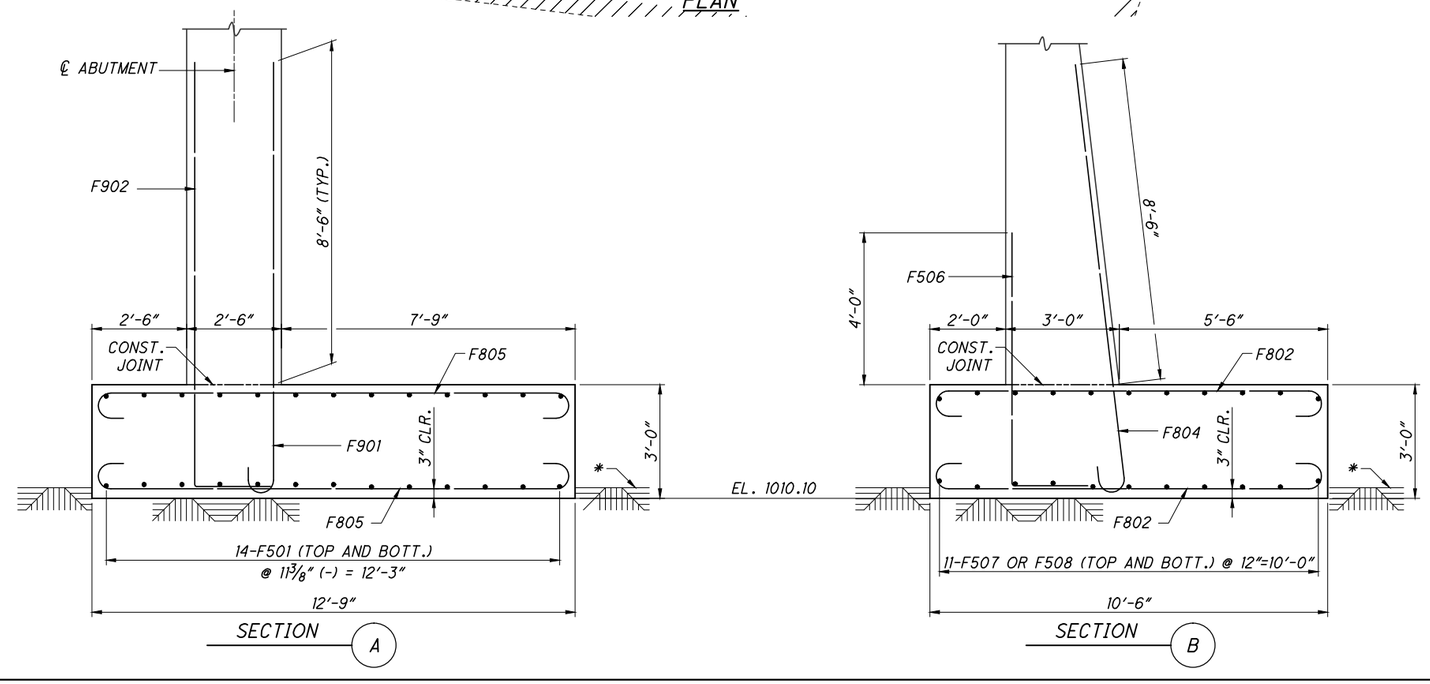
STA - 12TH STREET IMPROVEMENTS

7 / 30

140 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CAR003.dwg; 8/31/16 - 11:31am; cferrell





NOTES

1. FOR ADDITIONAL FORWARD ABUTMENT DETAILS INCLUDING LOCATION/PLACEMENT OF VERTICAL REINFORCEMENT IN FORWARD ABUTMENT AND WINGWALL STEM, SEE SHEETS 9 / 30 THRU 11 / 30 .
2. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43" #9 BAR = 97"

LEGEND

* - APPROXIMATE TOP OF ROCK EL. 1010.60

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76361121	

FORWARD ABUTMENT FOOTING DETAILS

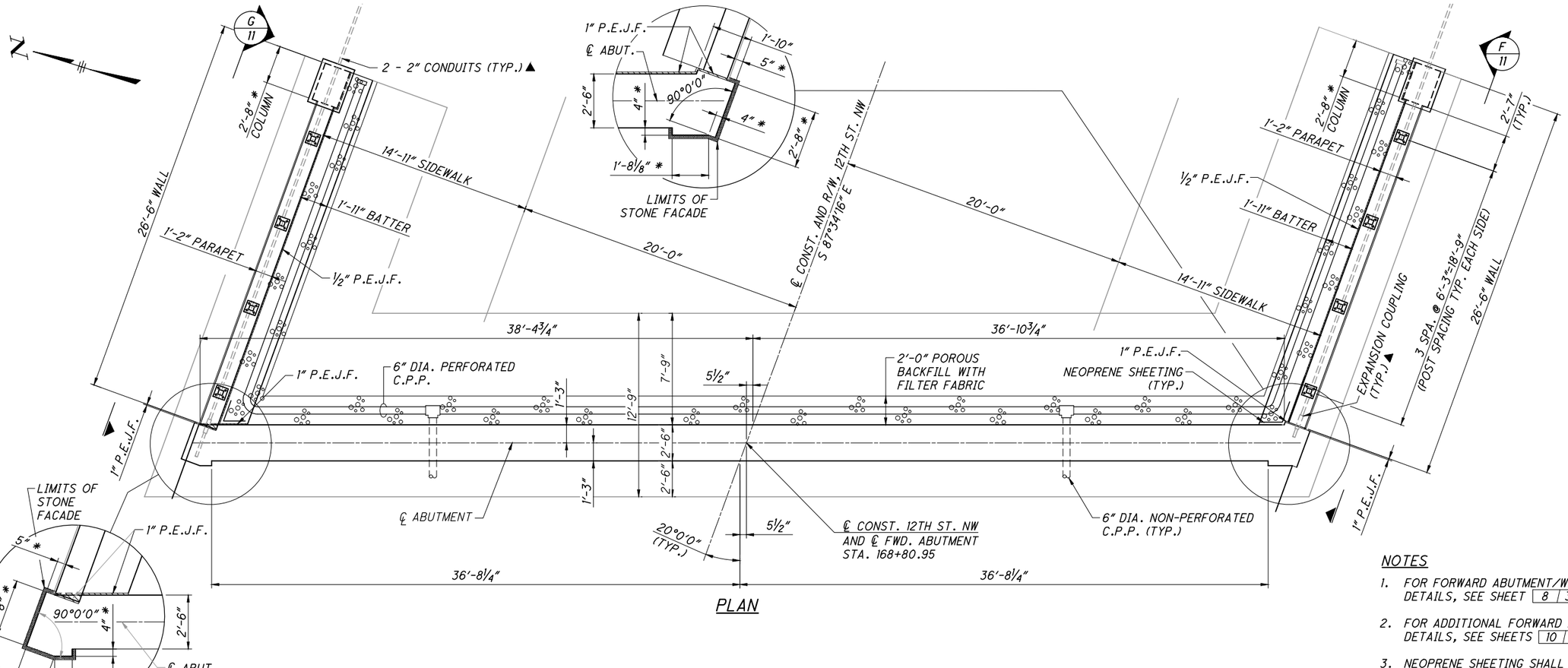
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

8 / 30

141 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CFP002.dwg; 8/31/16 - 11:31am; cferrell



NOTES

1. FOR FORWARD ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEET 8 / 30 .
2. FOR ADDITIONAL FORWARD ABUTMENT/WINGWALL DETAILS, SEE SHEETS 10 / 30 AND 11 / 30 .
3. NEOPRENE SHEETING SHALL BE CENTERED OVER EXPANSION JOINT AND EXTENDED FROM THE TOP OF WALL DOWN TO THE TOP OF FOOTING.
4. MINIMUM BAR LAPS ARE AS FOLLOWS:
   # 5 BAR = 43" #9 BAR = 97"

LEGEND

* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

FORWARD ABUTMENT PLAN AND ELEVATION

BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA05150AF001.dwg; 8/31/16 - 11:32am; cferrell

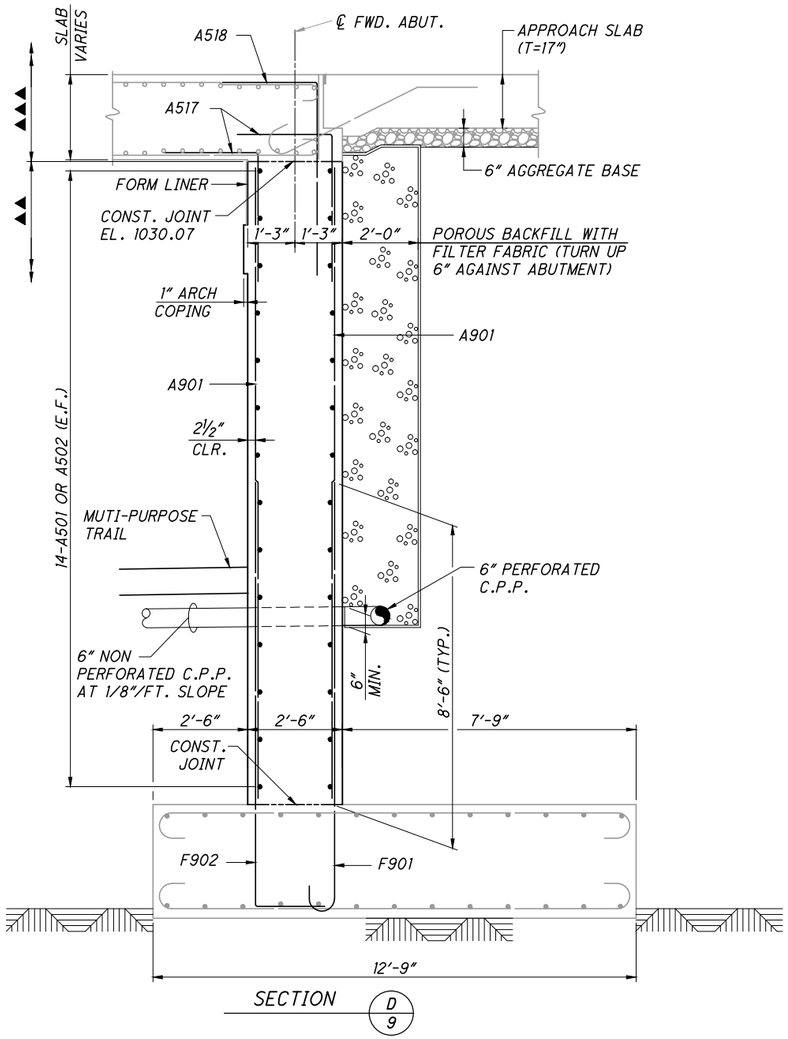
NOTES

1. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BARS = 43″ #9 BARS = 97″
2. FOR FORWARD ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEET 8 / 30 .
3. FOR FORWARD ABUTMENT PLAN AND ELEVATION, SEE SHEET 9 / 30 .

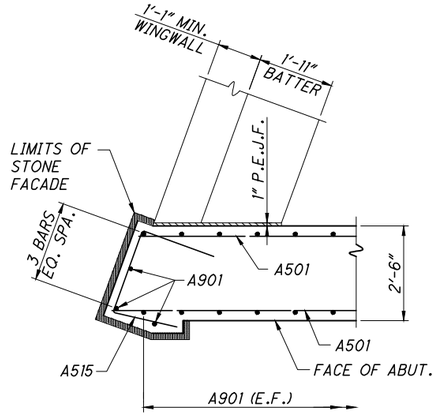
LEGEND

▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

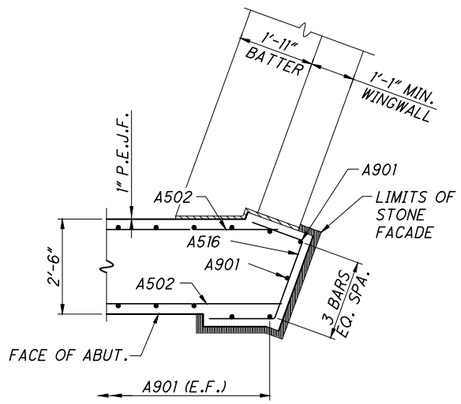
▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, SUPERSTRUCTURE



SECTION D / 9



SECTION E / 9



SECTION C / 9

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

FORWARD ABUTMENT DETAILS 1 OF 2

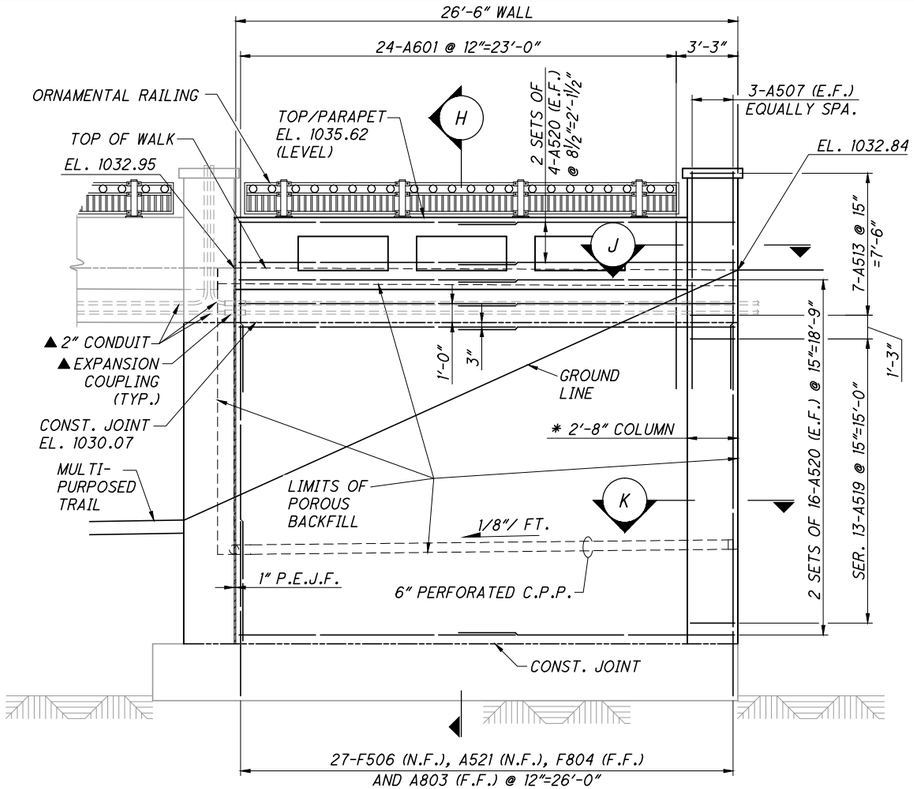
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

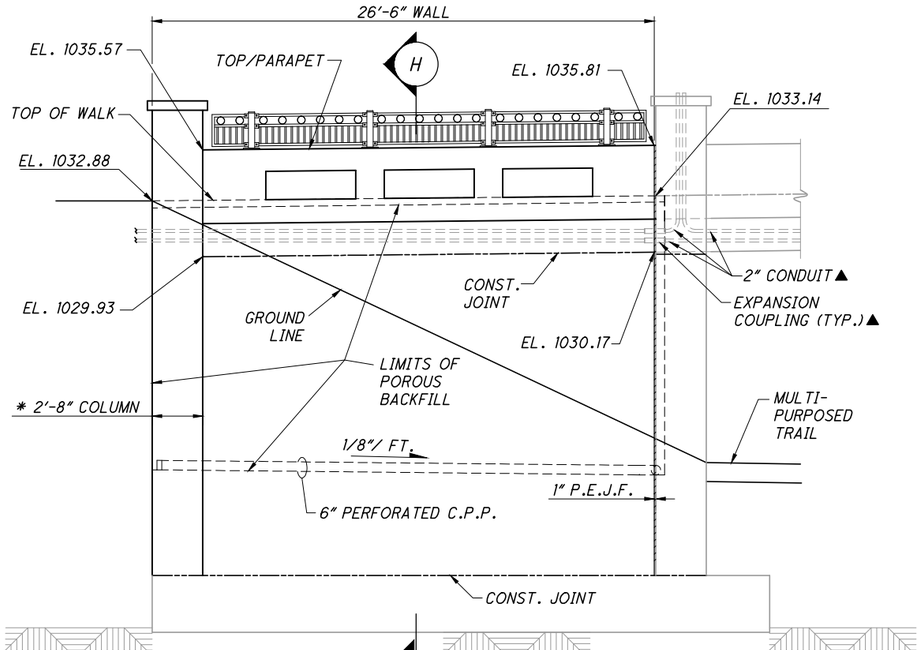
10 / 30

143 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CAF002.dwg; 8/31/16 - 11:32am; cferrell

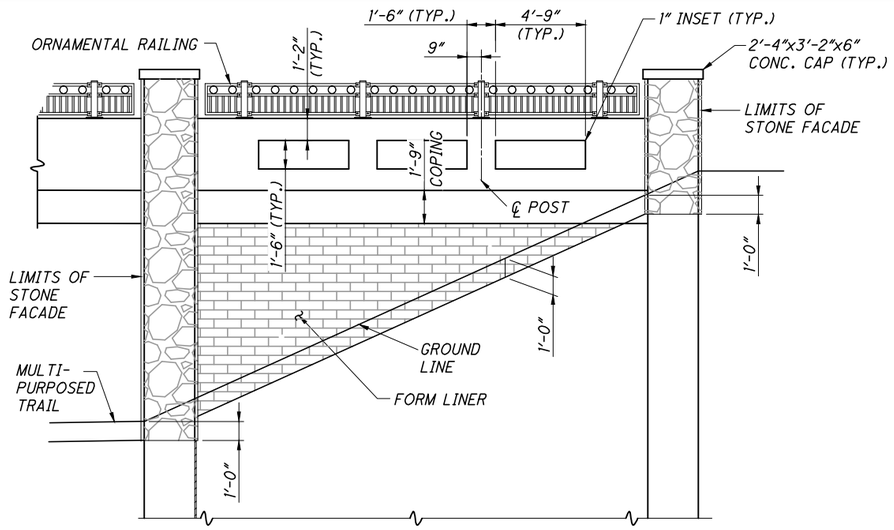


VIEW (F / 9)
(FORWARD RIGHT WALL)

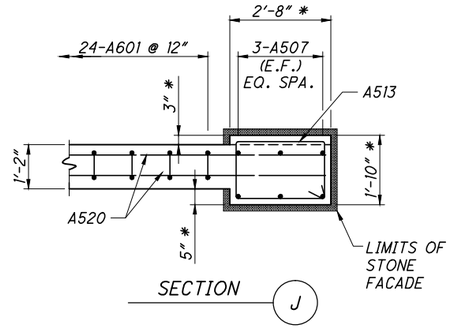


VIEW (G / 9)
(FORWARD LEFT WALL)

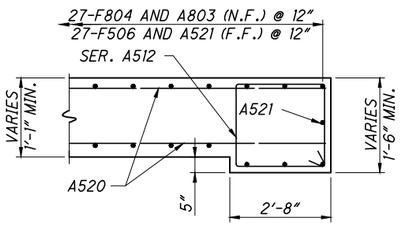
NOTE: REINFORCING NOT SHOWN FOR CLARITY. IDENTICAL TO FORWARD RIGHT WALL VIEW F.



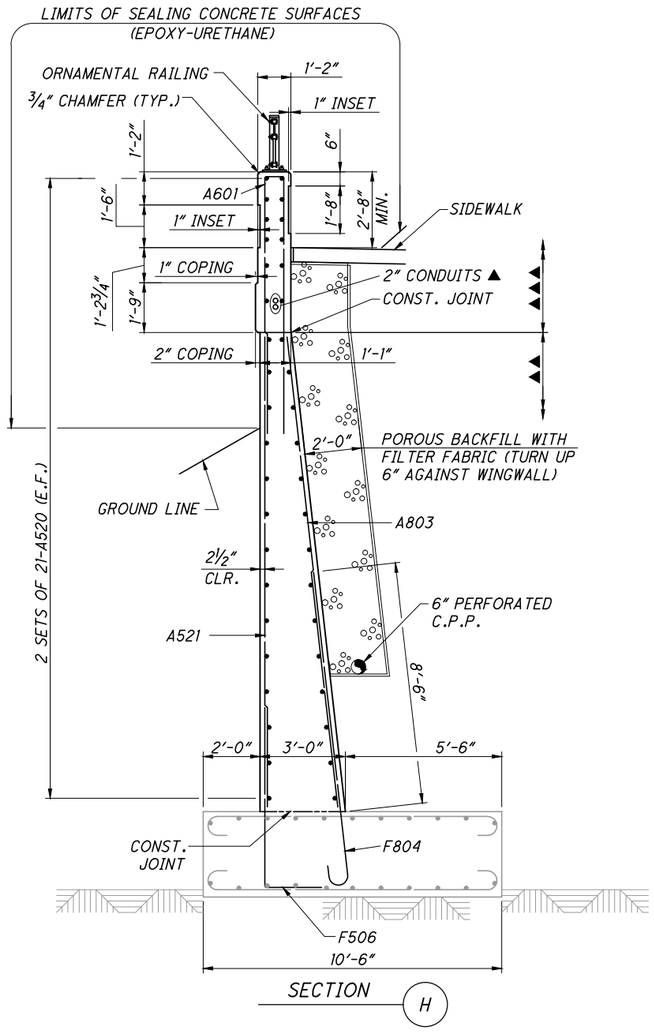
TYPICAL ARCHITECTURAL DETAIL
(TYP. ALL WINGWALLS)



SECTION (J)



SECTION (K)



SECTION (H)

NOTES

1. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43" #6 BAR = 46" #8 BAR = 76"
2. FOR FORWARD ABUTMENT/WINGWALL FOOTING PLAN, SEE SHEET 8 / 30 .
3. FOR ORNAMENTAL RAILING AND PARAPET INSET DETAILS, SEE SHEETS 20 / 30 AND 21 / 30 .

LEGEND

* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED RPB | DRAWN CAF | CHECKED FJG | REVIEWED SKK | DATE 1/16 | STRUCTURE FILE NO. 7636121 | REVISED

FORWARD ABUTMENT DETAILS 2 OF 2

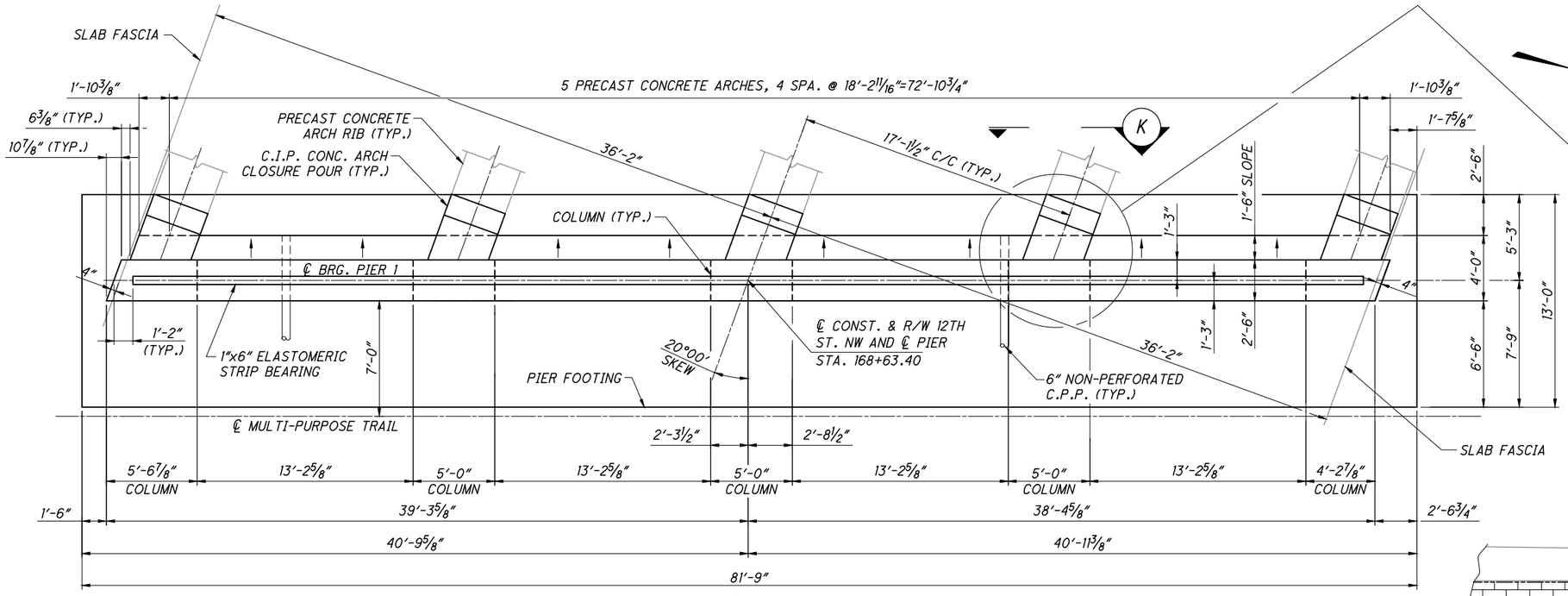
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

11 / 30

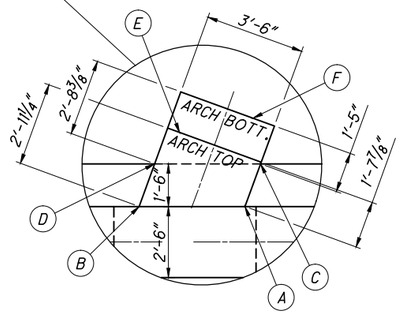
144 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CAF003.dwg; 8/31/16 - 11:32am; cferrell



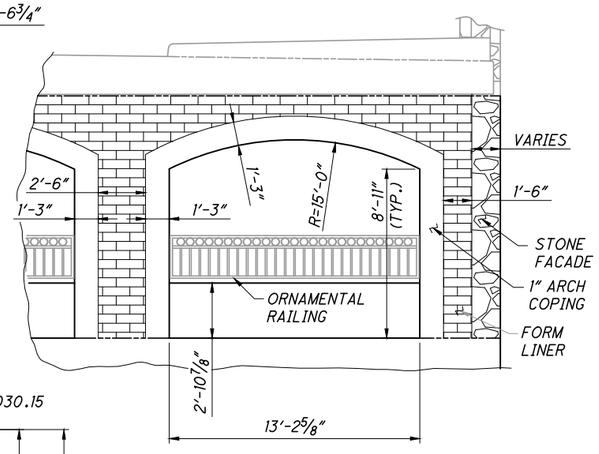
PLAN

TABLE	
PT.	ELEVATION
A	1021.08
B	1020.12
C	1019.47
D	1018.50
E	1022.32
F	1020.52

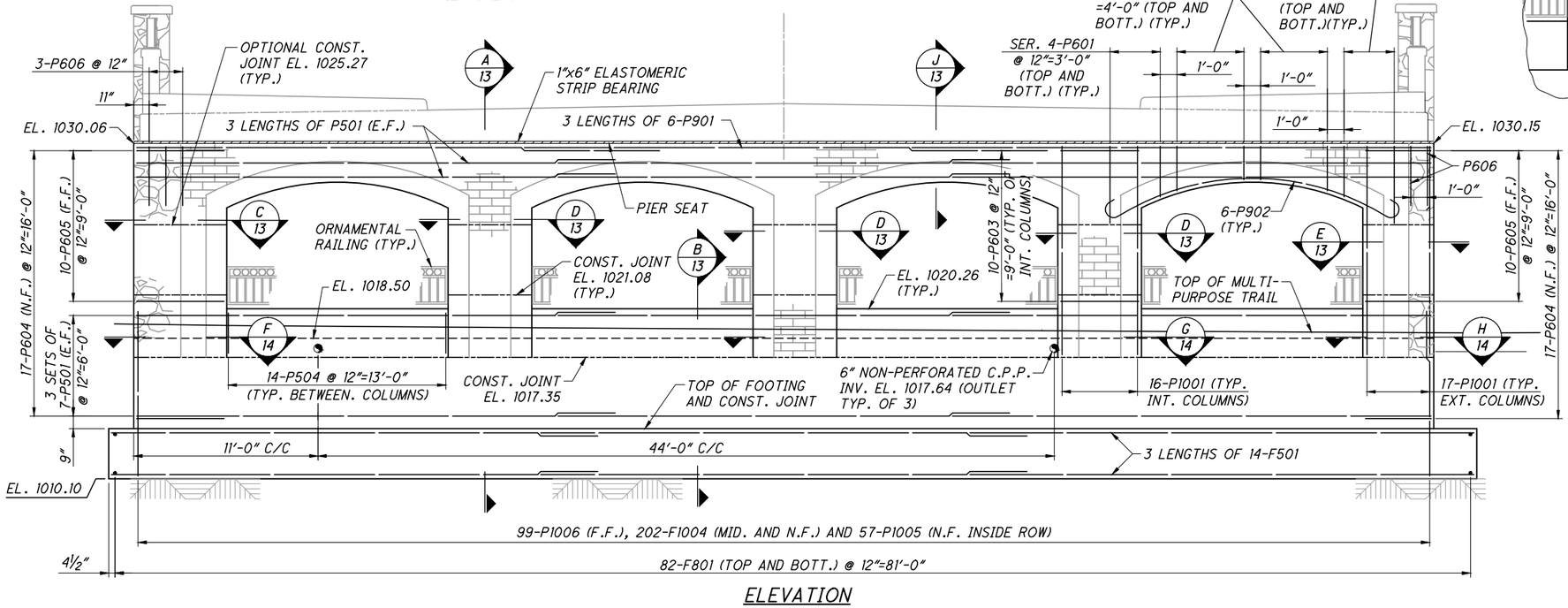


NOTES

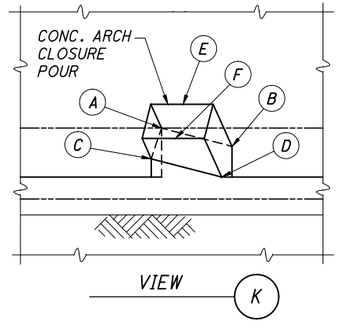
1. FOR ADDITIONAL PIER DETAILS SEE SHEETS 13 | 30 AND 14 | 30 .
2. FOR PRECAST CONCRETE ARCH RIB ASSEMBLY DETAILS, SEE SHEETS 15 | 30 AND 16 | 30 .
3. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 21 | 30 .
4. FORM LINER AND 1" ARCH COPING TO BE APPLIED ON MULTI-PURPOSE TRAIL SIDE OF PIER ONLY.



TYPICAL PIER STEM ARCHITECTURAL DETAIL
(SEE NOTE 4)



ELEVATION



VIEW

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76361121	

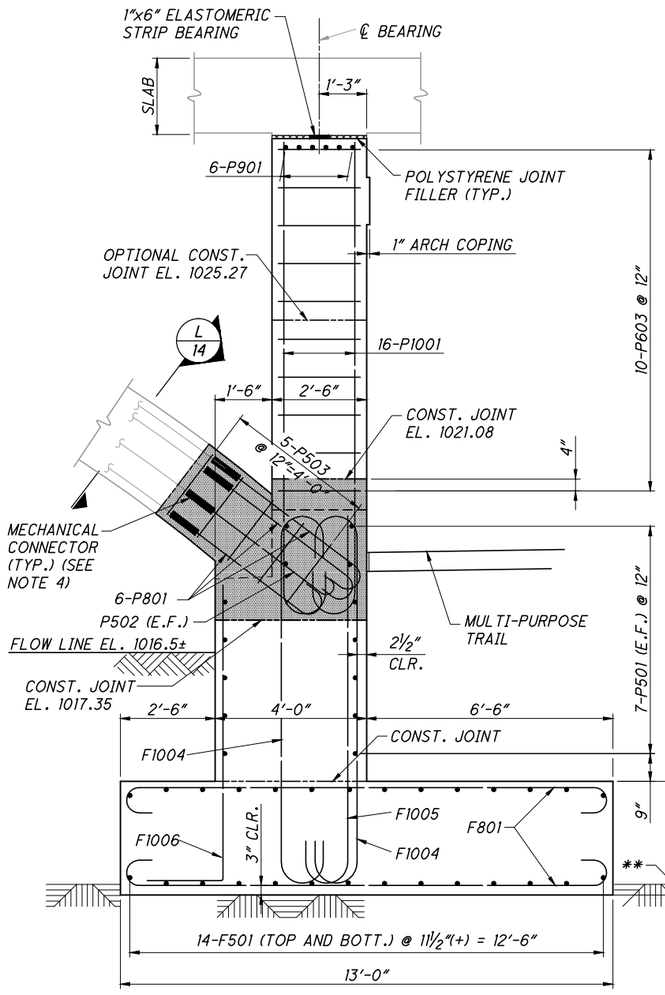
PIER PLAN AND ELEVATION
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

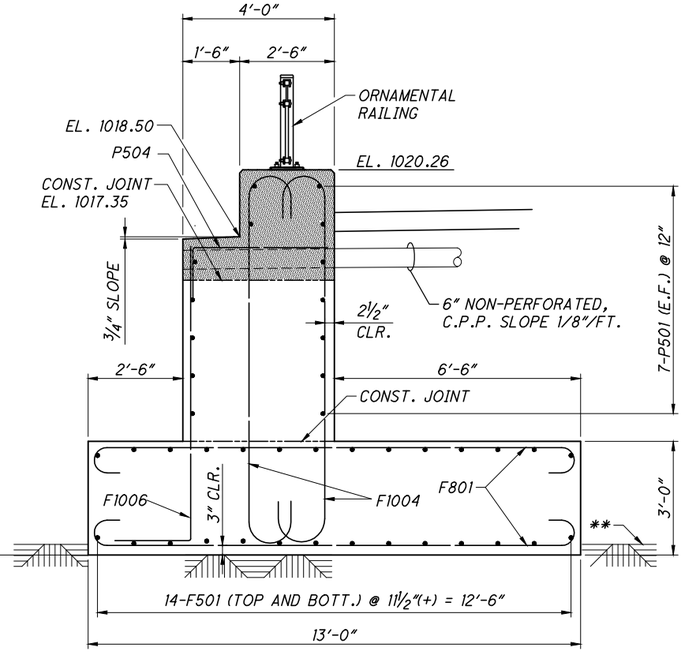
12 | 30

145
210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA05115CPI001.dwg; 8/31/16 - 11:33am; cferrell



SECTION A 12



SECTION B 12

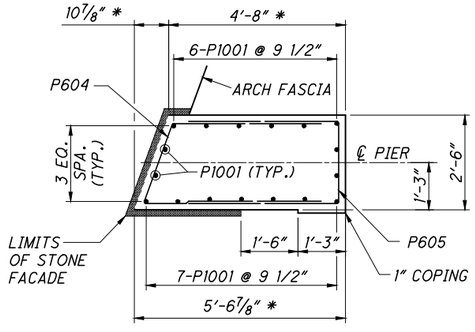
NOTES

1. FOR ADDITIONAL PIER 1 PLAN AND ELEVATION, SEE SHEET 12 / 30 .
2. FOR PRECAST CONCRETE ARCH RIB ASSEMBLY DETAILS, SEE SHEETS 15 / 30 AND 16 / 30 .
3. FOR ORNAMENTAL RAILING DETAILS, SEE SHEETS 20 / 30 AND 21 / 30 .
4. MECHANICAL SPLICE CONNECTOR SHALL BE LENTON LOCK B-SERIES COUPLER (EPOXY COATED) MANUFACTURED BY ERICO INTERNATIONAL CORP. OR APPROVED EQUAL.
5. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BARS = 43" #9 BARS = 97"
6. ALL EXPOSED SURFACES OF THE PIER THAT DO NOT HAVE FORM-LINED SURFACE OR STONE FACADE SHALL BE SEALED WITH EPOXY-URETHANE SEALER.

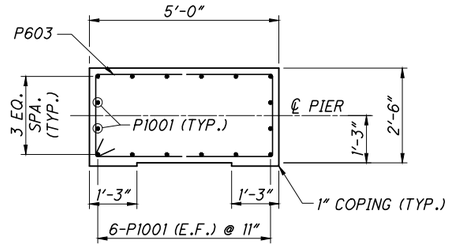
LEGEND

* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE.

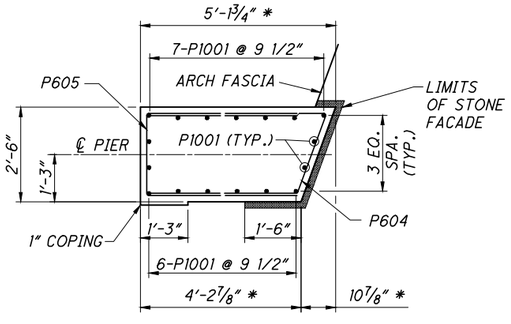
** - APPROXIMATE TOP OF ROCK EL. 1010.60



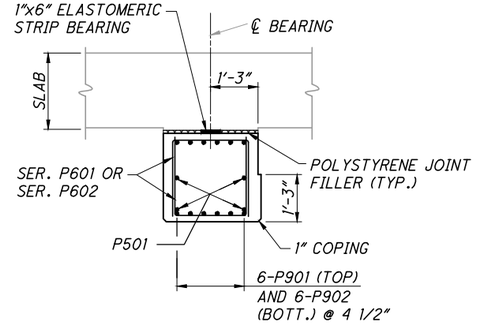
SECTION C 12



SECTION D 12



SECTION E 12



SECTION J 12

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

PIER DETAILS 1 OF 2

BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

13 / 30

146 / 210

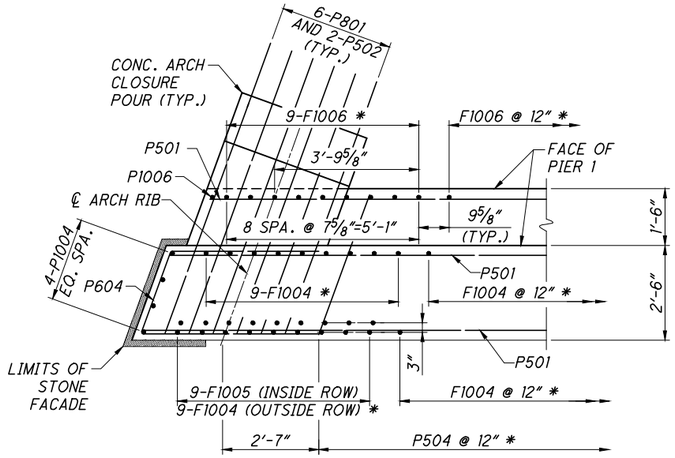
G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CPI002.dwg; 8/31/16 - 11:33am; cferrell

NOTES

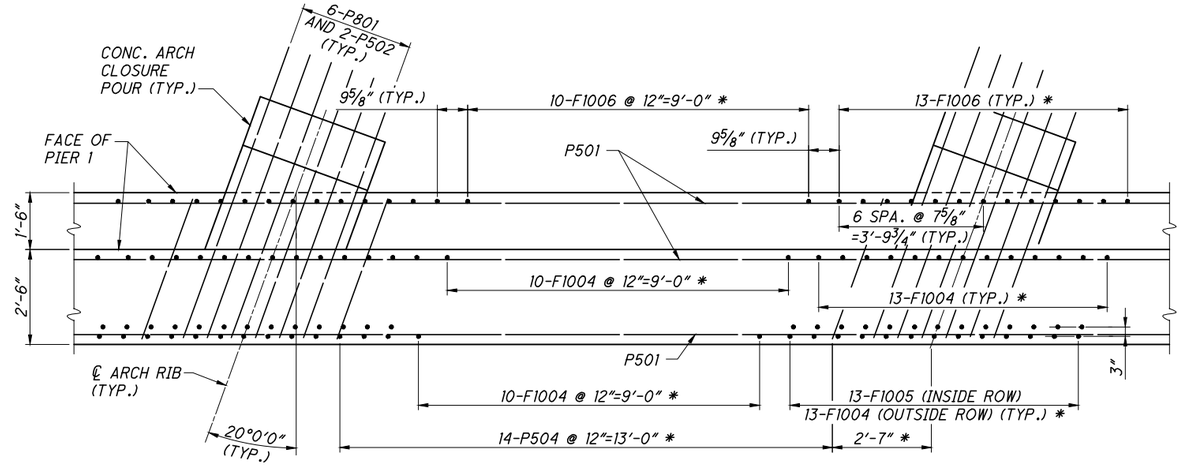
1. FOR PIER 1 PLAN AND ELEVATION, SEE SHEET 12 / 30 .
2. FOR PRECAST CONCRETE ARCH RIB ASSEMBLY DETAILS, SEE SHEETS 15 / 30 AND 16 / 30 .

LEGEND

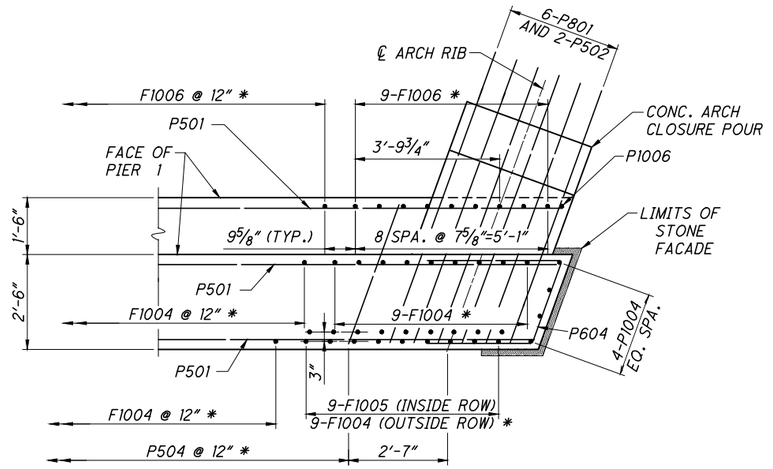
* - BARS PLACED ADJACENT AND PARALLEL TO CENTERLINE OF ARCH RIBS



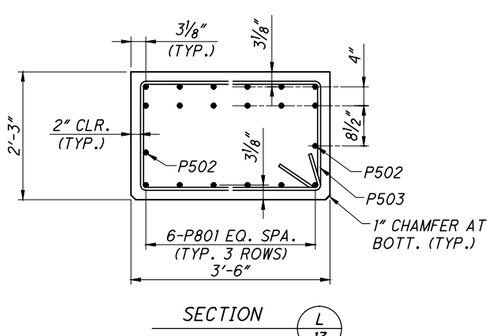
SECTION F / 12



SECTION G / 12



SECTION H / 12



SECTION L / 13

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel.: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

PIER DETAILS 2 OF 2

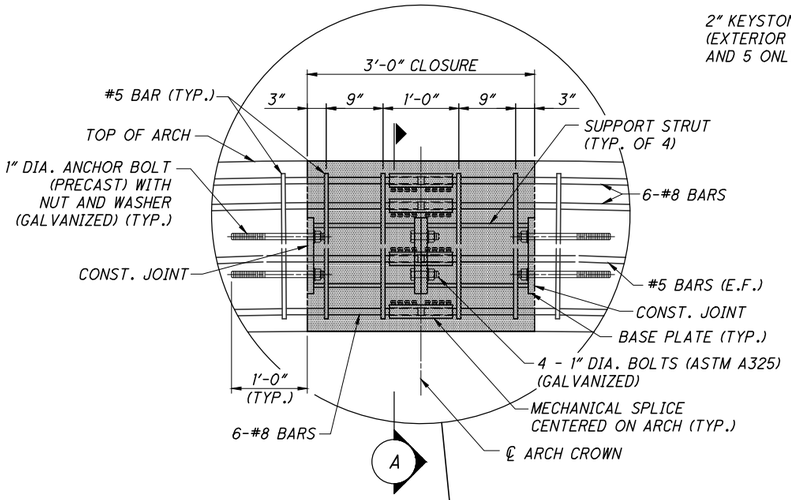
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

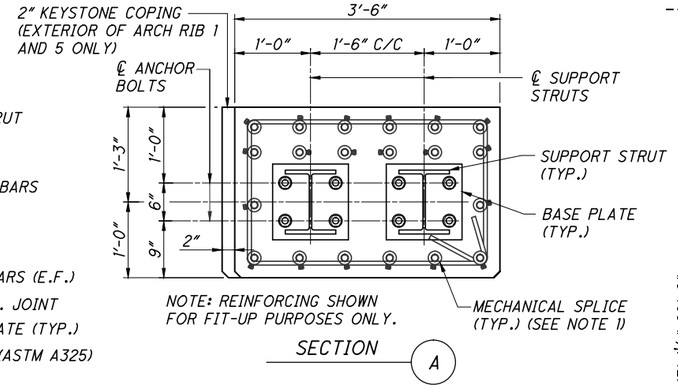
STA - 12TH STREET IMPROVEMENTS

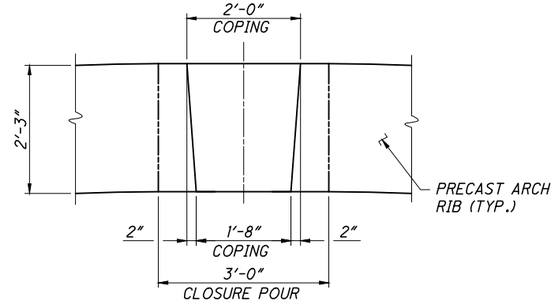
14 / 30

147 / 210

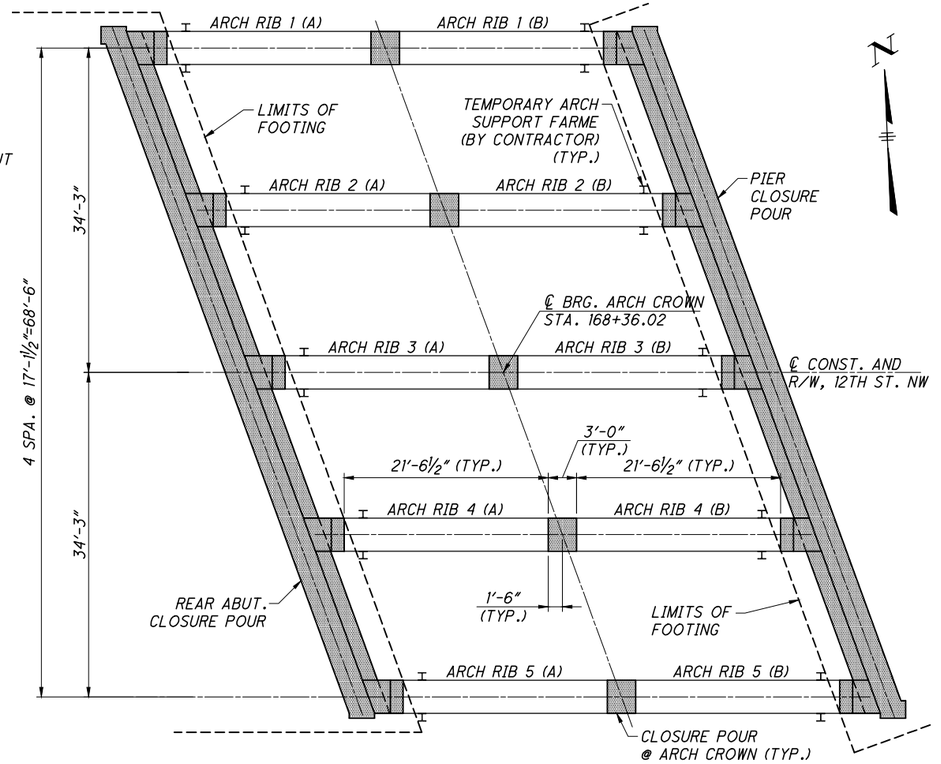
G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CPI003.dwg; 8/31/16 - 11:34am; cferrell



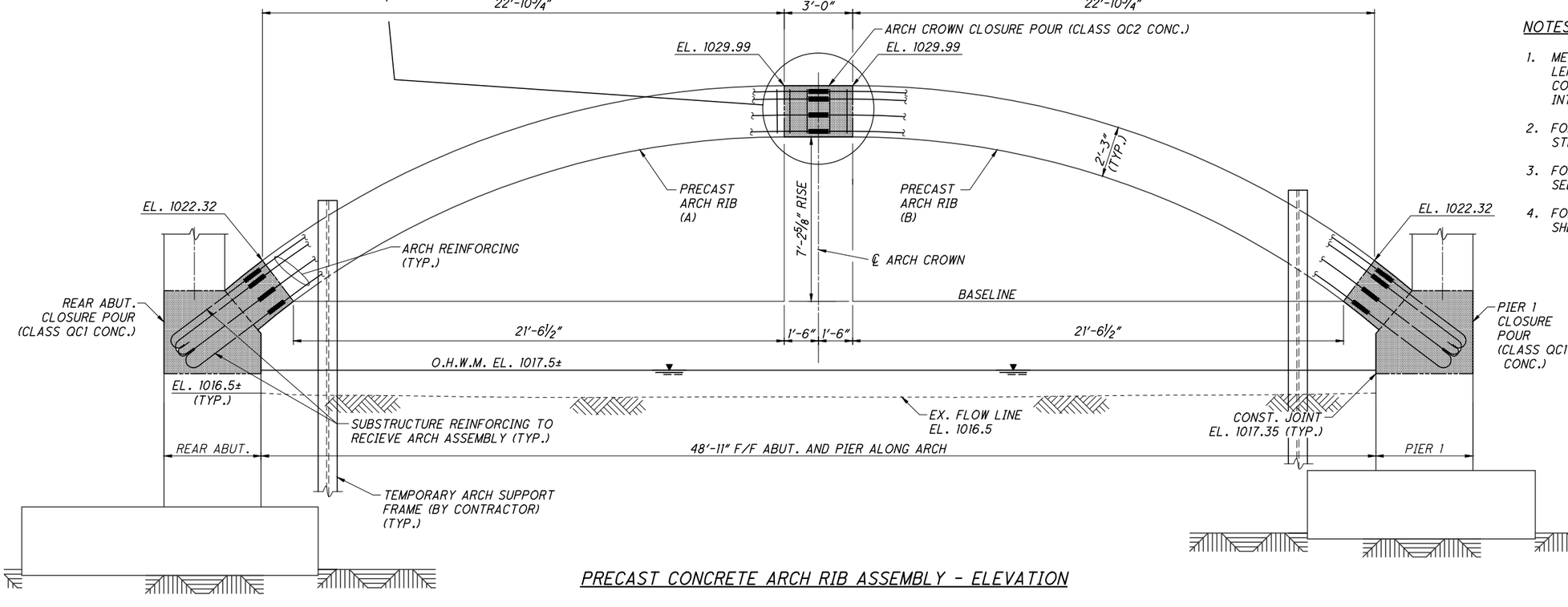




KEYSTONE COPING DETAIL



ARCH RIB - LAYOUT PLAN



PRECAST CONCRETE ARCH RIB ASSEMBLY - ELEVATION

NOTES

1. MECHANICAL SPLICE CONNECTOR SHALL BE LENTON LOCK B-SERIES COUPLER (EPOXY COATED) MANUFACTURED BY ERICO INTERNATIONAL CORP. OR APPROVED EQUAL.
2. FOR PRECAST CONCRETE ARCH AND SUPPORT STRUT DETAILS, SEE SHEET 16 / 30 .
3. FOR REAR ABUTMENT CLOSURE POUR DETAILS SEE SHEETS 5 / 30 AND 6 / 30 .
4. FOR PIER 1 CLOSURE POUR DETAILS SEE SHEETS 12 / 30 THRU 14 / 30 .

SUGGESTED ERECTION PROCEDURE

1. INSTALL TEMPORARY ARCH SUPPORT FRAMES.
2. LIFT PRECAST ARCH RIB (A) AND PRECAST ARCH RIB (B) INTO PLACE.
3. ATTACH BOTTOM OF ARCH RIB TO TEMPORARY ARCH SUPPORT FRAMES AND INSTALL SUPPORT STRUTS AT THE ARCH CROWN.
4. INSTALL MECHANICAL SPLICES AND ADDITIONAL REINFORCING STEEL IN CLOSURE POUR AREAS.
5. PLACE CONCRETE IN CLOSURE POUR AREAS OF REAR ABUTMENT, PIER AND ARCH CROWN.
6. REMOVE TEMPORARY ARCH SUPPORT FRAMES.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300 Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

ARCH ASSEMBLY DETAILS

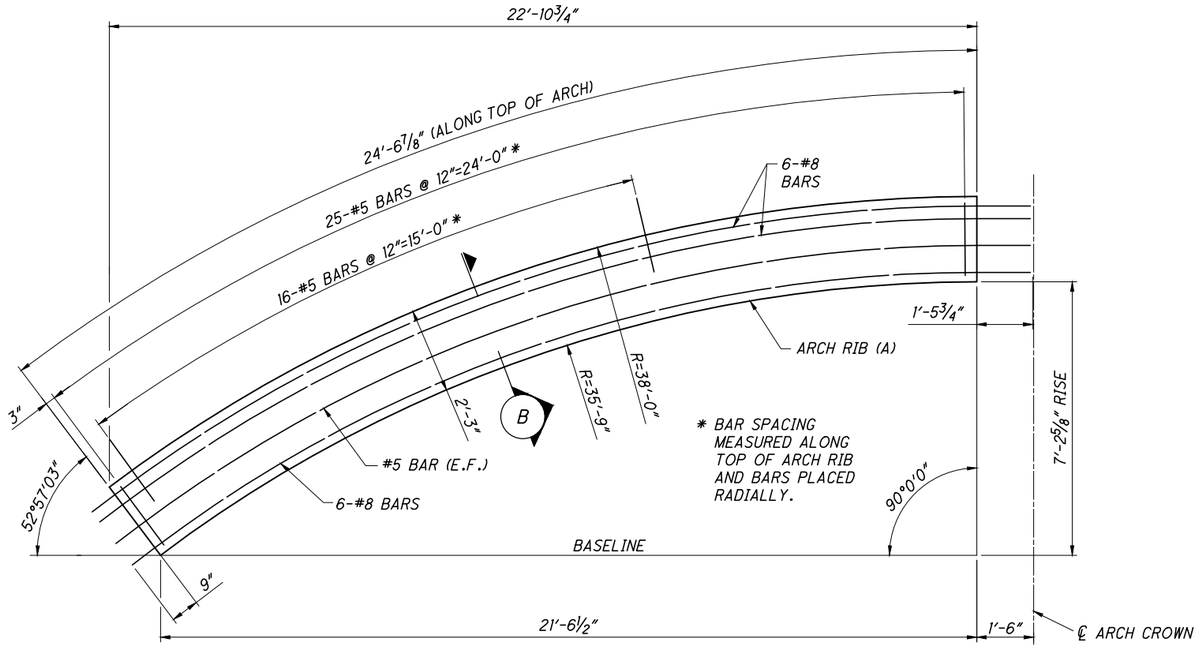
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

15 / 30

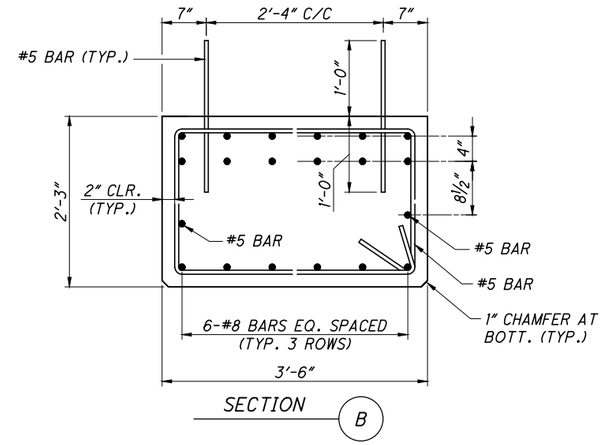
148 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CSD001.dwg; 8/31/16 - 11:34am; cferrell

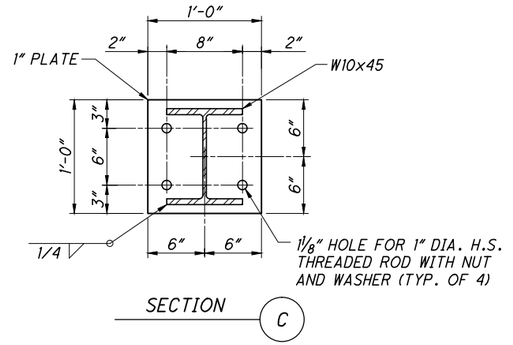


PRECAST CONCRETE ARCH RIB ELEVATION

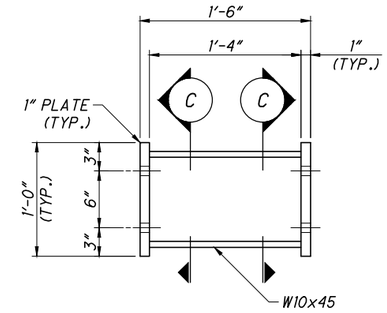
(ARCH RIBS 1 (A) THRU 5 (A) SHOWN, ARCH RIBS 1 (B) THRU 5 (B) OPPOSITE HAND)
(APPROXIMATE WEIGHT = 29,500 LBS EACH)



SECTION B



SECTION C

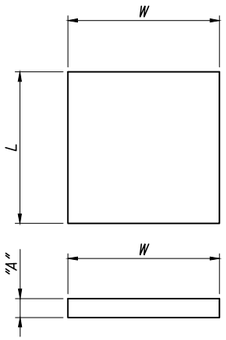


SUPPORT STRUT DETAIL

(20 TOTAL)

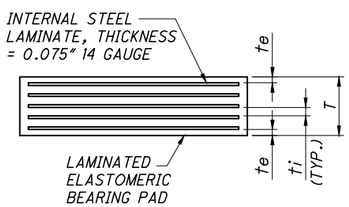
PRECAST FABRICATION TOLERANCES	
DESCRIPTION	TOLERANCES
LENGTH	±1/4"
WIDTH	±1/4"
HEIGHT	±1/4"
SWEEP	±1/4"
REINFORCING STEEL CLEAR COVER	-0 / ±1/4"
REINFORCING STEEL SPACING	±1/4"
REINFORCING STEEL PROJECTION	±1/4"

LOAD PLATE TABLE			
LOCATION	SIZE		(THICKNESS) "DIM. A"
	L	W	
ARCH RIB 1	16"	16"	2"
ARCH RIB 2	16"	16"	1 3/4"
ARCH RIB 3	16"	16"	1 3/8"
ARCH RIB 4	16"	16"	1 1/8"
ARCH RIB 5	16""	16"	7/8"



LOAD PLATE DETAIL

BEARING DATA TABLE								
LOCATION	50 DUROMETER							
	SIZE		(THICKNESS) "DIM. T"	t_i	t_e	NUMBER OF t_i	NUMBER OF t_e	NUMBER OF STEEL LAMINATES
	L	W						
ARCH	12"	12"	2"	0.30	0.21	4	2	5



BEARING PAD DETAIL

NOTES

1. SUPPORT STRUTS: THE STEEL BASE PLATES SHALL BE A709, GRADE 50. THE W10x45 ROLLED I-BEAMS SHALL BE A992 OR A572, GRADE 50. THE SUPPORT STRUTS SHALL BE GALVANIZED.
2. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6.3 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
3. LOAD PLATES: THE LOAD PLATES SHALL BE STAINLESS STEEL, AND ARE NOT TO BE BONDED TO THE BEARING PAD. THE TOP OF THE ELASTOMERIC BEARING PAD SHALL BE COATED WITH SILICON GREASE.
4. ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS AS DETAILED, SHALL BE INCLUDED IN ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE, AS PER PLAN FOR PAYMENT.
5. FOR ARCH RIB ASSEMBLY DETAILS, SEE SHEET 15 | 30 .

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

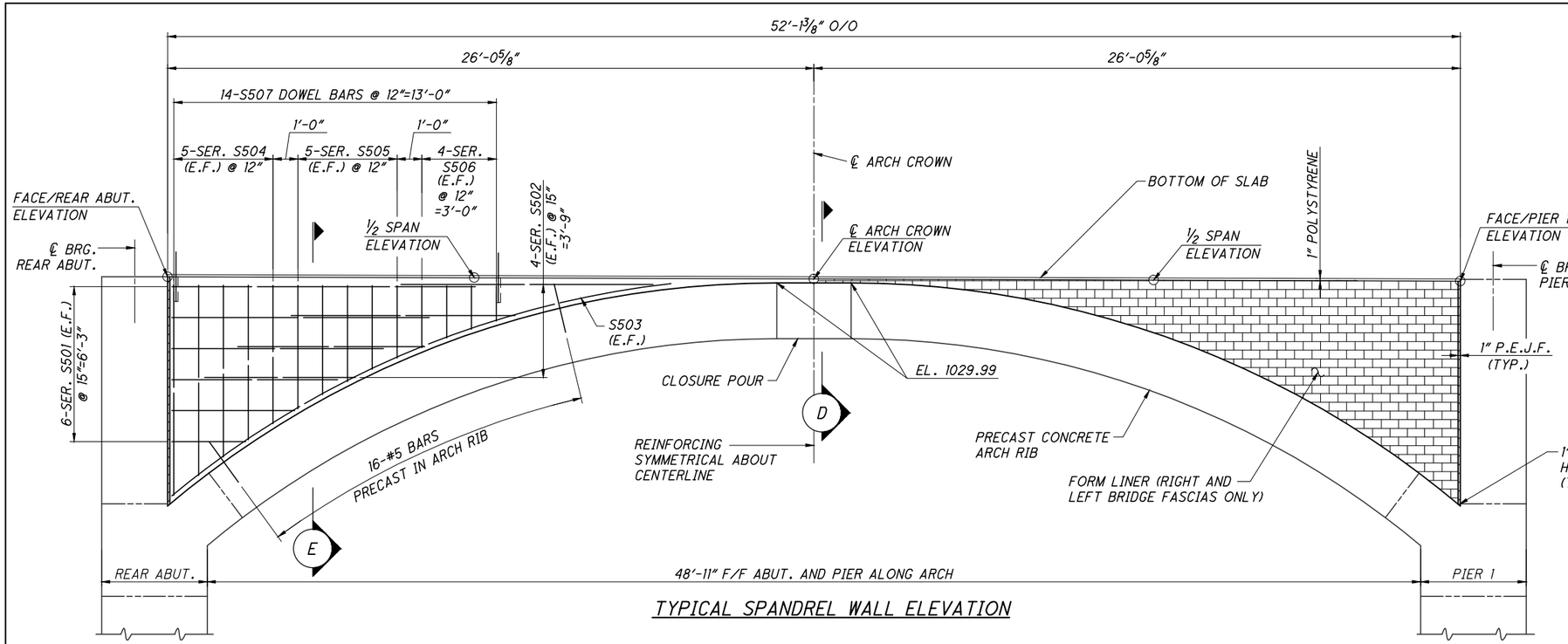
ARCH DETAILS
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

16 | 30

149
210

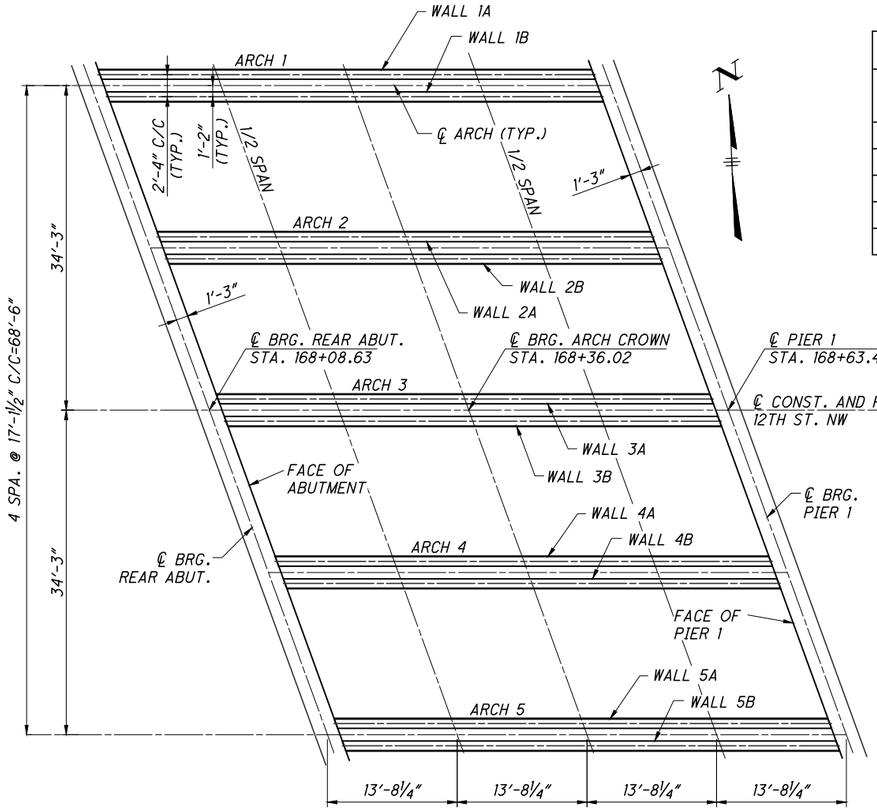
G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA05115CSD002.dwg; 8/31/16 - 11:35am; cferrell



TYPICAL SPANDREL WALL ELEVATION

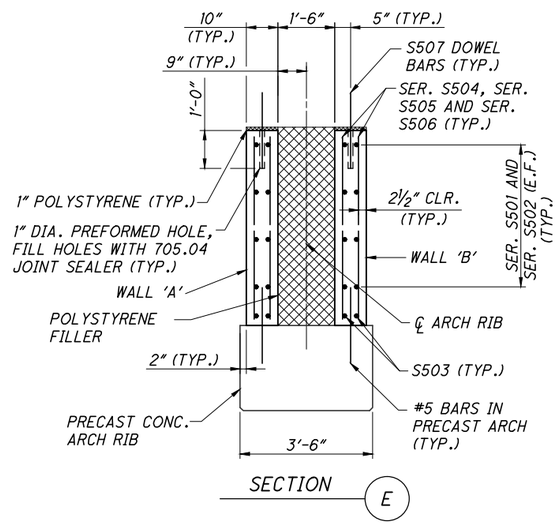
NOTES

1. FOR PRECAST CONCRETE ARCH RIB AND ASSEMBLY DETAILS, SEE SHEETS 15 / 30 AND 16 / 30 .
2. FOR REAR ABUTMENT DETAILS, SEE SHEETS 4 / 30 THRU 7 / 30 .
3. FOR PIER 1 DETAILS, SEE SHEETS 12 / 30 THRU 14 / 30 .
4. FOR SLAB PLAN, SEE SHEET 18 / 30 .
5. FOR TRANSVERSE SECTION, SEE SHEET 19 / 30 .
6. CONCRETE FOR SPANDREL WALLS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE FOR PAYMENT.
7. MINIMUM BAR LAP IS AS FOLLOWS: #5 BAR = 43"
8. FOR BEARING DETAILS SEE SHEET 16 / 30 .
9. PREFORMED HOLES, JOINT SEALER, AND POYSTYRENE MATERIAL SHALL BE INCIDENTAL WITH ITEM 511 - CLASS QC2 CONCRETE FOR PAYMENT.

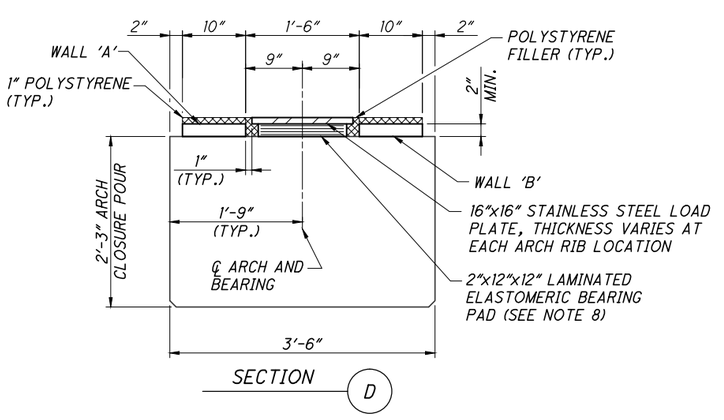


SPANDREL WALL LAYOUT KEY

SPANDREL WALL ELEVATION TABLE					
LOCATION	SPANDREL WALL NO.				
	1A / 1B	2A / 2B	3A / 3B	4A / 4B	5A / 5B
FACE/REAR ABUT.	1030.33	1030.31	1030.29	1030.26	1030.24
½ SPAN	1030.29	1030.26	1030.24	1030.22	1030.20
℄ ARCH CROWN	1030.24	1030.22	1030.19	1030.17	1030.15
½ SPAN	1030.19	1030.17	1030.15	1030.12	1030.10
FACE/PIER 1	1030.15	1030.12	1030.10	1030.08	1030.06



SECTION E



SECTION D

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

SUPERSTRUCTURE SPANDREL WALL DETAILS

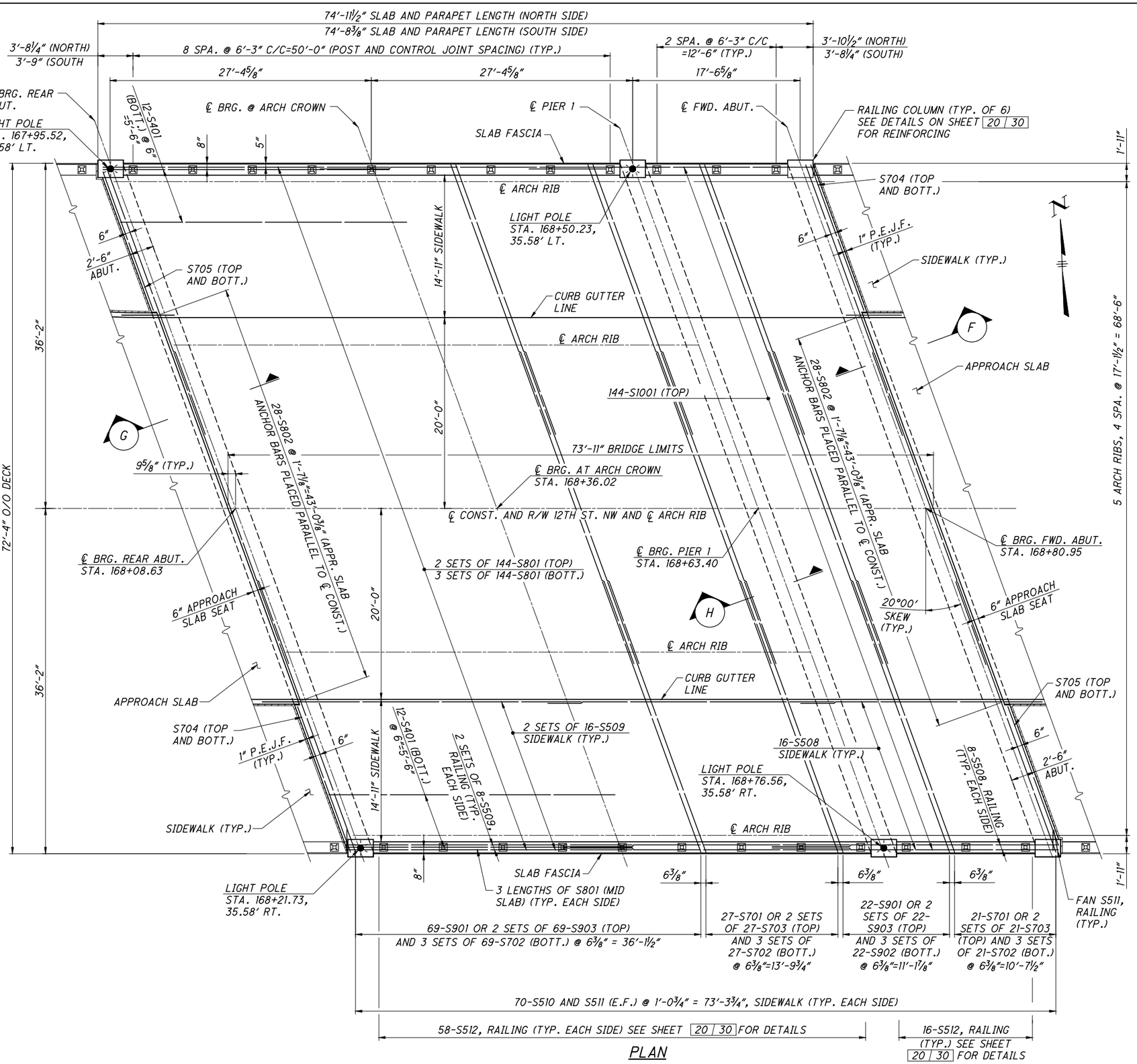
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

17 / 30

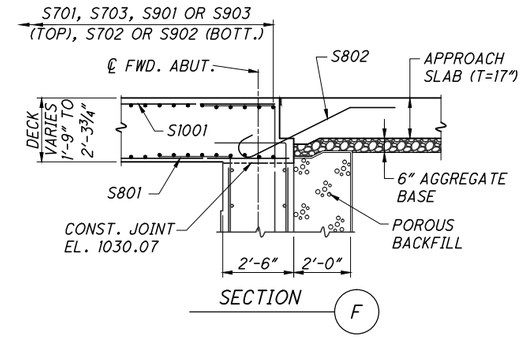
150 / 210

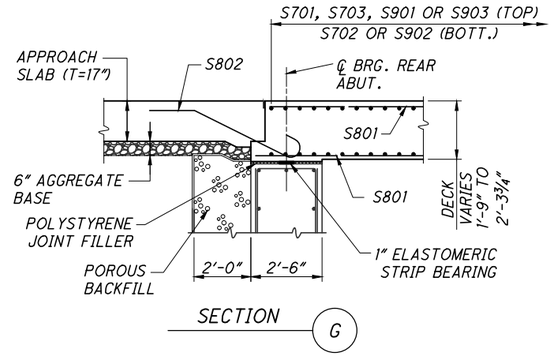
G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA05515CSD003.dwg; 8/31/16 - 11:35am; cferrell

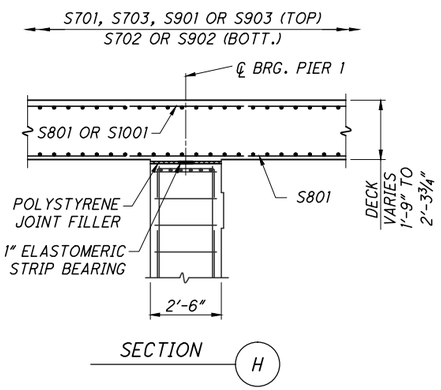


NOTES

1. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43" #7 BARS = 66" #8 BAR = 87"
   #9 BARS = 110"
2. FOR APPROACH SLAB DETAILS AND NOTES, SEE SHEETS 22 | 30 AND 23 | 30 .
3. FOR REAR ABUTMENT DETAILS, SEE SHEETS 5 | 30 AND 6 | 30 .
4. FOR PIER DETAILS, SEE SHEETS 12 | 30 THRU 14 | 30 .
5. FOR FORWARD ABUTMENT DETAILS, SEE SHEETS 9 | 30 AND 10 | 30 .
6. FOR ARCH DETAILS SEE SHEET 15 | 30 .
7. FOR TRANSVERSE SECTION AND DECK ELEVATION TABLES SEE SHEET 19 | 30.
8. FOR UNDER BRIDGE LIGHTING KEY SEE SHEET 19 | 30.







DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300 Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

SLAB PLAN

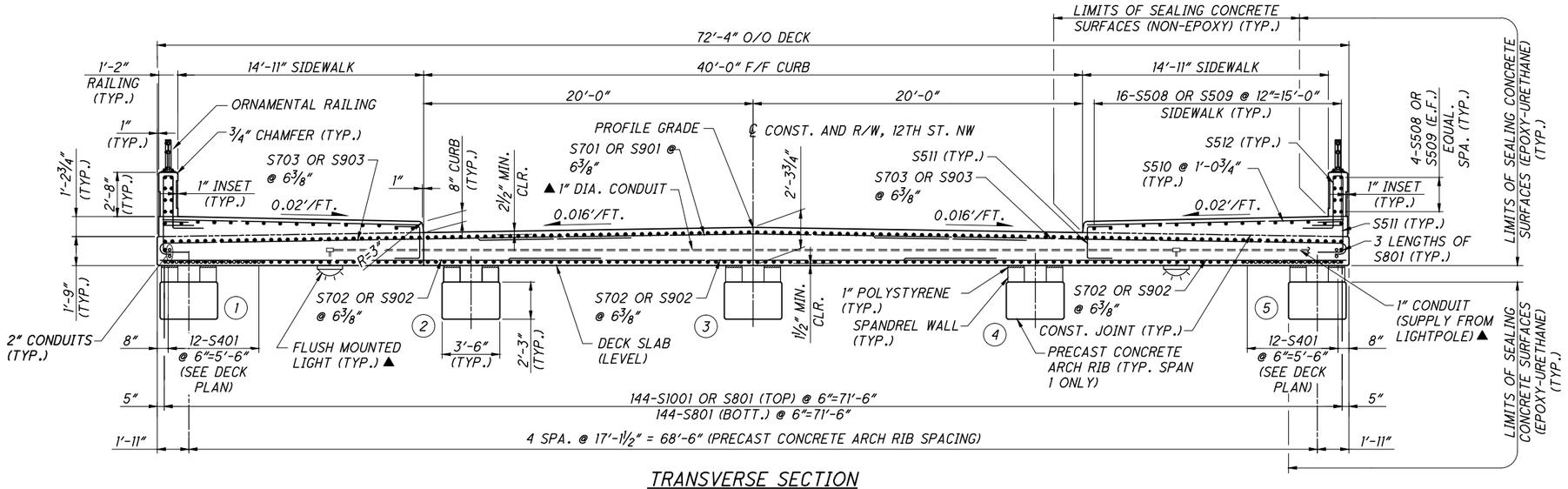
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

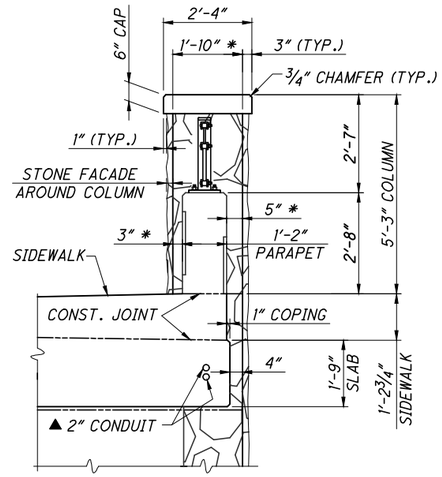
18 | 30

151 | 210

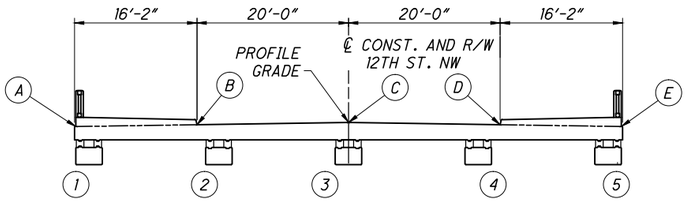
G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CDP001.dwg; 8/31/16 - 11:35am; cferrell



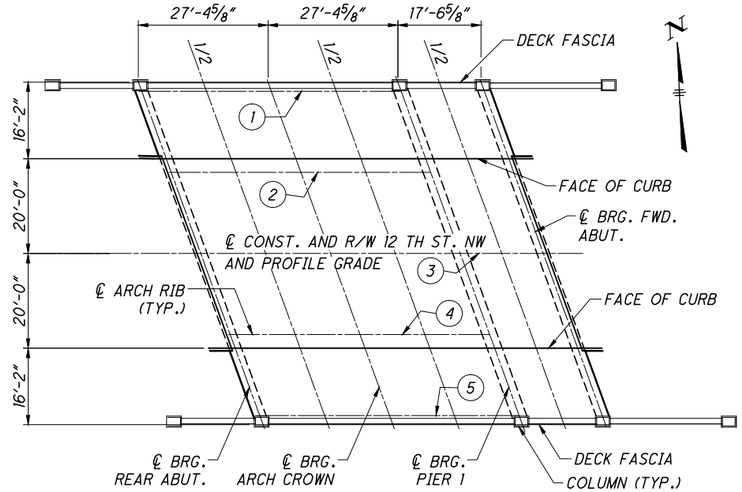
TRANSVERSE SECTION



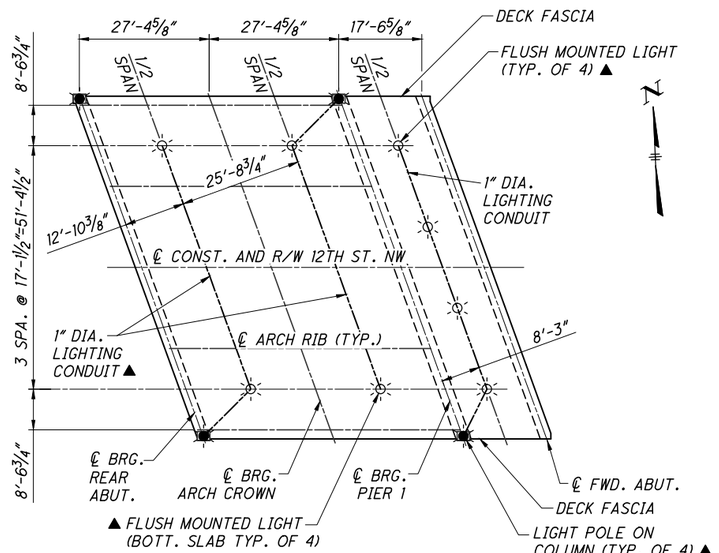
PARAPET/COLUMN DETAIL



TRANSVERSE KEY



SLAB KEY



UNDER - BRIDGE LIGHTING KEY

SCREED ELEVATION TABLE					
DESCRIPTION	POINTS				
	A	B	C	D	E
℄ BRG. REAR ABUT.	1032.17	1032.41	1032.71	1032.36	1032.08
½ POINT	1032.14	1032.38	1032.67	1032.32	1032.05
℄ ARCH CROWN	1032.08	1032.32	1032.61	1032.27	1031.99
½ POINT	1032.04	1032.28	1032.57	1032.23	1031.95
℄ BRG. PIER 1	1031.98	1032.22	1032.52	1032.17	1031.89
½ POINT	1031.96	1032.20	1032.50	1032.15	1031.87
℄ FWD. ABUT.	1031.92	1032.16	1032.45	1032.11	1031.83

FINAL DECK SURFACE ELEVATION TABLE										
DESCRIPTION	POINTS					CENTERLINE OF ARCHES				
	A	B	C	D	E	1	2	3	4	5
℄ BRG. REAR ABUT.	1032.17	1032.41	1032.71	1032.36	1032.08	1032.20	1032.46	1032.71	1032.41	1032.12
½ POINT	1032.13	1032.36	1032.66	1032.31	1032.03	1032.15	1032.41	1032.66	1032.36	1032.07
℄ ARCH CROWN	1032.08	1032.32	1032.61	1032.27	1031.99	1032.11	1032.36	1032.61	1032.32	1032.02
½ POINT	1032.03	1032.27	1032.56	1032.22	1031.94	1032.06	1032.31	1032.56	1032.27	1031.97
℄ BRG. PIER 1	1031.98	1032.22	1032.52	1032.17	1031.89	1032.01	1032.26	1032.52	1032.22	1031.92
½ POINT	1031.95	1032.19	1032.48	1032.14	1031.86	1031.98	1032.23	1032.48	1032.19	1031.89
℄ FWD. ABUT.	1031.92	1032.16	1032.45	1032.11	1031.83	1031.95	1032.20	1032.45	1032.16	1031.86

LEGEND

- * - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE
- ▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT
- ☀ - LIGHT POLE ON COLUMN
- ☼ - FLUSH MOUNTED LIGHT

NOTES

1. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43" #7 BARS = 66" #8 BAR = 87"
   #9 BARS = 110"
2. FOR ADDITIONAL CONCRETE RAILING, COLUMN AND ORNAMENTAL RAILING DETAILS, SEE SHEETS 20 / 30 AND 21 / 30 .
3. FOR ARCH DETAILS, SEE SHEETS 15 / 30 AND 16 / 30 .
4. FOR SPANDREL WALL DETAILS SEE SHEET 17 / 30 .
5. FOR SLAB PLAN, SEE SHEET 18 / 30 .

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

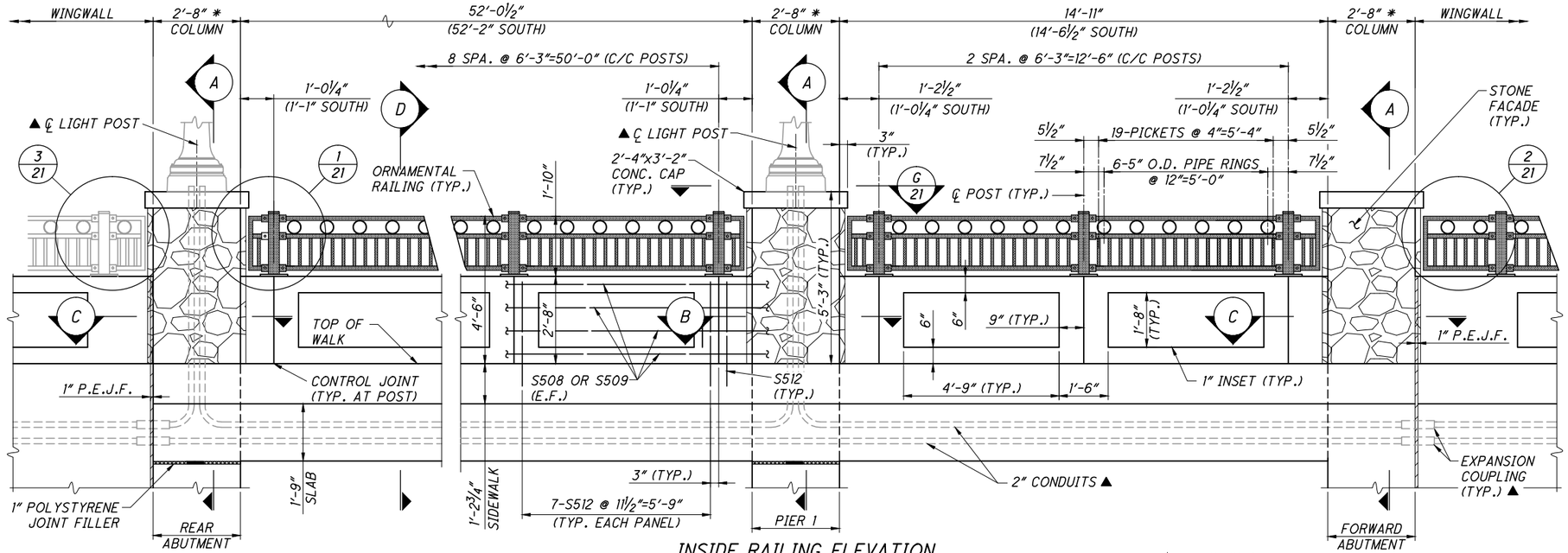
DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

TRANSVERSE SECTION AND DECK ELEVATIONS

BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CTS001.dwg; 8/31/16 - 11:36am; cferrell

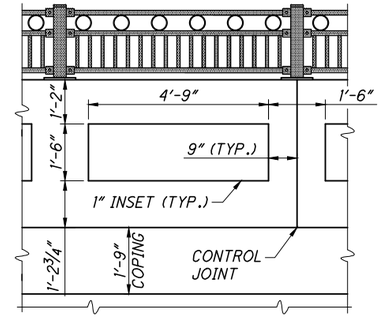


INSIDE RAILING ELEVATION

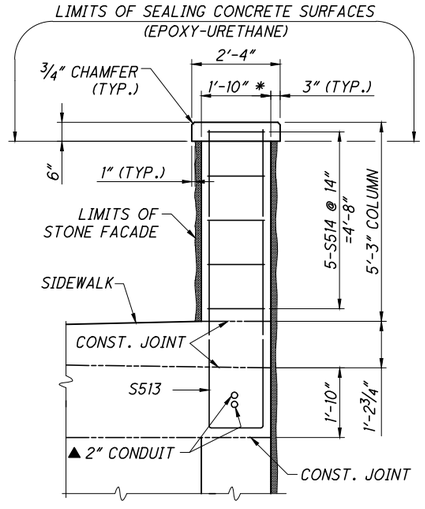
(NORTH ELEVATION SHOWN, SOUTH ELEVATION OPPOSITE HAND AND AS NOTED)

NOTES

1. ALL RAILS SHALL BE PARALLEL WITH PROFILE GRADE. ALL PICKETS AND POSTS SHALL BE VERTICAL (PLUMB).
2. FOR SLAB PLAN AND TRANSVERSE SECTION, SEE SHEETS 18 | 30 AND 19 | 30 .
3. FOR REAR AND FORWARD ABUTMENT WINGWALL DETAILS SEE SHEETS 7 | 30 AND 11 | 30 .

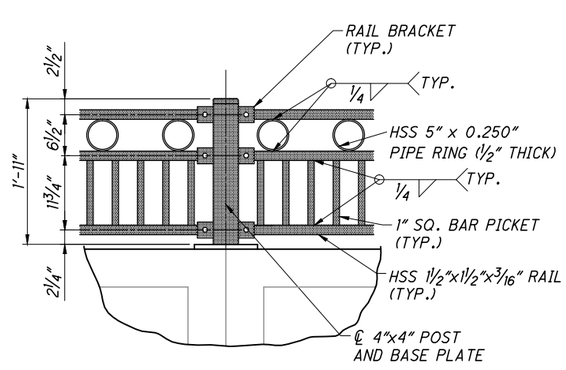


PARTIAL OUTSIDE RAILING ELEVATION

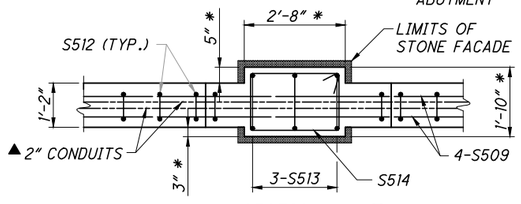


SECTION A

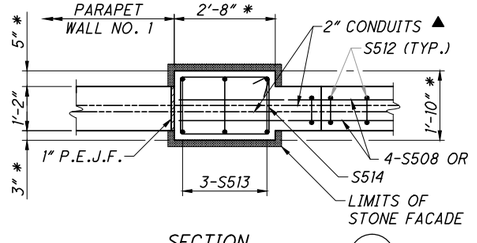
(FORWARD ABUTMENT SHOWN, REAR ABUTMENT AND PIER 1 SIMILAR)



TYPICAL POST DETAIL

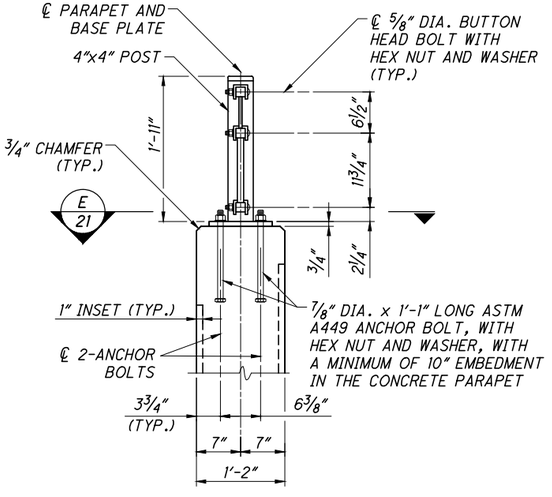


SECTION B

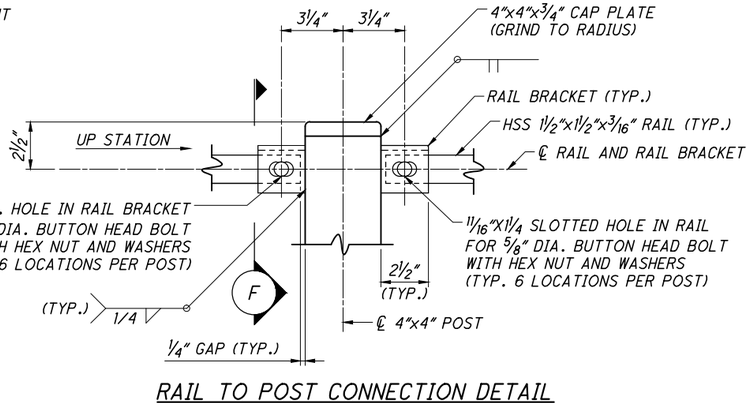


SECTION C

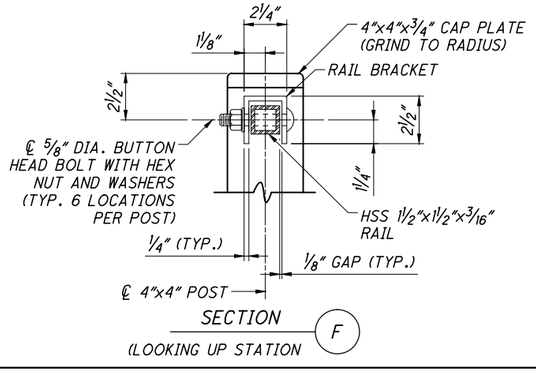
(REAR ABUTMENT SHOWN, FORWARD ABUTMENT OPPOSITE HAND)



SECTION D



RAIL TO POST CONNECTION DETAIL



SECTION F

(LOOKING UP STATION

LEGEND

* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300 Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

RAILING DETAILS 1 OF 2

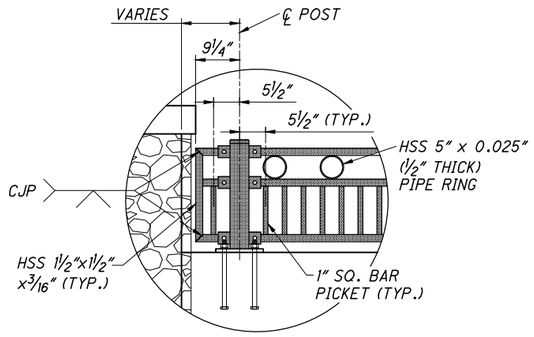
BRIDGE NO. STA M12TH-CA-05-15 OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

20 | 30

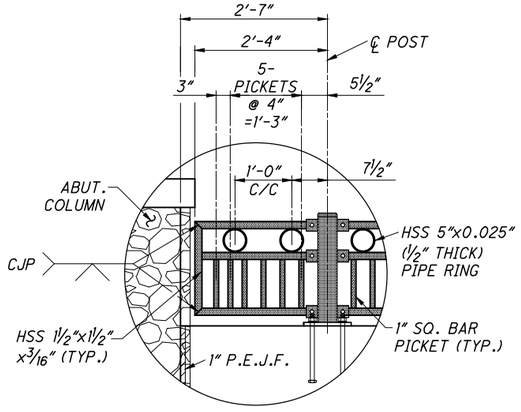
153 | 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA05115CRA001.dwg; 8/31/16 - 11:36am; cferrell



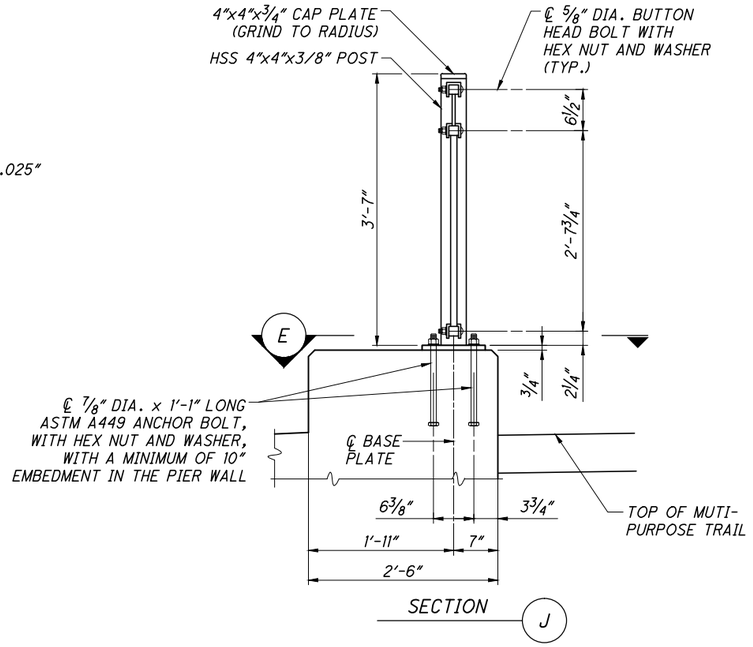
TYPICAL END POST (1/20)

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT AND PIER 1 SIMILAR)

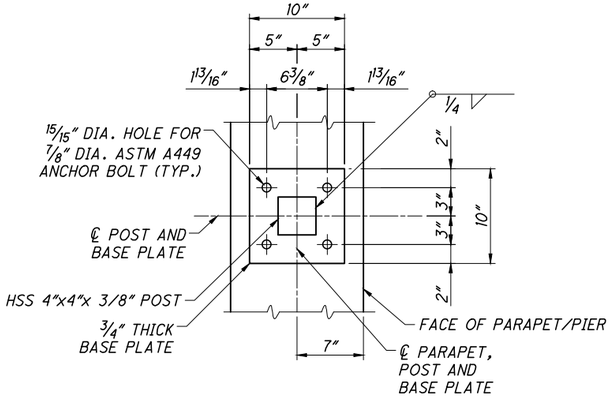


TYPICAL END POST (2/20)

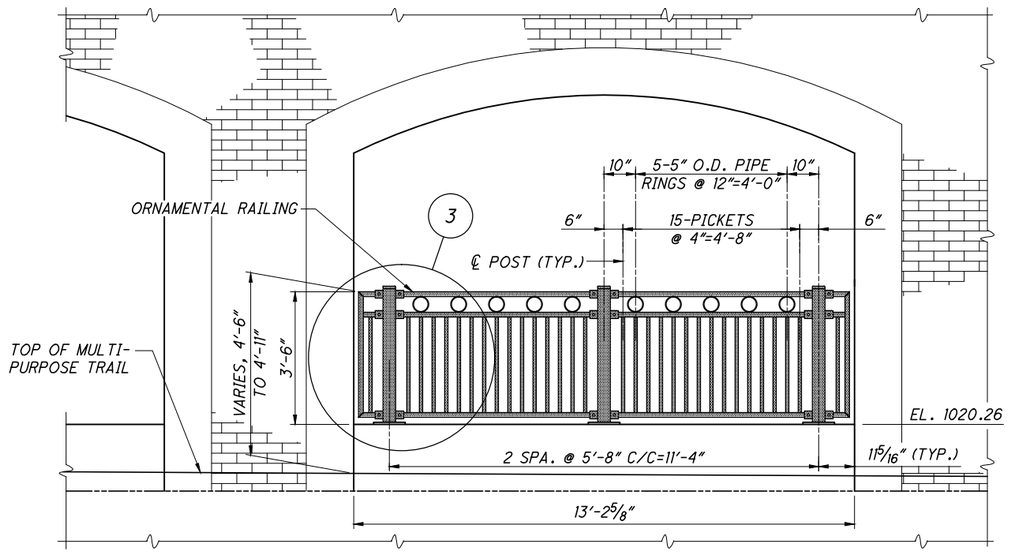
(FORWARD ABUTMENT WINGWALLS)



SECTION (J)

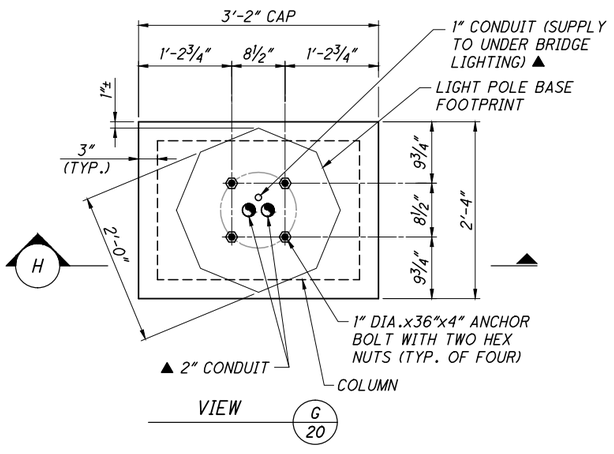


SECTION (E/20 E)

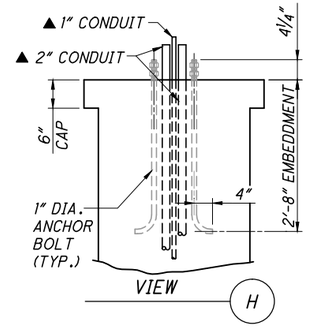


PIER RAILING ELEVATION

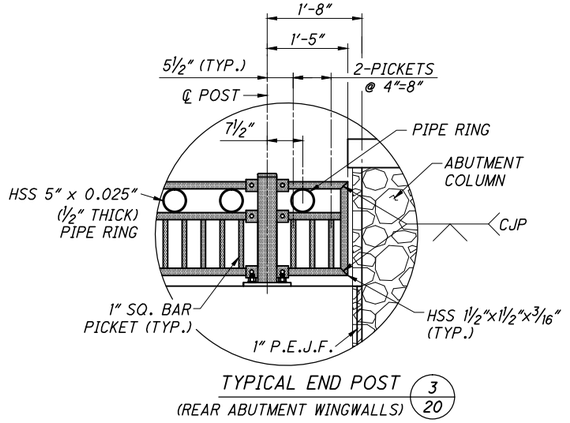
(TYPICAL OF FOUR LOCATIONS)



VIEW (G/20)

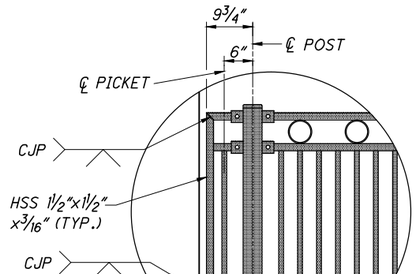


VIEW (H)



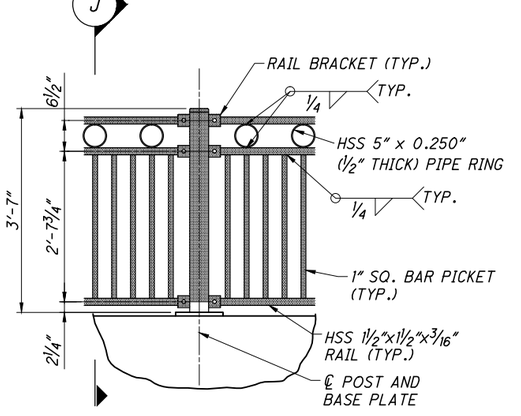
TYPICAL END POST (3/20)

(REAR ABUTMENT WINGWALLS)



TYPICAL END POST (3)

(PIER RAILING)



TYPICAL POST DETAIL

(PIER RAILING)

NOTES

1. ALL RAILS SHALL BE HORIZONTAL. ALL PICKETS AND POSTS SHALL BE VERTICAL (PLUMB).
2. FOR ADDITIONAL RAILING DETAILS, SEE SHEET 20 / 30 .
3. FOR PIER DETAILS, SEE SHEETS 12 / 30 THRU 14 / 30 .
4. FOR UNDER BRIDGE LIGHTING KEY, SEE SHEET 19 / 30 .
5. ADJUST PIER REINFORCING AS REQUIRED TO ALLOW FOR INSTALLATION OF RAILING ANCHOR BOLTS.
6. FOR RAIL TO POST CONNECTION AND BRACKET DETAILS, SEE SHEET 20 / 30 .

LEGEND

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

RAILING DETAILS 2 OF 2

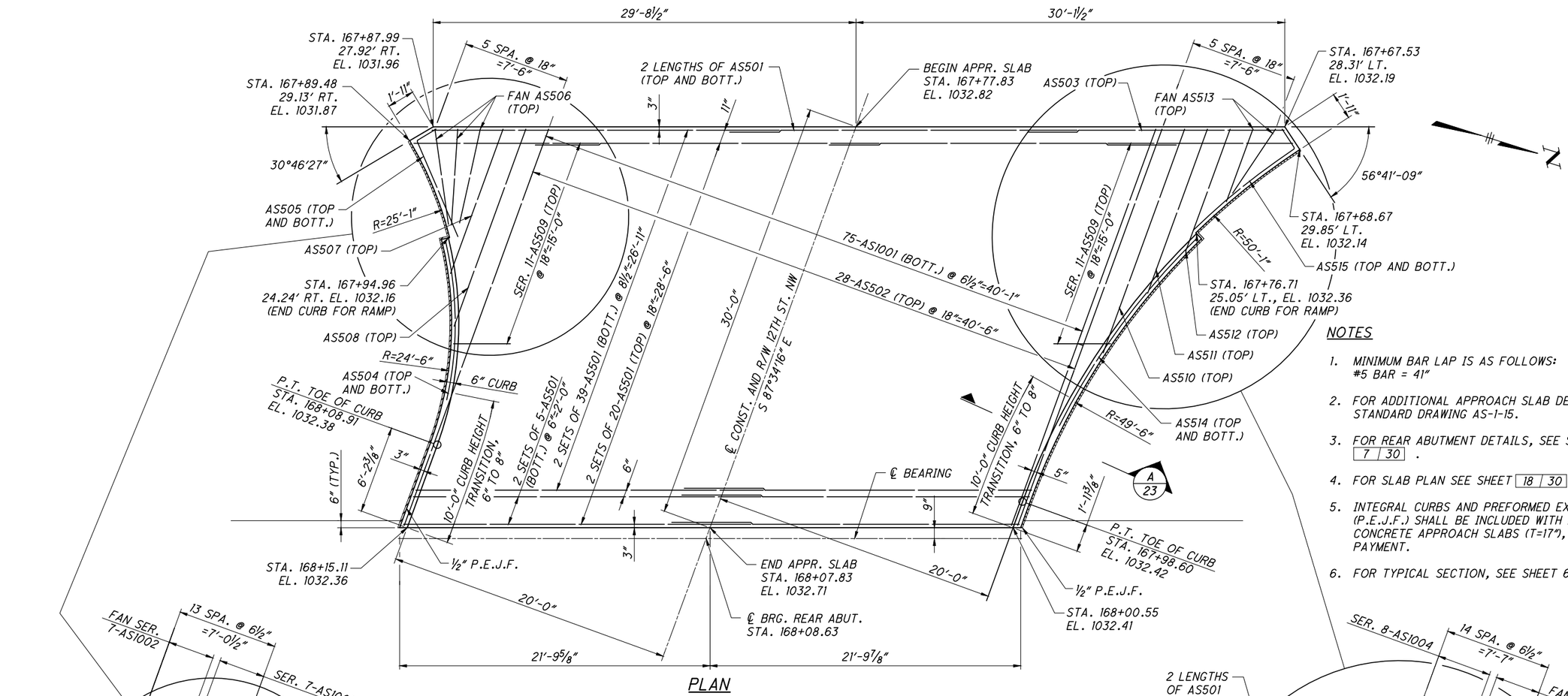
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET
IMPROVEMENTS

21 / 30

154 / 210

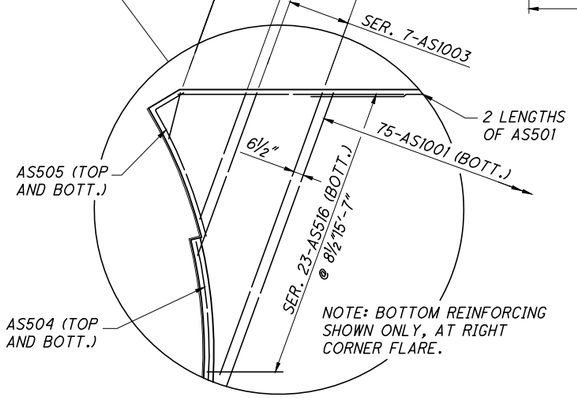
G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CRA002.dwg; 8/31/16 - 11:36am; cferrell

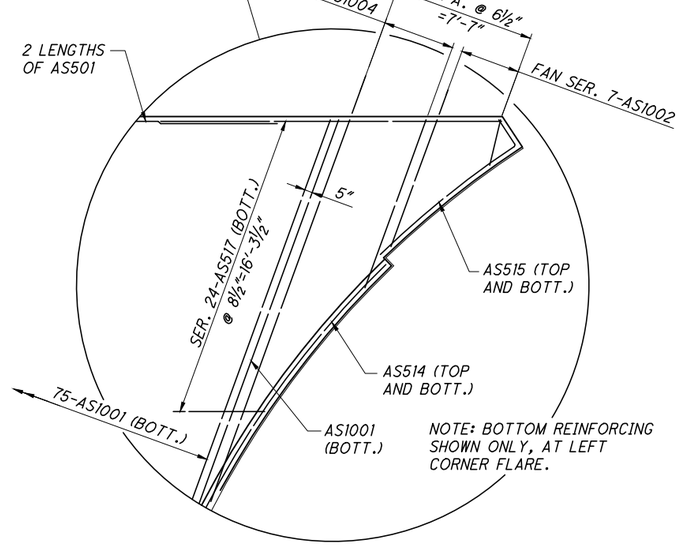


PLAN

NOTES

1. MINIMUM BAR LAP IS AS FOLLOWS: #5 BAR = 41"
2. FOR ADDITIONAL APPROACH SLAB DETAILS AND NOTES, SEE STANDARD DRAWING AS-1-15.
3. FOR REAR ABUTMENT DETAILS, SEE SHEETS 5 / 30 AND 7 / 30 .
4. FOR SLAB PLAN SEE SHEET 18 / 30 .
5. INTEGRAL CURBS AND PREFORMED EXPANSION JOINT FILLER (P.E.J.F.) SHALL BE INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN FOR PAYMENT.
6. FOR TYPICAL SECTION, SEE SHEET 6.





DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

REAR APPROACH SLAB DETAILS

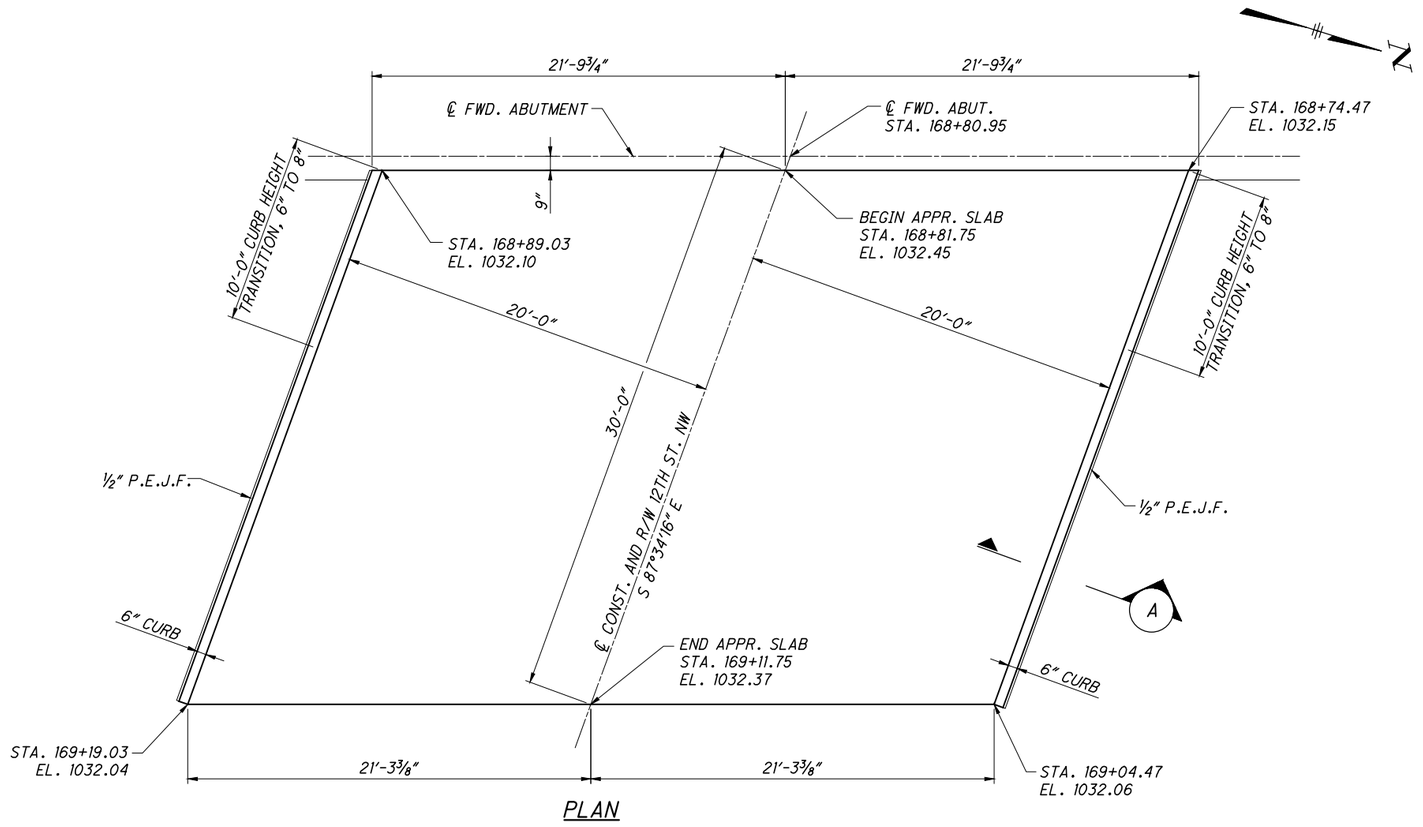
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET
IMPROVEMENTS

22 / 30

155
210

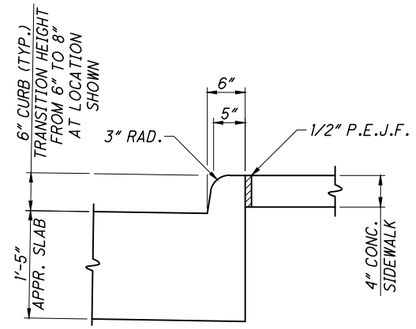
G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CMD01.dwg; 8/31/16 - 11:37am; cferrell



PLAN

NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS, REINFORCING AND NOTES, SEE STANDARD DRAWING AS-1-15.
2. FOR FORWARD ABUTMENT DETAILS, SEE SHEETS 9 / 30 AND 10 / 30 .
3. FOR SLAB PLAN SEE SHEET 18 / 30 .
4. INTEGRAL CURBS AND PREFORMED EXPANSION JOINT FILLER (P.E.J.F.) SHALL BE INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN FOR PAYMENT.
5. FOR TYPICAL SECTION, SEE SHEET 6.



SECTION A — A / 22

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	CAF	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

FORWARD APPROACH SLAB DETAILS

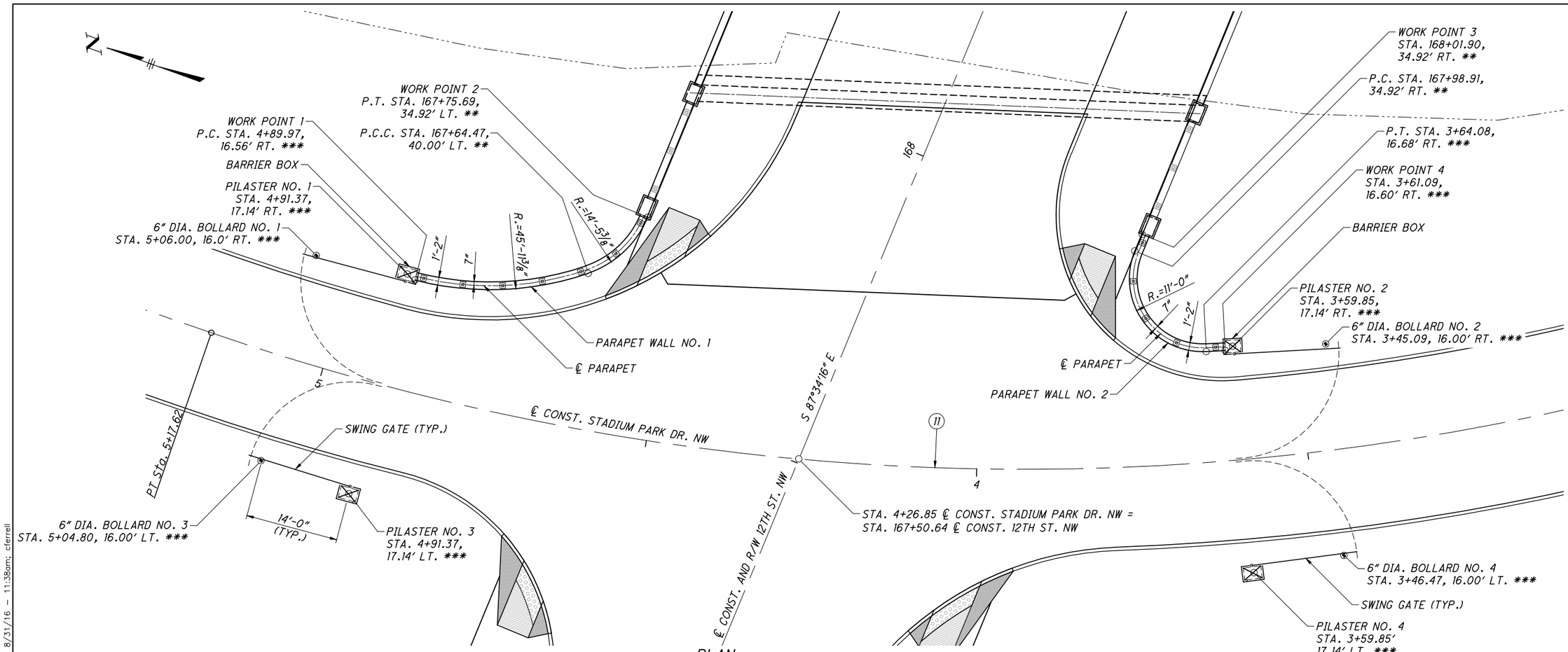
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

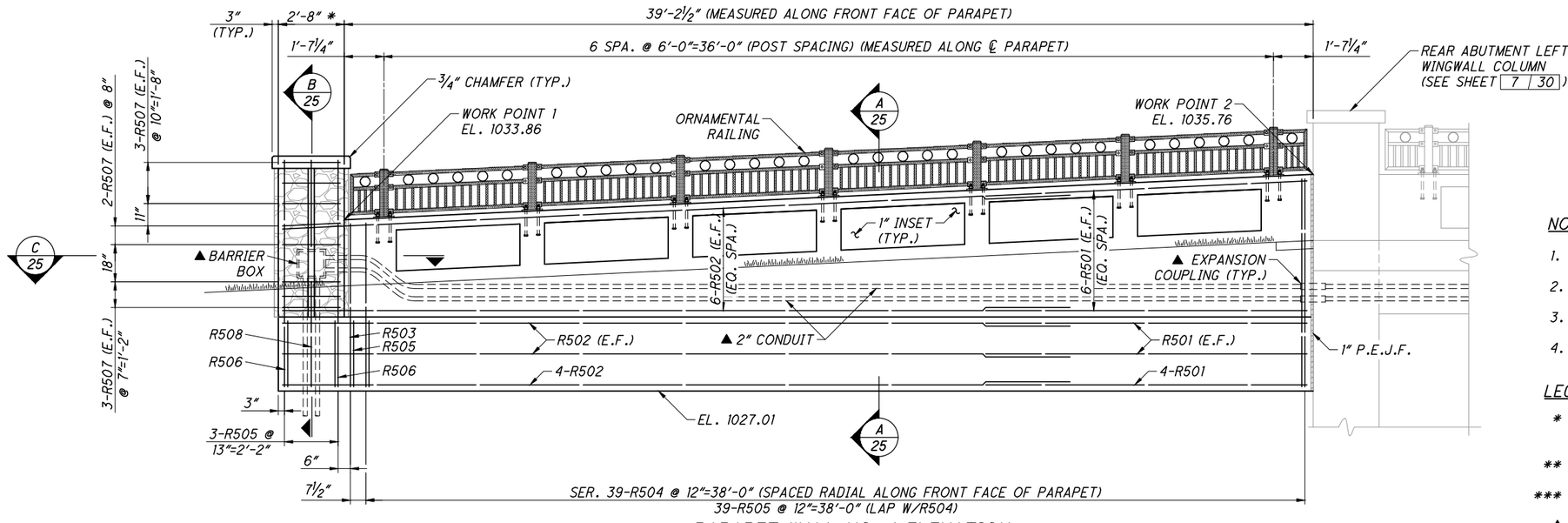
23 / 30

156 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CM002.dwg; 8/31/16 - 11:37am; cferrell



PLAN



PARAPET WALL NO. 1 ELEVATION

(11) CURVE DATA

P.I.= Sta. 3+96.44
D = 38° 33′ 11″
Dc = 15° 16′ 44″
R = 375.000
T = 131.15′
L = 252.33′
E = 22.27
C = 247.60
C. B. = N 20° 08′ 16″ W

NOTES

1. FOR SWING GATE DETAILS, SEE SHEET 27 / 30 .
2. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 26 / 30 .
3. FOR LIGHTING PLANS, SEE SHEETS 122 THRU 133 OF 210.
4. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 41″

LEGEND

* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE

** - WITH REFERENCE TO ℄ CONST. 12TH ST. NW

*** - WITH REFERENCE TO ℄ CONST. STADIUM PARK RD. NW

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

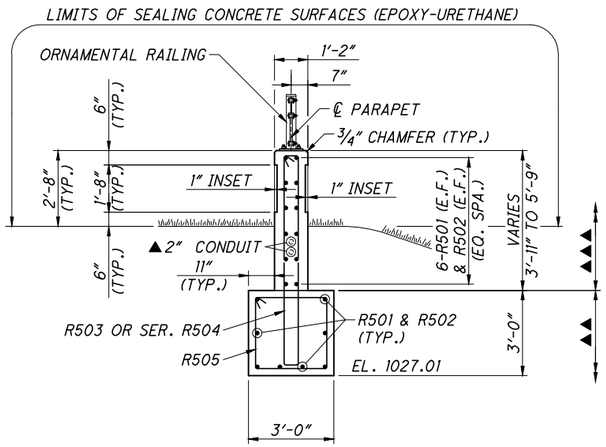
DESIGNED	DRAWN	REVIEWED	DATE
RPB	MPB	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

PARAPET WALL DETAILS

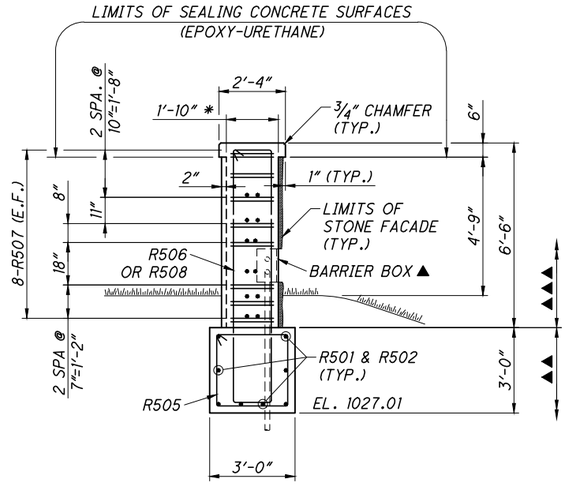
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

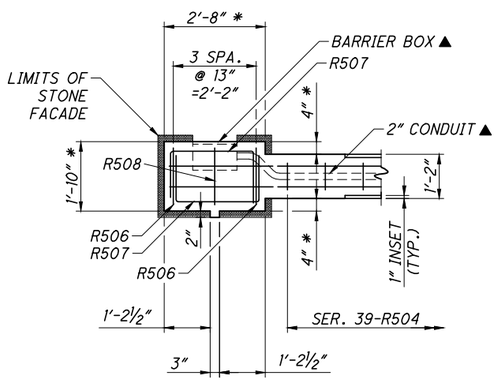
G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge Parapet Wall\Sheets\PAR4515SD001.dwg; 8/31/16 - 11:38am; cferrell



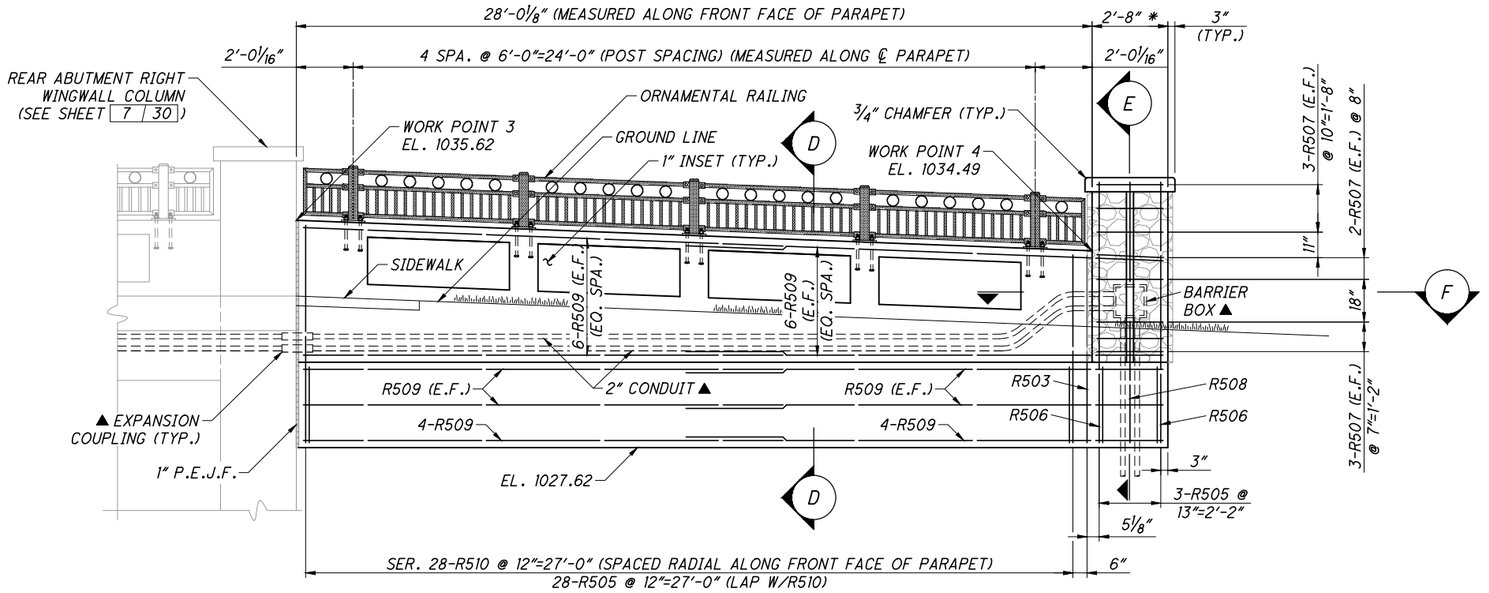
SECTION A / 24



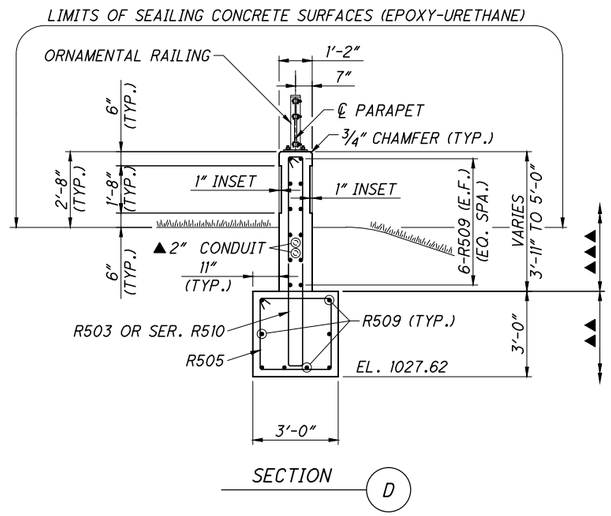
SECTION B / 24



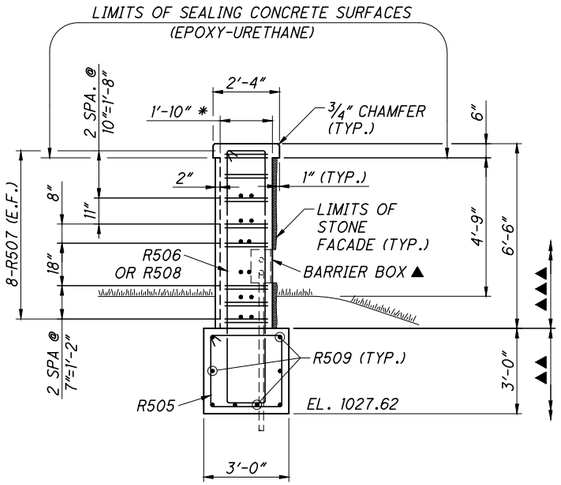
SECTION C / 24



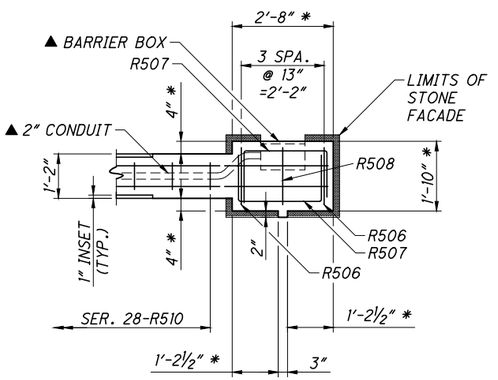
PARAPET WALL NO. 2 ELEVATION



SECTION D



SECTION E



SECTION F

NOTE

1. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 41"

LEGEND

- * - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE
- ▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT
- ▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING
- ▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	MPB	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

PARAPET WALL DETAILS

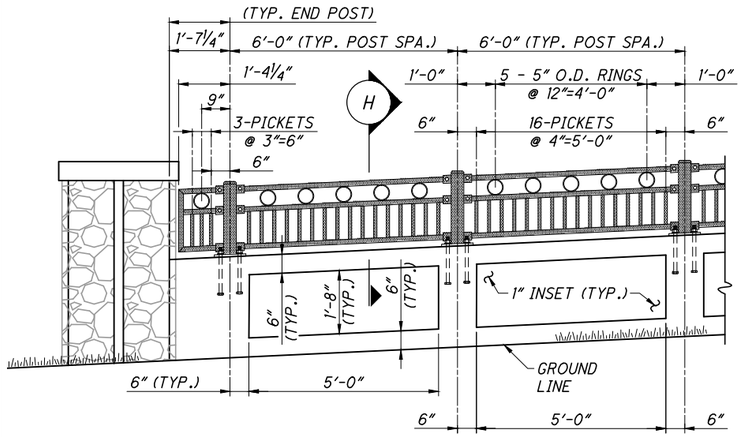
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

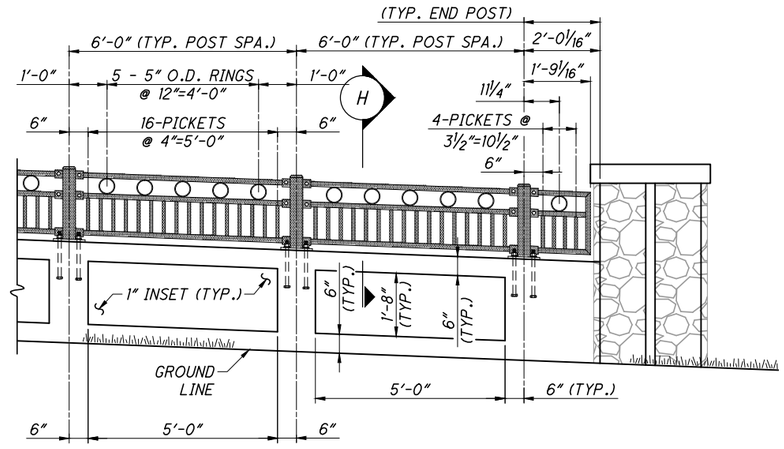
25 / 30

158 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge Parapet Wall\Sheets\PARA515SD001.dwg; 8/31/16 - 11:38am; cferrell



PARAPET WALL NO. 1 ORNAMENTAL RAILING ELEVATION



PARAPET WALL NO. 2 ORNAMENTAL RAILING ELEVATION

NOTES

1. RAILING PANEL LENGTHS SHALL BE DETERMINED BY THE CONTRACTOR. ALL RAIL SPLICES SHALL OCCUR AT A POST LOCATION AS SHOWN IN THE DETAILS.
2. ALL RAILS SHALL BE PARALLEL WITH PROFILE GRADE. ALL PICKETS AND POSTS SHALL BE VERTICAL (PLUMB).

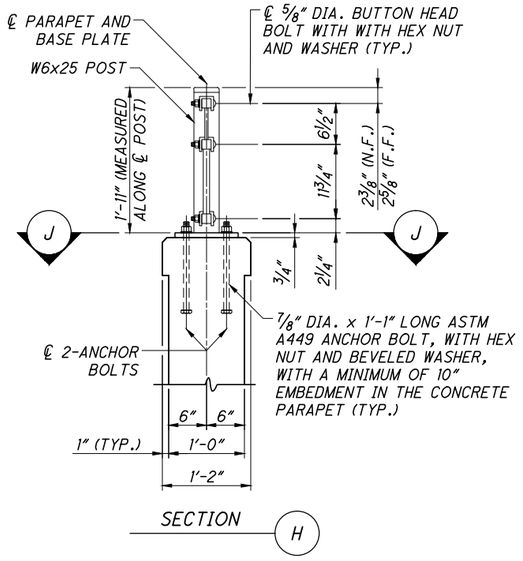
LEGEND

* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE

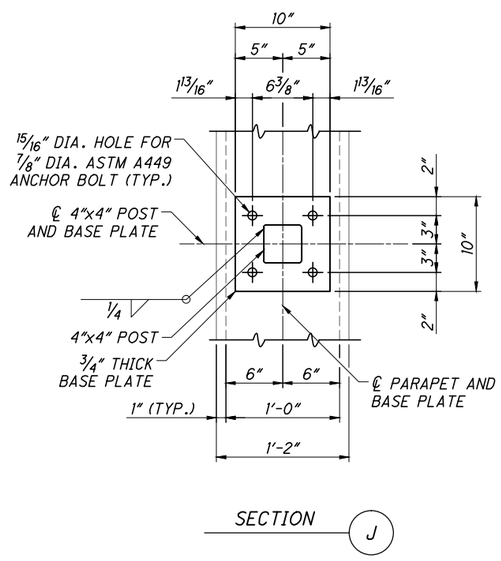
** - WITH REFERENCE TO ℄ CONST. STADIUM PARK RD. NW

▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

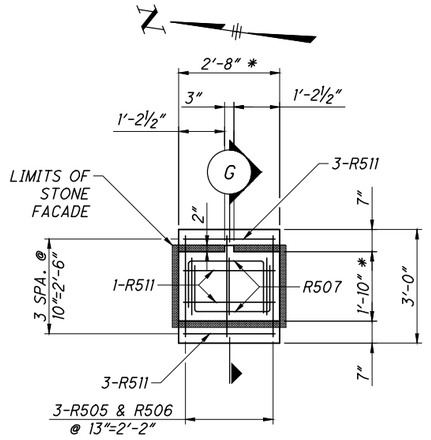
▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)



SECTION H

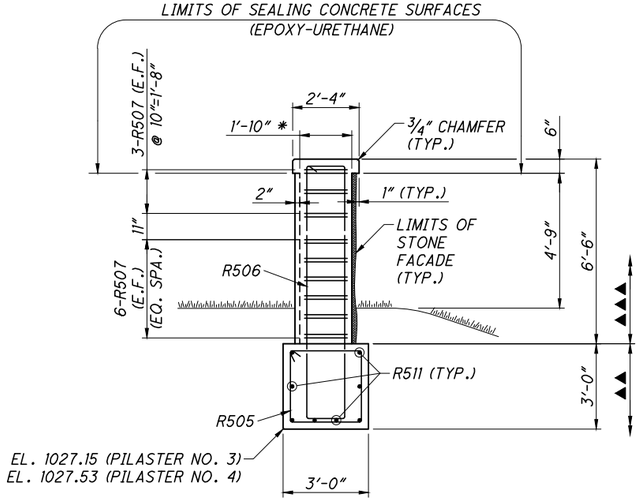


SECTION J

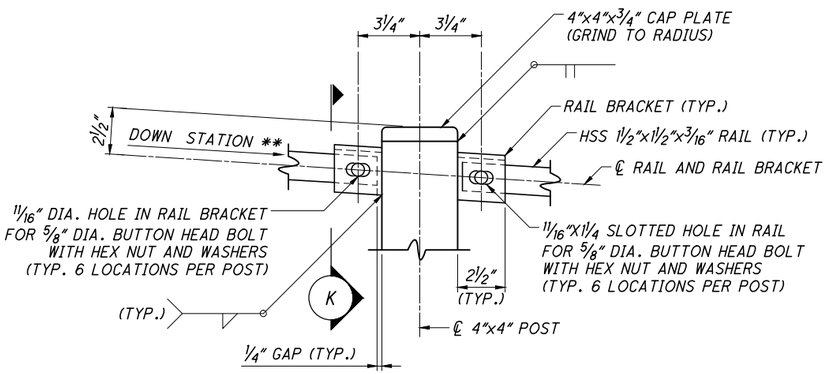


PILASTER NO. 3 AND 4 PLAN VIEW

(PILASTER NO. 3 SHOWN, PILASTER NO. 4 SIMILAR)

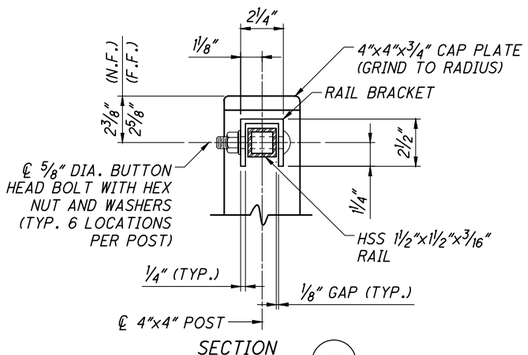


SECTION G



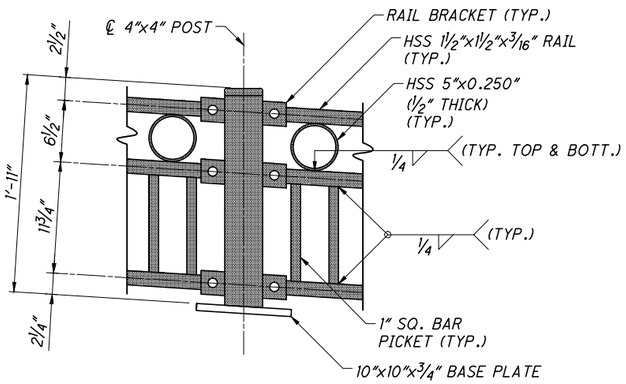
RAIL TO POST CONNECTION DETAIL

(PARAPET WALL NO. 2 SHOWN, PARAPET WALL NO. 1 OPPOSITE)



SECTION K

(LOOKING DOWN STATION **)
(PARAPET WALL NO. 2 SHOWN, PARAPET WALL NO. 1 OPPOSITE)



RAIL AND POST DETAIL

(PARAPET WALL NO. 2 SHOWN, PARAPET WALL NO. 1 OPPOSITE)

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	MPB	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

PARAPET WALL DETAILS

BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

26 / 30

159 / 210

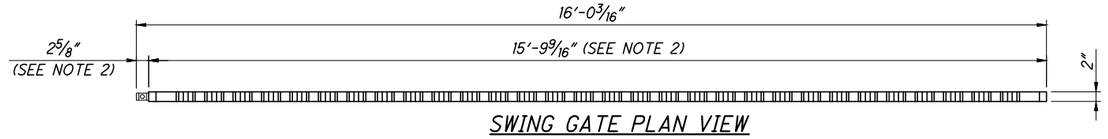
G:\Project\AK000315.R001\Drawing\9067\structures\Creek Bridge Parapet Wall\Sheets\PARA515SD001.dwg; 8/31/16 - 11:38am; cferrell

NOTES

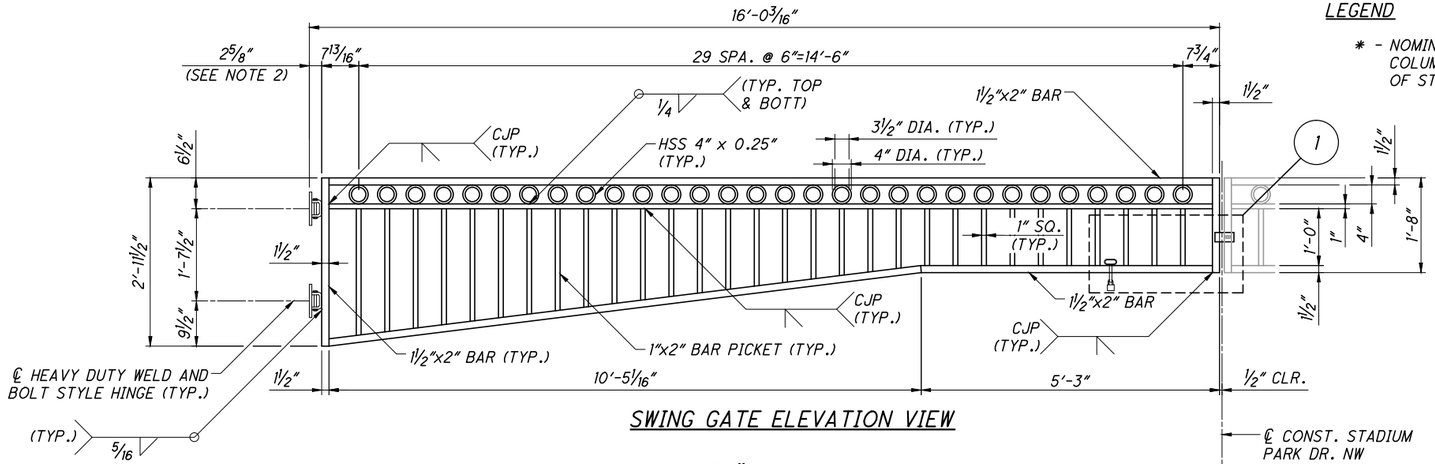
1. GATE HINGES SHALL BE HEAVY DUTY WELD AND BOLT STYLE HINGES RATED FOR 3,000 LBS. PER PAIR.
2. GATE LENGTH AND ANCHOR BOLT LOCATIONS SHALL BE ADJUSTED FOR HINGES WITH DIMENSIONS THAT DIFFER FROM THESE PLANS.
3. BOLT AND PLATES SHALL BE INSTALLED IN THE FIELD SO THE 3/8" THICK PLATE CAN BE ADJUSTED TO ACCOMMODATE THE SWING GATE.

LEGEND

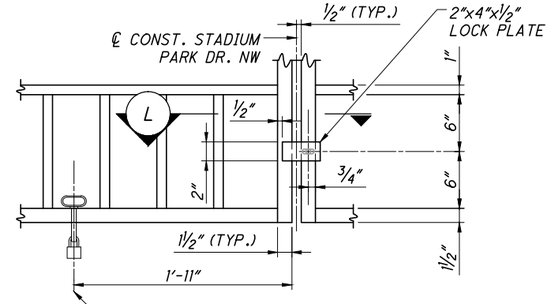
* - NOMINAL SIZE OF CONCRETE COLUMN PRIOR TO INSTALLATION OF STONE FACADE



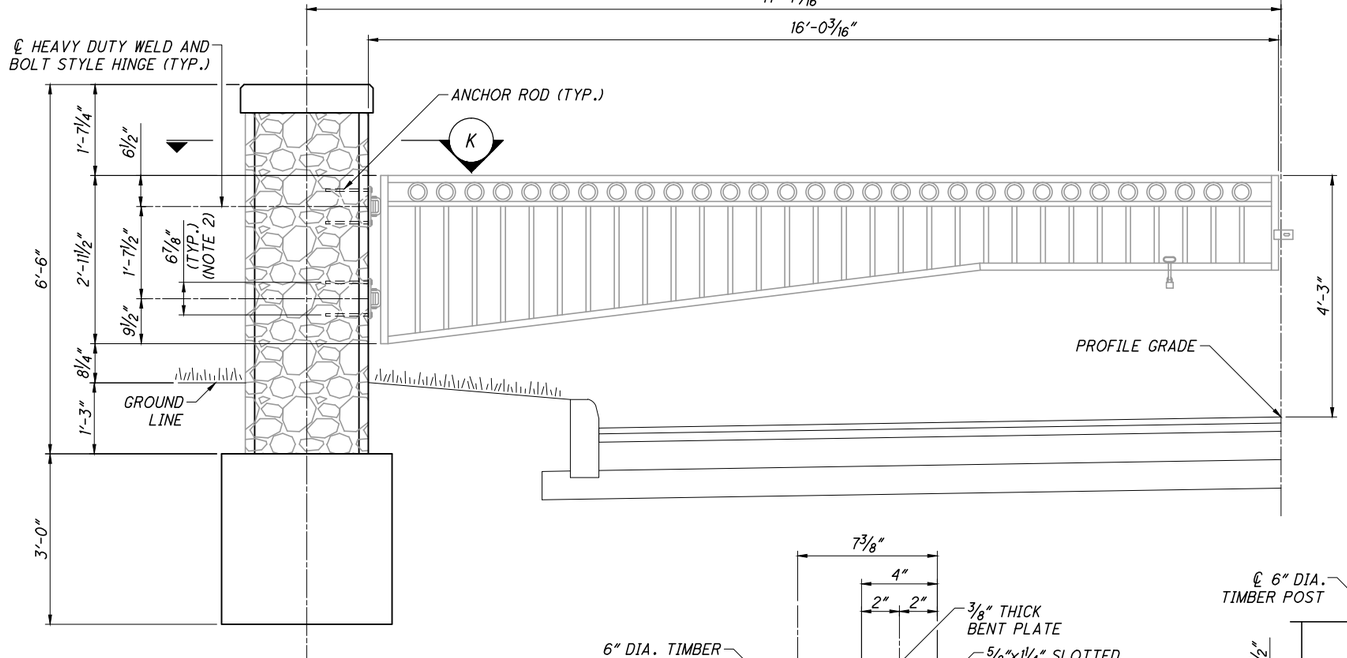
SWING GATE PLAN VIEW



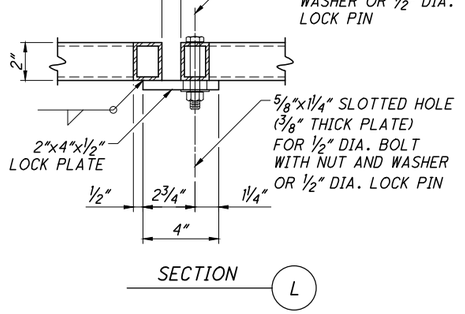
SWING GATE ELEVATION VIEW



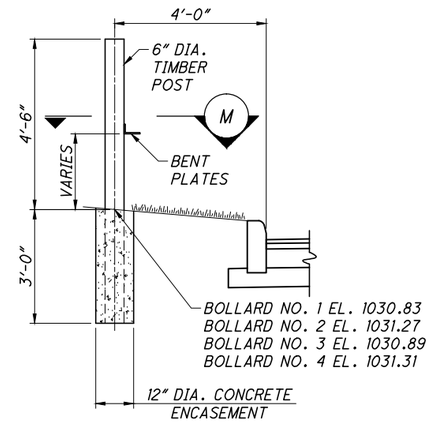
DETAIL 1



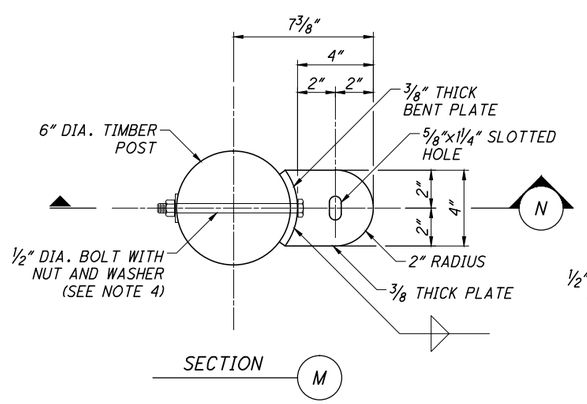
PILASTER ANCHOR ROD DETAIL



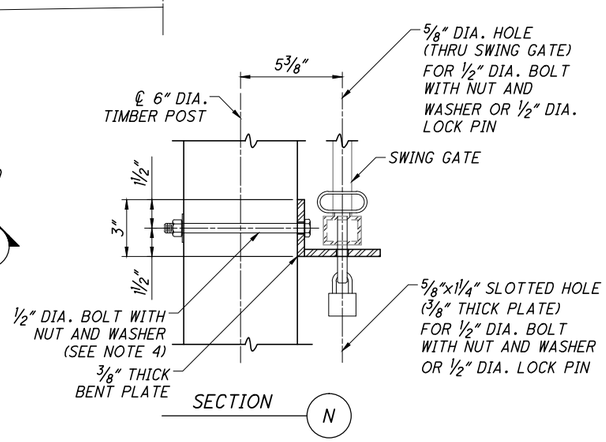
SECTION L



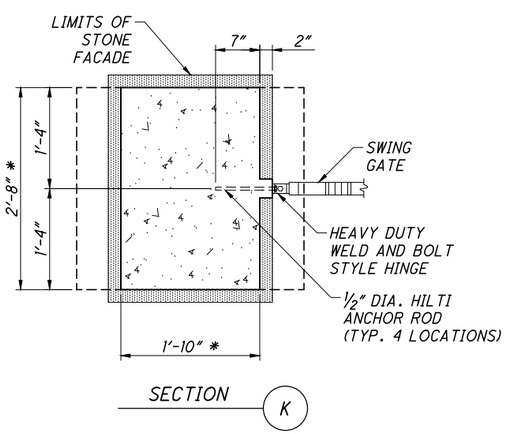
BOLLARD DETAIL



SECTION M



SECTION N



SECTION K

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RPB	MPB	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

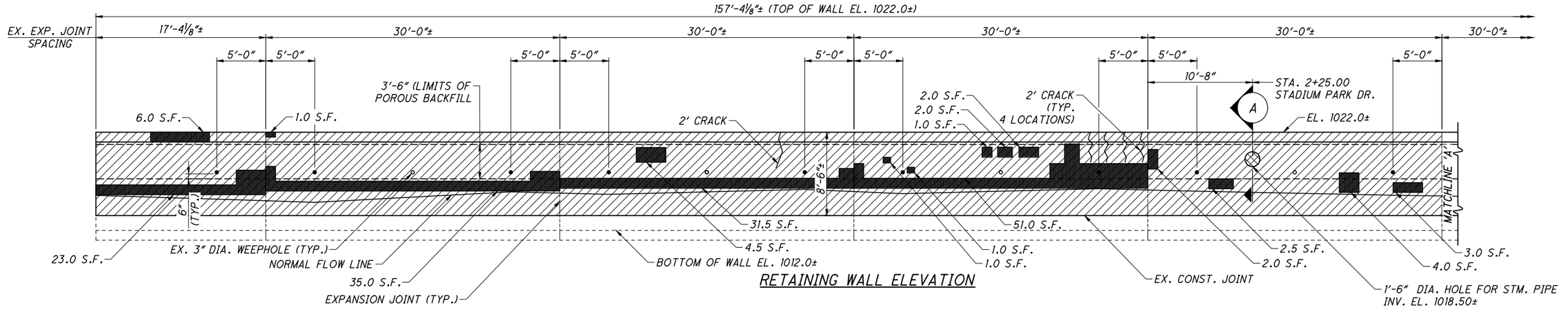
SWING GATE DETAILS
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

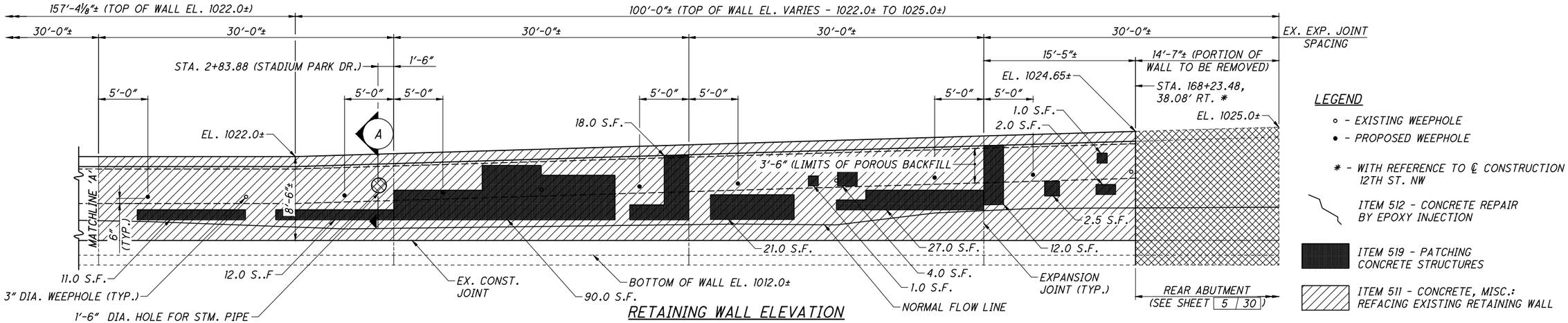
27 / 30

160 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge Parapet Wall\Sheets\PARA515SD001.dwg; 8/31/16 - 11:39am; cferrell



RETAINING WALL ELEVATION

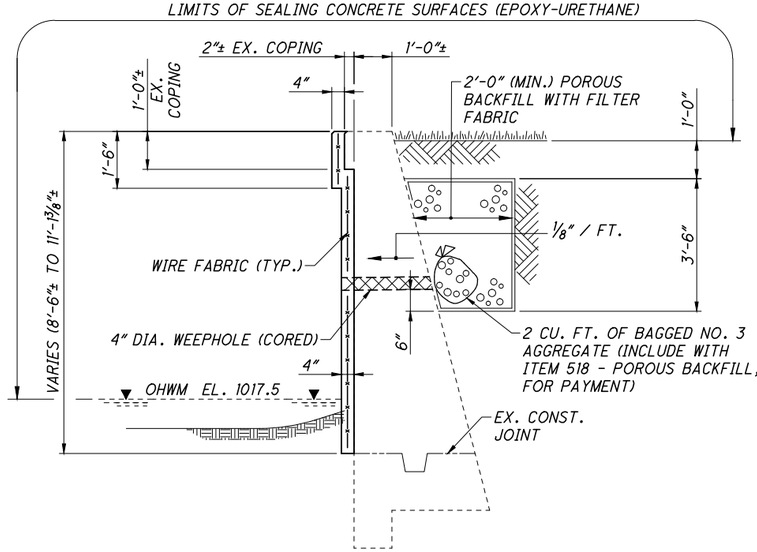


RETAINING WALL ELEVATION

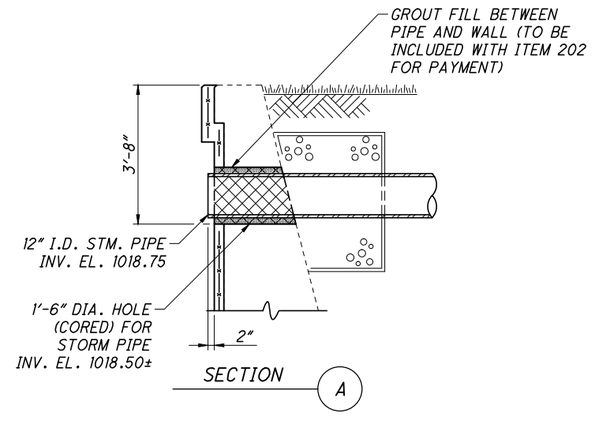
LEGEND

- ∘ - EXISTING WEEPHOLE
- • - PROPOSED WEEPHOLE
- * - WITH REFERENCE TO ℄ CONSTRUCTION 12TH ST. NW
- ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION
- ITEM 519 - PATCHING CONCRETE STRUCTURES
- ITEM 511 - CONCRETE, MISC.: REFACING EXISTING RETAINING WALL
- ITEM 202 - PORTION OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

TOTAL REFACING = 2192 S.F.
TOTAL PATCHING = 372 S.F. X 1.25 = 465 S.F.
TOTAL CRACK REPAIR = 10.0 FEET



RETAINING WALL SECTION



NOTES

1. AFTER ALL DAMAGED/DETERIORATED AREAS OF THE RETAINING WALL HAVE BEEN REPAIRED/PATCHED PER ITEM 519, THE RETAINING WALL SHALL BE REFACED WITH CLASS QC2 CONCRETE. THE FINISHED SURFACE OF THE REFACED RETAINING WALL SHALL BE 4" FROM THE EXISTING FACE (4" THICK). THE ENTIRE AREA OF THE REFACED RETAINING WALL SHALL BE REINFORCED WITH EPOXY COATED WELDED STEEL WIRE FABRIC EITHER 2x2 INCH USING WIRE SIZE NUMBER W 0.9 OR 3x3 INCH USING WIRE SIZE NUMBER W 1.4. THE FABRIC SHALL BE PLACED APPROXIMATELY 2 INCHES FROM THE FINISHED SURFACE AND SHALL BE FASTENED TO DOWELS OR EXPANSION BOLTS INSTALLED AT A DISTANCE NOT TO EXCEED 18-INCH CENTERS IN BOTH DIRECTIONS. PRIOR TO PLACING CONCRETE, CLEAN EXISTING CONCRETE SURFACES AND WIRE FABRIC IN ACCORDANCE WITH 519.04. PLACE, FINISH AND CURE CONCRETE PER 519.06. ALL EQUIPMENT, MATERIALS (INCLUDING WIRE FABRIC), AND LABOR REQUIRED TO COMPLETE THIS WORK SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 511 - CONCRETE, MISC.: REFACING EXISTING RETAINING WALL.
2. THE AREAS OF REPAIR SHOWN ARE APPROXIMATE AND ARE BASED ON A FIELD INSPECTION COMPLETED SEPTEMBER 5, 2012. FINAL DETERMINATION OF THE AREAS TO BE REPAIRED WILL BE MADE BY THE ENGINEER AT THE TIME OF CONSTRUCTION.
3. THE TOTAL CONCRETE PATCHING AREA INDICATED ON THE ELEVATIONS HAS BEEN INCREASED BY 25% TO ACCOUNT FOR ANY FURTHER DETERIORATION THAT MAY HAVE OCCURRED SINCE THE FIELD INSPECTION.
4. THE EXISTING WEEPHOLES SHALL BE MAINTAINED. 16 ADDITIONAL WEEPHOLES SHALL BE ADDED SO THAT THERE ARE 3 WEEPHOLES PER 30'-0" WALL SECTION.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
CMD	MPB	SKK	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7636121	

REFACING DETAILS

EXISTING RETAINING WALL REFACING
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

28 | 30

161
210

G:\Project\AK000315.R001\Drawing\90671\structures\Retaining Wall Sheets\RetainMD001.dwg; 8/31/16 - 11:39am; cferrell

MARK	NUMBER REAR ABUT.	NUMBER FORWARD ABUT.	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENTS													
F501	84	84	168	30'-0"	5,257	STR							
F502	22		22	11'-3"	258	STR							
F503	22		22	14'-10"	340	STR							
F504	2	2	4	17'-6"	73	STR							
F505	2	2	4	12'-8"	53	STR							
F506	38	54	92	8'-7"	824	1	2'-0"	6'-9"					
F507		22	22	18'-3"	419	STR							
F508		22	22	21'-4"	490	STR							
F601	4		4	17'-6"	105	1	2'-0"	15'-8"					
F801	152		152	14'-6"	5,885	17	12'-8"						
F802	54	80	134	12'-0"	4,293	17	10'-2"						
F803	2 SR OF 4		2 SR OF 4	3'-11" TO 12'-1"	171	16	3'-0" TO 11'-2"						2'-8 5/8"
F804	38	54	92	12'-2"	2,989	16	11'-3"						
F805		152	152	14'-3"	5,782	17	12'-5"						
F806		2 SR OF 4	2 SR OF 4	3'-8" TO 11'-11"	167	16	2'-9" TO 11'-0"						2'-9"
F901		81	81	12'-6"	3,443	16	11'-3"						
F902		81	81	12'-11"	3,557	1	2'-0"	11'-3"					
F1001	154		154	18'-2"	12,038	16	16'-9"						
F1002	97		97	13'-8"	5,704	1	2'-0"	12'-0"					
F1003	99		99	11'-3"	4,792	1	2'-0"	9'-7"					
A501	64	56	120	30'-0"	626	STR							
A502	32	28	60	24'-8"	1,544	STR							
A503	14		14	6'-10"	100	9	1'-2"	3'-3"	2'-2"	1'-6"			
A504	14		14	5'-3"	77	7	1'-0"	2'-3"	1'-5"	1'-0"			
A505	56		56	7'-4"	428	1	3'-11"	3'-5"					
A506	77		77	8'-11"	730	2	3'-5"	2'-2"	3'-5"				
A507	26	12	38	11'-8"	462	STR							
A508	10		10	8'-1"	84	16	7'-6"						
A509	25		25	10'-8"	278	3	3'-2"	1'-11"					
A510	20		20	4'-6"	94	STR							
A511	40		40	18'-4"	348	STR							
A512	2 SR OF 15		2 SR OF 15	7'-6" TO 11'-4"	295	3	2'-4"	1'-2" TO 3'-1"					3 1/4"
A513	14	14	28	8'-2"	239	3	2'-4"	1'-6"					
A514	168		168	10'-8"	1,869	STR							
A515		14	14	5'-8"	83	9	0'-3"	1'-8"	2'-3"	2'-0"			
A516		14	14	5'-0"	73	10	0'-8"	1'-7"	2'-2"	1'-5"			
A517		121	121	6'-2"	778	1	2'-6"	3'-10"					
A518		77	77	7'-10"	629	1	2'-6"	5'-6"					
A519		2 SR OF 13	2 SR OF 13	7'-6" TO 11'-4"	255	3	2'-4"	1'-2" TO 3'-1"					3 7/8"
A520		160	160	14'-9"	2,462	STR							
A521		56	56	16'-10"	983	STR							
A601	32	48	80	19'-2"	2,303	2	9'-5"	0'-8"	9'-5"				
A801	90		90	8'-5"	2,023	16	7'-6"						
A802	38		38	18'-4"	1,860	STR							
A803		54	54	16'-10"	2,427	STR							
A901		161	161	16'-7"	9,078	STR							
A1001	194		194	12'-6"	10,435	STR							
			SUBTOTAL		97,203								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
PIER											
F501	84	30'-0"	2,628	STR							
F801	164	14'-6"	6,349	17	12'-8"						
F1004	202	12'-7"	10,938	17	9'-9"						
F1005	57	11'-2"	2,739	16	9'-9"						
F1006	99	9'-7"	4,083	1	2'-0"	7'-11"					
P501	54	27'-8"	1,558	STR							
P502	10	8'-1"	84	16	7'-6"						
P503	25	10'-8"	278	3	3'-2"	1'-11"					
P504	56	7'-4"	428	1	3'-7"	3'-11"					
P601	16 SR OF 4	7'-10" TO 10'-4"	873	2	3'-0" TO 4'-3"	2'-1"	3'-0" TO 4'-3"				0'-10"
P602	16 SR OF 5	5'-10" TO 6'-6"	741	2	2'-0" TO 2'-4"	2'-1"	2'-0" TO 2'-4"				0'-2"
P603	30	14'-6"	653	3	2'-2"	4'-8"					
P604	34	10'-6"	536	40	2'-2'	4'-8"	0'-9"	3'-11'			
P605	20	9'-8"	290	2	3'-11"	2'-2"	3'-11"				
P606	5	8'-10"	80	2	3'-6"	2'-2"	3'-6"				
P801	90	8'-5"	2,023	16	7'-6"						
P901	18	31'-3"	1,913	STR							
P902	24	20'-4"	1,659	65	17'-10"					15'-3"	
P1001	82	13'-9"	4,852	16	12'-4"						
SUBTOTAL			42,705								

BAR MARK LEGEND

A = ABUTMENT
AS = APPROACH SLAB
F = FOOTING
S = SUPERSTRUCTURE

NOTES

1. ALL REINFORCING BARS SHALL BE EPOXY COATED.
2. ALL REINFORCING STEEL BARS SHALL BE A MINIMUM 2" CLEAR FROM FACE OF CONCRETE UNLESS NOTED OTHERWISE.
3. ALL APPROACH SLAB REINFORCING TO BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN.
4. FOR BAR DIAGRAM DETAILS, SEE SHEET 30 / 30 .

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CRL001.dwg; 8/31/16 - 11:39am; cferrell

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED RPB | DRAWN CAF | CHECKED FJG | REVIEWED SKK | DATE 1/16 | REVISED | STRUCTURE FILE NO. 76361121

REINFORCING SCHEDULE

BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

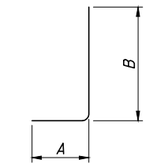
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S401	24	30'-0"	481	STR							
S501	40 SR OF 6	3'-0" TO 12'-2"	1,898	STR							1'-10"
S502	40 SR OF 4	5'-11" TO 10'-2"	2,684	STR							1'-5"
S503	40	20'-5"	852	43	20'-5"					38'-2"	
S504	40 SR OF 5	5'-7" TO 8'-5"	1,460	STR							0'-8 1/2"
S505	40 SR OF 5	2'-11" TO 4'-11"	817	STR							0'-6"
S506	40 SR OF 4	1'-5" TO 2'-6"	327	STR							0'-4 3/8"
S507	280	2'-0"	584	STR							
S508	48	21'-8"	1,085	STR							
S509	96	30'-0"	3,004	STR							
S510	140	16'-8"	2,434	STR							
S511	280	5'-0"	1,460	2	1'-6"	2'-3"	1'-6"				
S512	148	8'-10"	1,364	30	1'-6"	0'-8"	3'-0"	2'-10"			
S513	18	17'-3"	324	2	8'-0"	1'-6"	8'-0"				
S514	30	8'-2"	256	3	2'-4"	1'-6"					
S701	48	30'-0"	2,943	19	15'-0"	15'-0"	6'-0"				
S702	351	30'-0"	21,523	STR							
S703	96	30'-0"	5,887	16	29'-2"						
S704	4	16'-3"	133	STR							
S705	4	15'-6"	127	STR							
S801	726	30'-0"	58,153	STR							
S802	56	4'-9'	710	64	2'-5"	1'-0"	1'-0"				
S901	91	30'-0"	9,282	19	15'-0"	15'-0"	6'-0"				
S902	66	31'-8"	7,106	STR							
S903	182	33'-9"	20,885	16	32'-6"						
S1001	144	30'-0"	18,589	STR							
SUB-TOTAL		164,368									

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
REAR APPROACH SLAB											
AS501	132	24'-5"	3,362	STR							
AS502	28	29'-7"	864	STR							
AS503	1	18'-1"	19	STR							
AS504	2	11'-3"	23	43	11'-3"	24'-9"					
AS505	2	8'-9"	18	1	1'-7"	7'-4"					
AS506	3	6'-9"	21	STR							
AS507	1	10'-9"	11	STR							
AS508	1	14'-9"	15	STR							
AS509	2 SR OF 11	4'-0" TO 13'-0"	195	STR							0'-10 3/4"
AS510	1	16'-9"	17	STR							
AS511	1	12'-3"	13	STR							
AS512	1	9'-1"	10	STR							
AS513	2	5'-5"	11	STR							
AS514	2	16'-6"	34	43	16'-6"					49'-9"	
AS515	2	10'-8"	22	1	1'-7"	9'-3"					
AS516	1 SR OF 23	4'-0" TO 11'-11"	19	STR							0'-4 3/8"
AS517	1 SR OF 24	4'-0" TO 18'-0"	275	STR							0'-7 1/4"
AS1001	76	31'-0"	10,138	16	29-7"						
AS1002	2 SR OF 7	2'-6" TO 7'-0"	286	STR							0'-9"
AS1003	1 SR OF 7	10'-7" TO 17'-5"	422	16	9'-2" TO 16'-0"						1'-1 5/8"
AS1004	1 SR OF 8	10'-10" TO 22'-10"	579	16	9'-5" TO 21'-5"						1'-8 5/8"
APPROACH SLAB TOTAL		16,354									

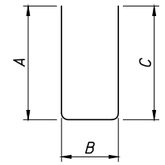
NOTE

1. FOR ADDTIONAL NOTES, SEE SHEET 29 | 30 .

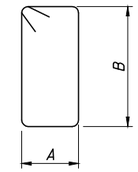
MARK	NUMBER PARAPET WALL NO. 1	PARAPET WALL NO. 2	PILASTER NO. 3	PILASTER NO. 4	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
BRIDGE RAILING															
R501	20				20	13'-0"	271	43	13'-0"					14'-4"	
R502	20				20	32'-0"	668	43						44'-10"	
R503	1				1	14'-10"	15	3	0'-8"	6'-5"					
	1 SR				1 SR	15'-2"				6'-7"					
R504	OF				OF	TO	688	3	0'-8"	TO					0'-0 1/2"
	39				39	18'-8"				8'-4"					
R505	43	31	3	3	80	11'-2"	932	3	2'-8"	2'-7"					
R506	2	2	3	3	10	21'-10"	228	3	1'-6"	9'-1"					
R507	16	16	18	18	68	5'-1"	361	2	1'-6"	2'-4"	1'-6"				
R508	1	1			2	18'-0"	38	5	9'-1"	1'-6"	3'-3"				
R509		40			40	16'-11"	706	43	16'-11"					10'-5"	
R510		1 SR OF 28			1 SR OF 28	15'-0" TO 17'-2"	470	3	0'-8"	6'-6" TO 7'-7"					0'-0 1/2"
R511			8	8	16	2'-4"	39	STR							
SUB-TOTAL							4,416								



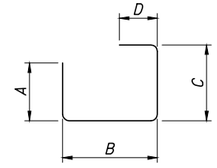
TYPE-1



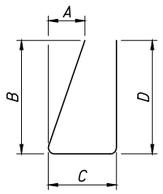
TYPE-2



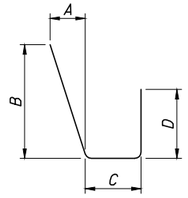
TYPE-3



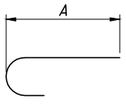
TYPE-7



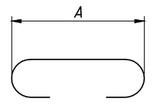
TYPE-9



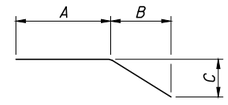
TYPE-10



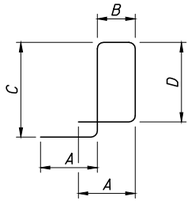
TYPE-16



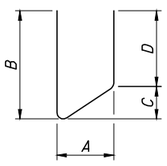
TYPE-17



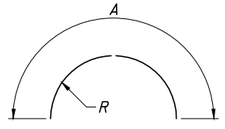
TYPE-19



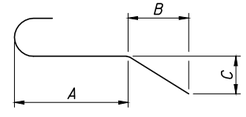
TYPE-30



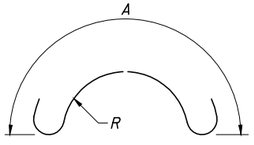
TYPE-40



TYPE-43



TYPE-64



TYPE-65

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED RPB | DRAWN CAF | CHECKED FJG | REVIEWED SKK | DATE 1/16

STRUCTURE FILE NO. 7636121

REVISED

REINFORCING SCHEDULE

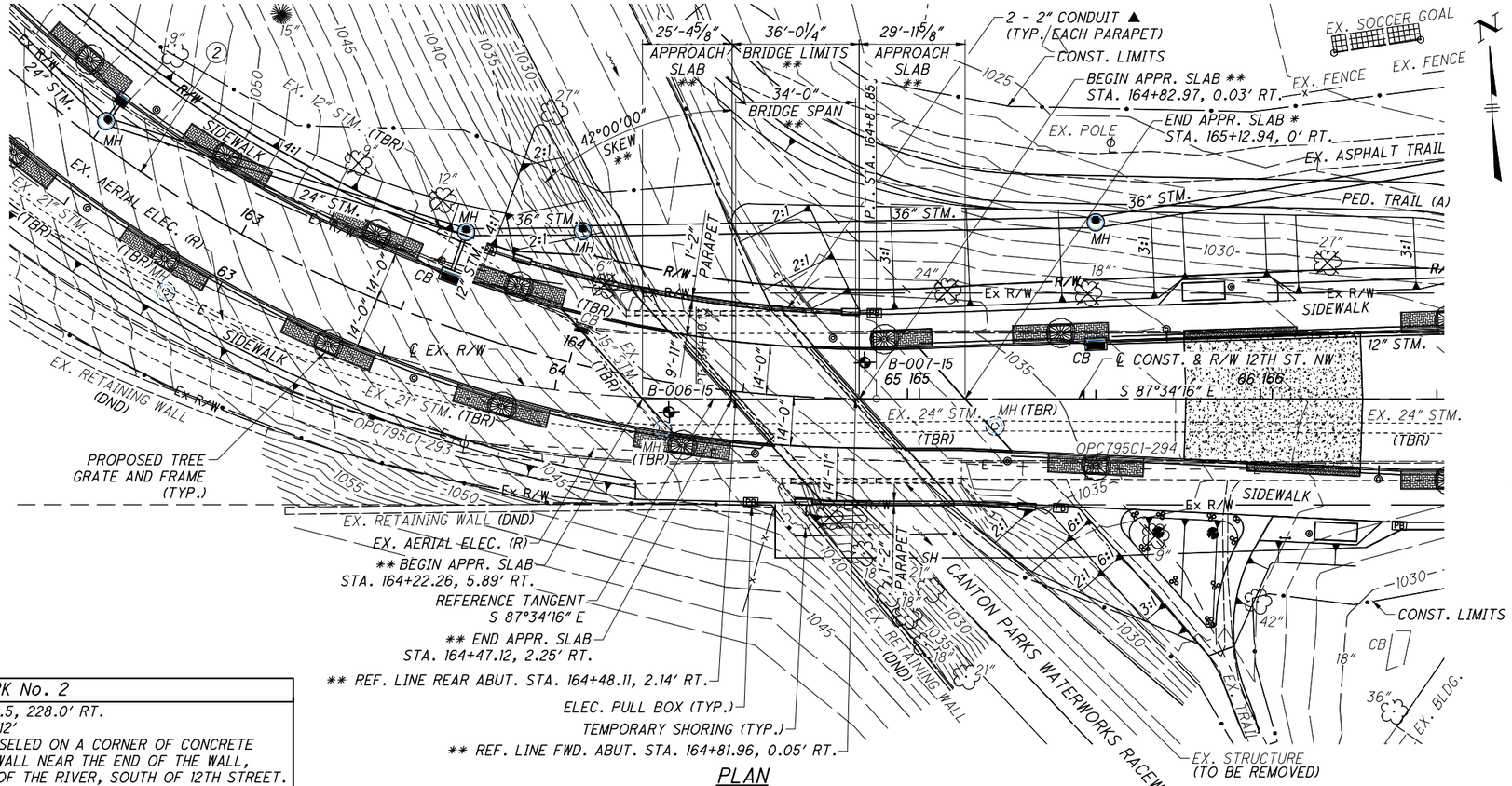
BRIDGE NO. STA M12TH-CA-05-15
OVER WEST BRANCH OF NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

30 | 30

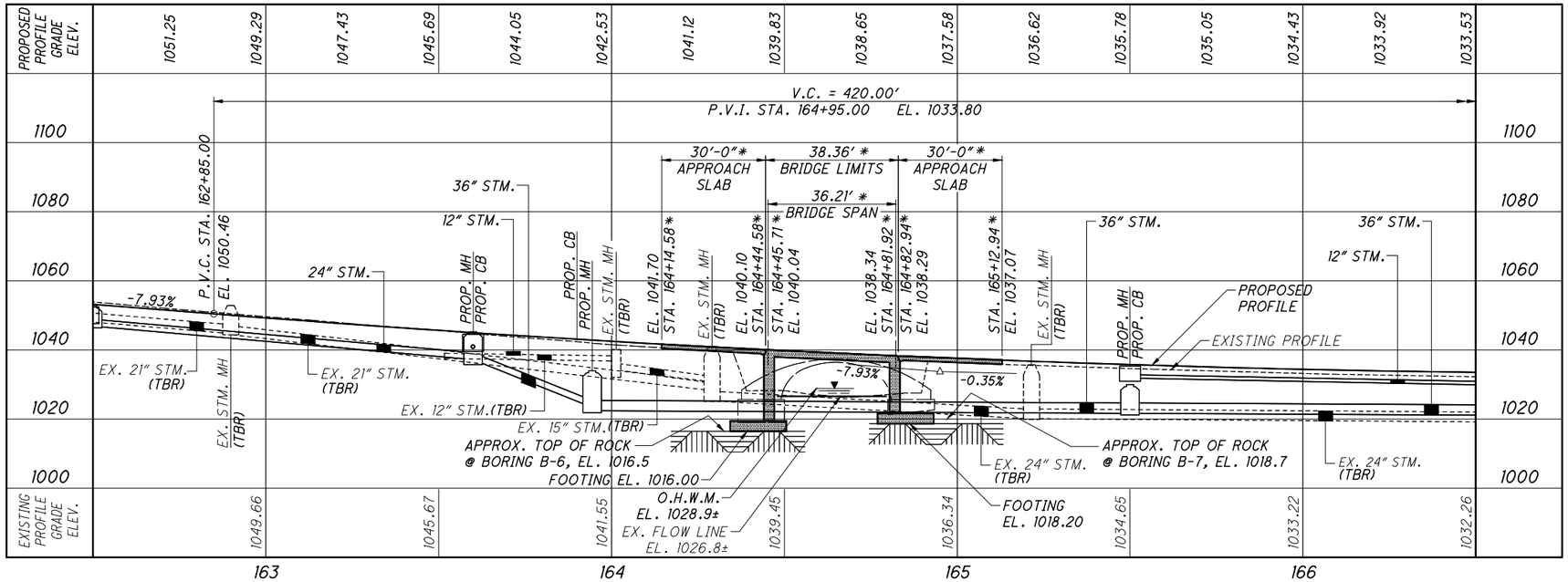
163
210

G:\Project\AK000315.R001\Drawing\90671\structures\Creek Bridge\sheets\CA0515CRL001.dwg; 8/31/16 - 11:39am; cferrell



PLAN

BENCHMARK No. 2
STA. 69+70.5, 228.0' RT. ELEV. 1022.12' SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.



PROFILE ALONG ℄ CONSTRUCTION AND R/W

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR STRUCTURAL GENERAL NOTES SEE SHEETS 2 | 29 .
3. FOR CENTERLINE DIAGRAM AND CURVE DATA, SEE SHEET 3 | 29 .
4. FOR PAVEMENT TAPERS, SEE SHEET 44 OF 210 .
5. FOR LIGHTING PLANS, SEE SHEETS 116 THRU 133 OF 210 .

⌖ SOIL BORING LOCATIONS
B-006-15, STA. 164+30.17, 8.34' RT.
B-007-15, STA. 164+84.44, 10.30' LT.

LEGEND

* MEASURED ALONG CENTERLINE CONSTRUCTION 12TH ST. NW

** MEASURED ALONG REFERENCE TANGENT

▲ INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

(TBR) = TO BE REMOVED
(DND) = DO NOT DISTURB
(R) = TO BE RELOCATED

HYDRAULIC DATA

DRAINAGE AREA = 0.12 SQ. MILES
EX. : 25 YR. = 160 CFS
EX. : 100 YR. = 200 CFS
EXISTING WATERWAY OPENING = 225 SQ. FT.
PROPOSED WATERWAY OPENING = 241 SQ. FT.

DESIGN DESIGNATION

CURRENT ADT (2015):	10,320
DESIGN ADT (2035):	10,690
DESIGN ADTT (2035):	428

EXISTING STRUCTURE

TYPE : EARTH-FILLED REINFORCED CONCRETE ARCH ON SPREAD FOOTINGS
SPAN: 32'-0"±
ROADWAY : 36'-0"± TOE/TOE SIDEWALKS WITH 5'-0" SIDEWALKS
ALIGNMENT : TANGENT
SKEW : 42°00'00"± R.F.
WEARING SURFACE : 2"± BITUMINOUS ASPHALT CONCRETE
APPROACH SLABS : NONE
BUILT : 1928
CONDITION : FAIR
STRUCTURE FILE NO. :7661215

PROPOSED STRUCTURE

TYPE: SINGLE SPAN REINFORCED CONCRETE FRAME ON SPREAD FOOTINGS
SPAN : 34'-0" ON TANGENT
ROADWAY : 28'-0" TOE/TOE SIDEWALKS WITH 9'-11" (LEFT) AND 14'-11" (RIGHT) SIDEWALKS
ALIGNMENT : 15° 29' 07" CURVE LEFT
SKEW : 42°00'00" R.F. **
WEARING SURFACE : 1" MONOLITHIC CONCRETE
APPROACH SLABS : 30'-0" LONG (AS-1-15)
LOADING: HL-93 AND FWS (60 PSF)

CROWN: SUPERELEVATED (0.016 FT/FT)
LONGITUDE: 81° 23' 35"
LATITUDE: 40° 48' 35"

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

STARK COUNTY
STA. 164+44.58
TO STA. 164+82.94

SITE PLAN
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET
IMPROVEMENTS

1 | 29

164
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECSP001.dwg; 8/31/16 - 10:59am; mbechter

STRUCTURAL GENERAL NOTES

REFER TO THE FOLLOWING STANDARD DRAWINGS

BRIDGE:
AS-1-15 REVISED 07-17-15

LIGHTING:
HL-20.14 DATED 01-16-15
HL-30.31 DATED 01-17-14
HL-50.21 DATED 07-15-16

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 7TH EDITION - 2014, INCLUDING THE 2015 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT ^{2}

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

FOUNDATION BEARING RESISTANCE

ABUTMENT FOOTINGS AS DESIGNED PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.9 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 8.0 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 19.2 KIPS PER SQUARE FOOT.

FOOTINGS

FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DURING REMOVAL OF THE EXISTING STRUCTURE AND CONSTRUCTION OF THE NEW BRIDGE, EXTRA CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THE PORTIONS OF THE EXISTING STONE RETAINING WALL (ALONG CEMETARY PROPERTY) THAT ARE TO REMAIN. THE CONTRACTOR MAY CAREFULLY DISMANTLE PORTIONS OF THE EXISTING STONE WALL DURING CONSTRUCTION ACTIVITIES PROVIDED THAT THE WALL IS RESTORED TO ITS PRE-CONSTRUCTION CONDITION.

EMBANKMENT CONSTRUCTION

EMBANKMENT CONSTRUCTION BETWEEN STATIONS 163+50 TO 165+75 SHALL NOT OCCUR UNTIL THE CONCRETE DECK SLAB HAS BEEN PLACED AND PROPERLY CURED. THE EMBANKMENT MATERIAL SHALL BE PLACED AND COMPACTED IN 6 INCH LIFTS AND SHALL BE PLACED SO THAT THE DIFFERENCE IN BACKFILL ELEVATION BETWEEN EACH ABUTMENT IS FIVE FEET OR LESS.

ITEM 517 - RAILING MISC.: ORNAMENTAL RAILING

THIS WORK CONSISTS OF FURNISHING, CONSTRUCTING, COATING, AND ERECTING THE ORNAMENTAL RAILING ON THE BRIDGE PARAPETS AND WINGWALLS. ALL RAILING COMPONENTS INCLUDING POSTS, BASE PLATES, RAILS, RAIL BRACKETS, PIPE RINGS, PICKETS, ANCHOR BOLTS, BUTTON HEAD BOLTS, AND OTHER HARDWARE SHALL BE INCLUDED WITH THIS ITEM. FOR DETAILS OF THE ORNAMENTAL RAILING, SEE SHEET 24 | 29.

MATERIALS:
POSTS, RAILS, PIPE RINGS - ASTM A500 GRADE B
PICKETS, BASE PLATES - ASTM A709, GRADE 50
ANCHOR BOLTS - ASTM A449
BUTTON HEAD BOLTS - ASTM A307

THE ORNAMENTAL RAILING SHALL BE GALVANIZED AND POWDER COATED IN ACCORDANCE WITH AAMA 2605. THE GALVANIZED SURFACES SHALL MEET SURFACE PREPARATION REQUIREMENTS OF ASTM D7803 PRIOR TO POWDER COATING. THE FINAL COLOR SHALL BE FEDERAL COLOR STANDARD NO. 595B-17038 (BLACK).

CONTROL JOINTS FOR CONCRETE PARAPETS

SAWCUT 1 INCH DEEP CONTROL JOINTS ALONG THE PERIMETER OF THE PARAPET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE. USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW SAW BLADE, A NOMINAL WIDTH OF ¼ INCH.

PLACE CONTROL JOINTS AT THE LOCATIONS SHOWN ON THE PLANS. VERTICAL REINFORCING STEEL SHALL CLEAR THE CONTROL JOINTS BY 3 INCHES MINIMUM. OBTAIN CLEARANCE BY FIELD ADJUSTING THE REINFORCING STEEL SPACING OR THE LOCATION OF THE CONTROL JOINTS.

SEAL THE PERIMETER OF THE CONTROL JOINT A MINIMUM OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE 5. LEAVE THE BOTTOM ONE-HALF INCH OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

ITEM SPECIAL - STRUCTURE, MISC.: STONE FACADE

THIS WORK CONSISTS OF FURNISHING AND INSTALLING THE STONE FACADE ON THE BRIDGE PILASTERS AS SHOWN IN THESE PLANS.

MATERIALS: THE STONE FAÇADE SHALL BE CONSTRUCTED FROM MANUFACTURED STONE MASONRY VENEER (ASTM C1670) THAT MIMICS THE TEXTURE AND COLOR OF NATURAL STONE.

ALL MORTAR AND GROUT SHALL BE HIGH QUALITY PREMIXED TYPE N OR TYPE S MORTAR (ASTM C270) WITH SUITABLE ADMIXTURES TO MAXIMIZE ADHESION, WEATHERING RESISTANCE, AND WORKABILITY.

MANUFACTURERS:
DUTCH QUALITY STONE
P.O. BOX 308
MOUNT EATON, OH 44624
(330) 359-7866

HERITAGE STONE BY PROVIA
2150 STATE ROUTE 39
SUGARCREEK, OH 44681
(330) 309-3040

PRESTIGE STONE PRODUCTS
9290 WINESBURG ROAD
DUNDEE, OH 44625
(330) 439-5318

SIZE/PATTERN/COLOR: THE SIZE/PATTERN/COLOR SHALL CLOSELY MATCH NATIVESTONE/BLUEGRASS PER PRESTIGE STONE PRODUCTS OR APPROVED EQUAL.

MASONRY CONTRACTOR: THE MASONRY CONTRACTOR SHALL HAVE AT LEAST 5 YEARS EXPERIENCE WITH SIMILAR TYPE APPLICATIONS AND SCOPE OF WORK. ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF AN AUTHORIZED REPRESENTATIVE OF THE MANUFACTURER.

SUBMITTALS: PRIOR TO ORDERING MATERIAL, THE CONTRACTOR SHALL SUBMIT DATA SHEETS/CATALOG CUTS THAT SHOW THE PATTERN, SIZE RANGES, AND COLOR VARIATIONS FOR THE MASONRY STONE VENEER. DATA SHEETS/MIX DESIGNS FOR THE MORTAR AND GROUT SHALL ALSO BE SUBMITTED.

A MINIMUM OF FIVE (5) PROJECT RESUMES/REFERENCES FOR SIMILAR TYPE APPLICATIONS/SCOPE OF WORK SHALL ALSO BE SUBMITTED BY THE MASONRY SUBCONTRACTOR.

MOCK-UP: THIS WORK ALSO CONSISTS OF CONSTRUCTION OF A FULL-SCALE MOCK-UP USING JOB SPECIFIC MATERIALS AND INSTALLATION METHODS. THE MOCKUP SHALL MEASURE 4 FEET HIGH X 3 FEET WIDE X 1 FOOT DEEP. A REPRESENTATIVE FROM THE CITY OF CANTON SHALL EVALUATE THE MOCK-UP AND DETERMINE THE ACCEPTABILITY OF THE WORKMANSHIP AND AESTHETICS. IF A MOCK-UP IS NOT ACCEPTABLE TO THE CITY OF CANTON REPRESENTATIVE, THE CONTRACTOR SHALL MAKE CHANGES TO MATERIALS AND/OR METHODS AND PRODUCE ADDITIONAL MOCK-UPS UNTIL AN ACCEPTABLE MOCK-UP IS PRODUCED. THE ACCEPTED MOCK-UP WILL BE THE STANDARD BY WHICH THE REMAINING WORK SHALL BE EVALUATED. ANY SUBSEQUENT CHANGES IN MATERIALS OR METHODS SHALL REQUIRE APPROVAL OF A NEW MOCK-UP.

INSTALLATION: THE STONE MASONRY VENEER SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND IN ACCORDANCE WITH GUIDELINES ESTABLISHED BY THE MASONRY VENEER MANUFACTURERS ASSOCIATION.

ABBREVIATIONS

AGGR. =	AGGREGATE
ABUT. =	ABUTMENT
APPR. =	APPROACH
BOTT. =	BOTTOM
BRG. =	BEARING
CLR. =	CLEAR
CONST. =	CONSTRUCTION
C.P.P. =	CORRUGATED PLASTIC PIPE
E.F. =	EACH FACE
EL. =	ELEVATION
EQ. =	EQUAL
EX. =	EXISTING
F.F. =	FAR FACE
FWD. =	FORWARD
INV. =	INVERT
LT. =	LEFT
MIN. =	MINIMUM
N.F. =	NEAR FACE
O.H.W.M. =	ORDINARY HIGH WATER MARK
P.E.J.F. =	PREFORMED EXPANSION JOINT FILLER
REF. =	REFERENCE
RT. =	RIGHT
SER. =	SERIES
SPA. =	SPACES
STA. =	STA.
STM. =	STORM
TYP. =	TYPICAL

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

STRUCTURAL GENERAL NOTES
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECGN001.dwg; 8/31/16 - 10:59am; mbechter

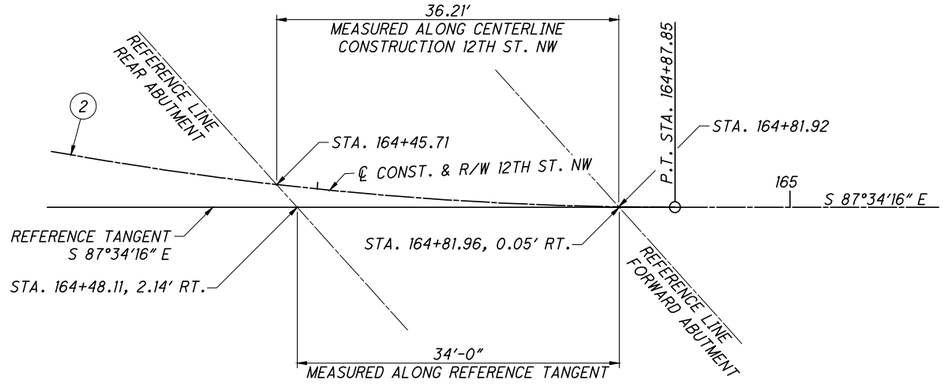
ESTIMATED QUANTITIES

CALC. BY: MPB 10/27/15 | CHK'D BY: RJB 01/07/16 | AS PER PLAN

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT'S	GENERAL	STR. SHT. NO.
202	11003	1	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			1	2
							1	
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING				
503	21104	967	CY	UNCLASSIFIED EXCAVATION, INCLUDING ROCK		967		
509	10000	173,026	LB	EPOXY COATED REINFORCING STEEL	71,674	101,352		
511	33414	193	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE	193			
511	34448	41	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)	41			
511	44112	309	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING		309		
511	46512	321	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING		321		
511	51510	33	CY	CLASS QC2 CONCRETE, SIDEWALK	33			
512	10050	116	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	116			
512	10100	403	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	90	313		
516	13200	73	SF	1/2" PREFORMED EXPANSION JOINT FILLER			73	
516	13600	183	SF	1" PREFORMED EXPANSION JOINT FILLER			183	
516	25000	25	SF	NYLON REINFORCED NEOPRENE SHEETING			25	
517	76300	149	FT	RAILING, MISC.: ORNAMENTAL RAILING	149			
518	21200	141	CY	POROUS BACKFILL WITH FILTER FABRIC		141		
518	40000	229	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		229		
518	40010	6	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		6		
526	30001	195	SY	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN			195	25 , 26
SPECIAL	53000600	352	SF	STRUCTURE, MISC.: STONE FACADE		352		

(2) CURVE DATA

P.I.= Sta. 162+87.77
D = 74° 44' 55"
Dc = 15° 29' 07"
R = 370.000
T = 282.62'
L = 482.71'
E = 95.59
C = 449.19
C. B. = S 50° 11' 48" E



DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED RJB | DRAWN MPB | REVIEWED CMD | DATE 1/16
CHECKED FJG | REVISED | STRUCTURE FILE NO. 76611223

ESTIMATED QUANTITIES

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

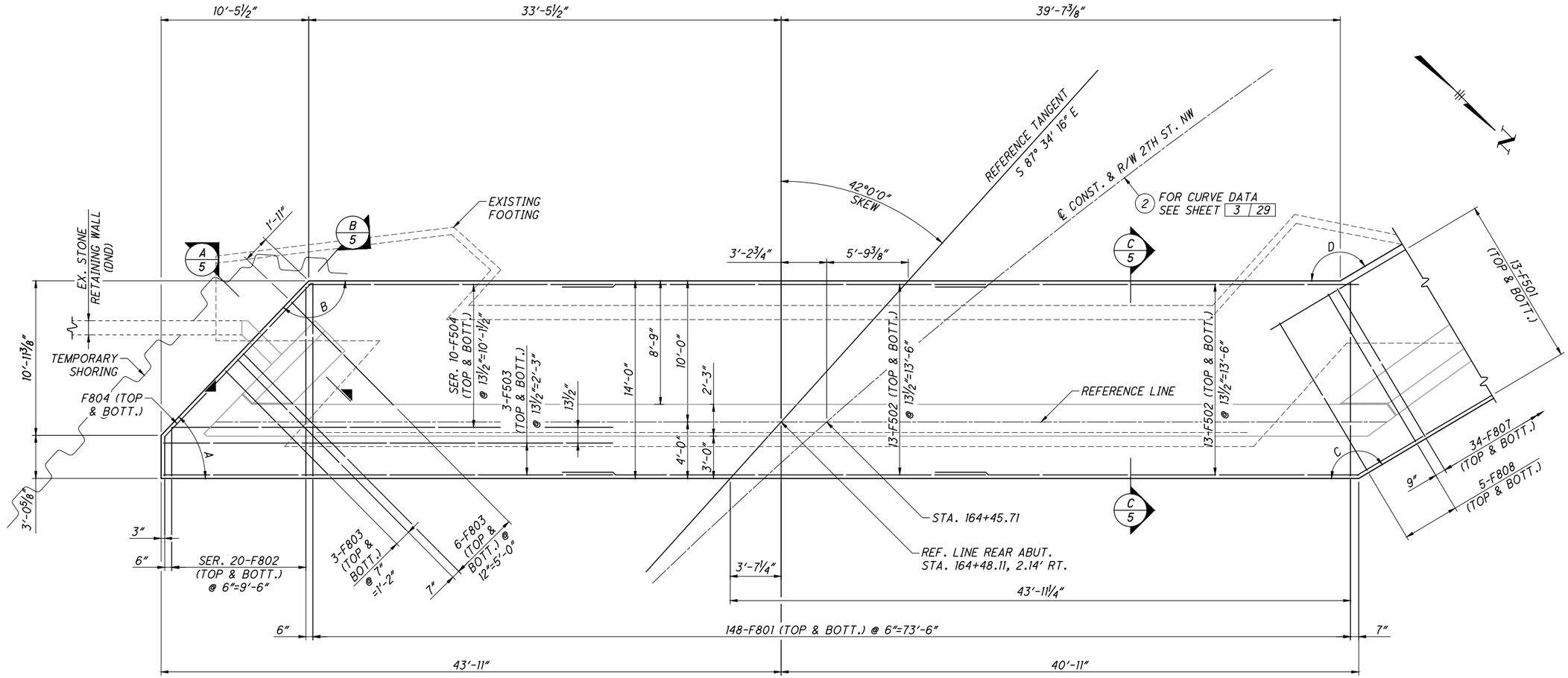
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECGN001.dwg; 8/31/16 - 10:59am; mbechter

NOTES

1. FOR ADDITIONAL REAR ABUTMENT FOOTING DETAILS, SEE SHEET 5 | 29 .
2. FOR REAR ABUTMENT AND WINGWALL DETAILS, SEE SHEETS 6 | 29 THRU 10 | 29 .
3. FOR CENTERLINE DIAGRAM, SEE SHEET 3 | 29 .
4. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43″

LEGEND

A = 46° 18′ 51″
B = 133° 41′ 09″
C = 149° 18′ 00″
D = 149° 18′ 00″



FOOTING PLAN

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

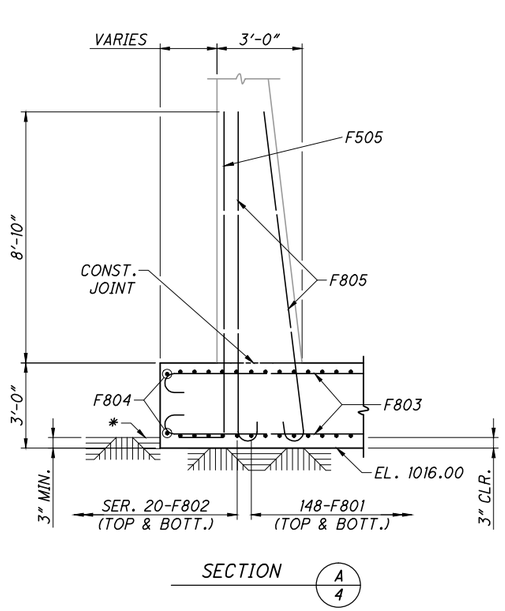
DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

REAR ABUTMENT FOOTING DETAILS 1 OF 2

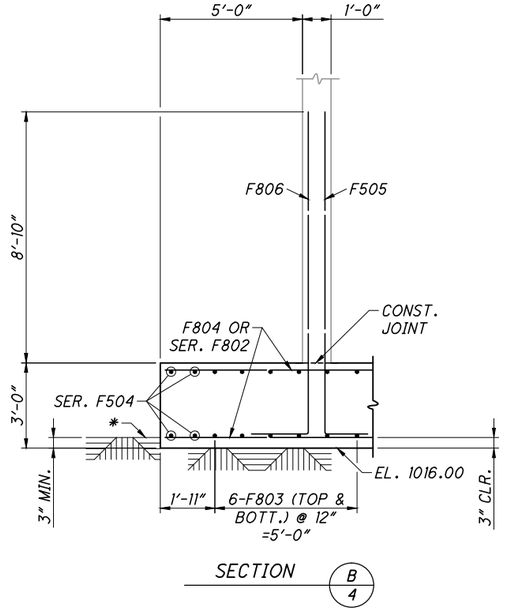
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

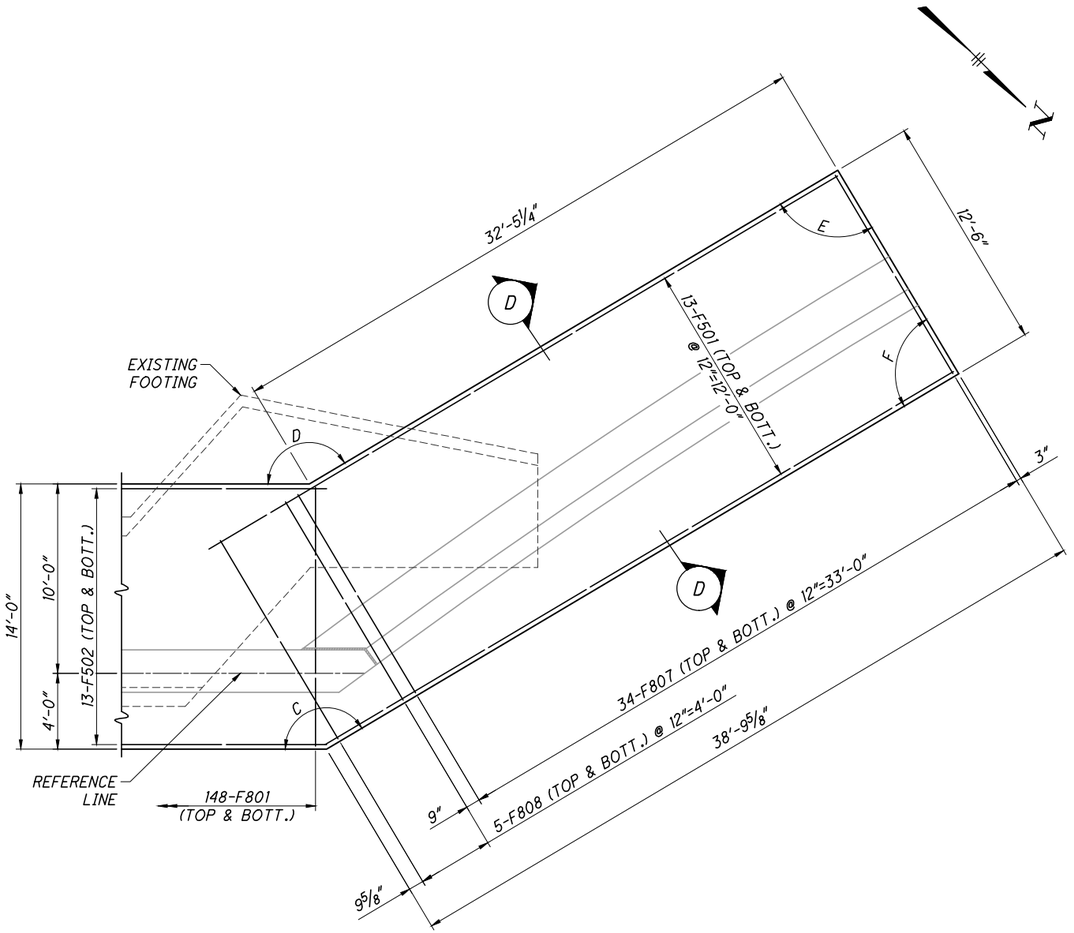
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAR001.dwg; 8/31/16 - 11:00am; mbechler



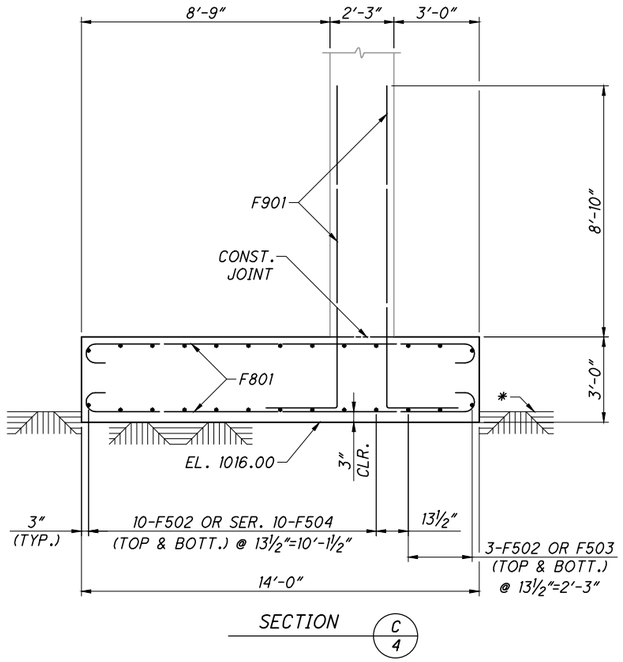
SECTION A/4



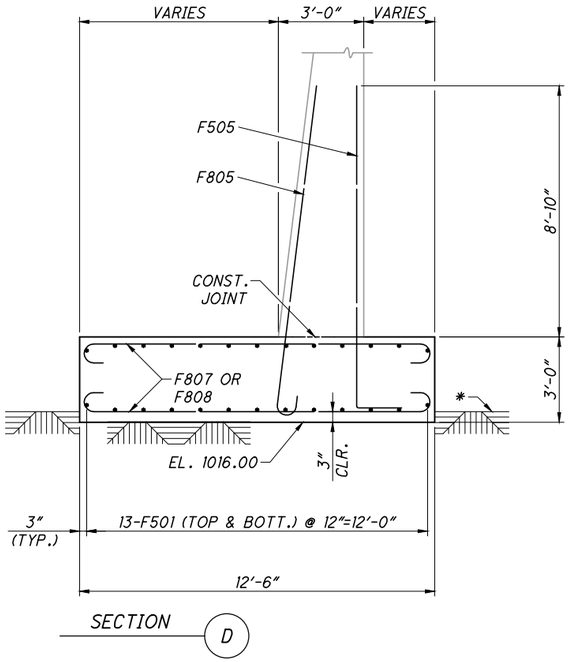
SECTION B/4



FOOTING PLAN



SECTION C/4



SECTION D

NOTES

1. FOR ADDITIONAL REAR ABUTMENT FOOTING DETAILS, SEE SHEET 4 / 29 .
2. FOR LOCATION/PLACEMENT OF VERTICAL REINFORCING IN REAR ABUTMENT AND WINGWALL STEMS, SEE SHEETS 6 / 29 THRU 10 / 29 .

LEGEND

C = 149° 18′ 00″
D = 149° 18′ 00″
E = 90° 00′ 00″
F = 90° 00′ 00″

✱ - APPROXIMATE TOP OF ROCK EL. 1016.50

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76611223	

REAR ABUTMENT FOOTING DETAILS 2 OF 2

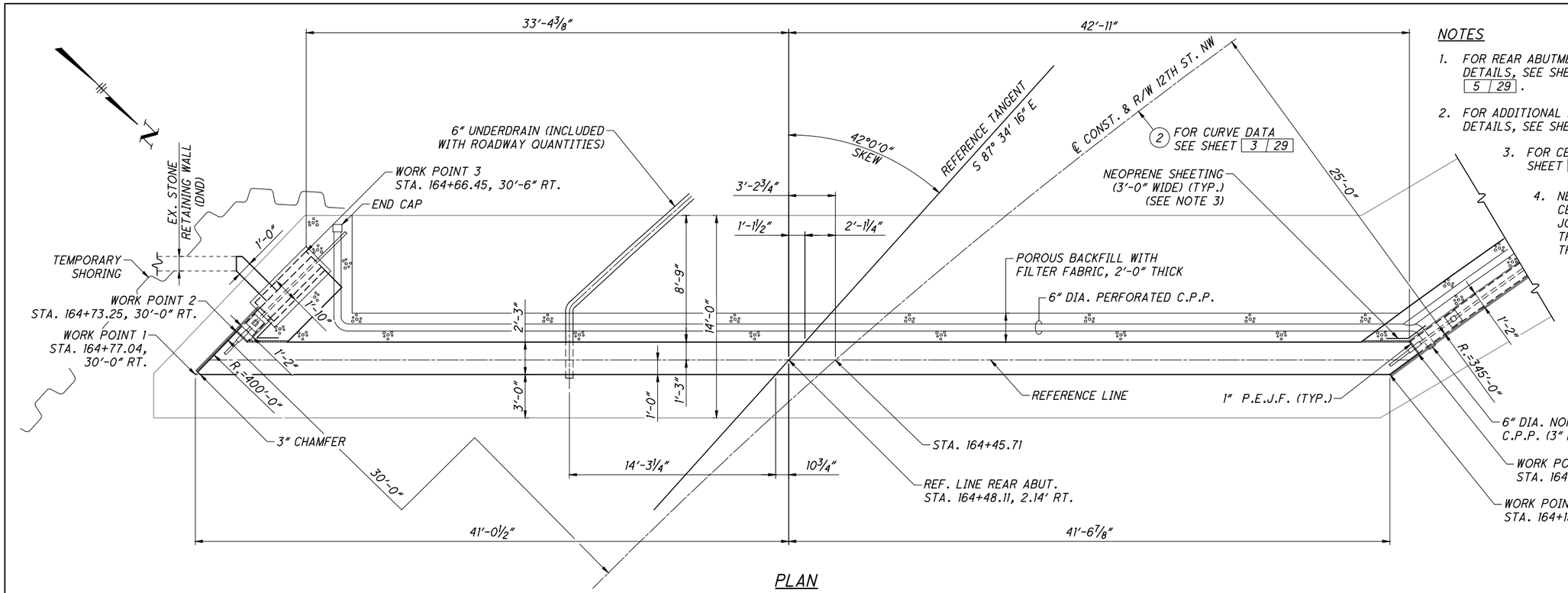
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

5 / 29

168 / 210

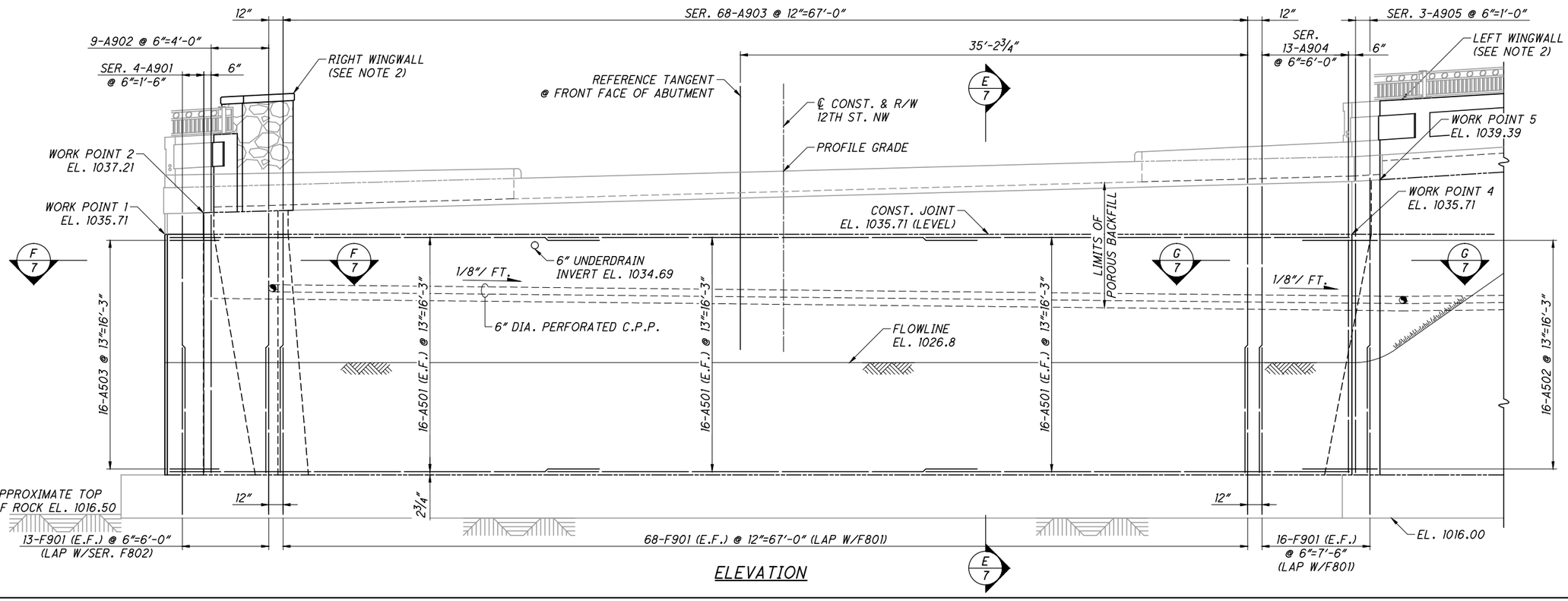
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAR001.dwg; 8/31/16 - 11:00am; mbechter



PLAN

NOTES

1. FOR REAR ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEETS 4 | 29 AND 5 | 29 .
2. FOR ADDITIONAL REAR ABUTMENT/WINGWALL DETAILS, SEE SHEETS 7 | 29 THRU 10 | 29 .
3. FOR CENTERLINE DIAGRAM, SEE SHEET 3 | 29 .
4. NEOPRENE SHEETING SHALL BE CENTERED OVER EXPANSION JOINT AND EXTENDED FROM THE TOP OF WALL DOWN TO THE TOP OF FOOTING.
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43″
   #9 BAR = 104″



ELEVATION

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76611223	

REAR ABUTMENT PLAN AND ELEVATION

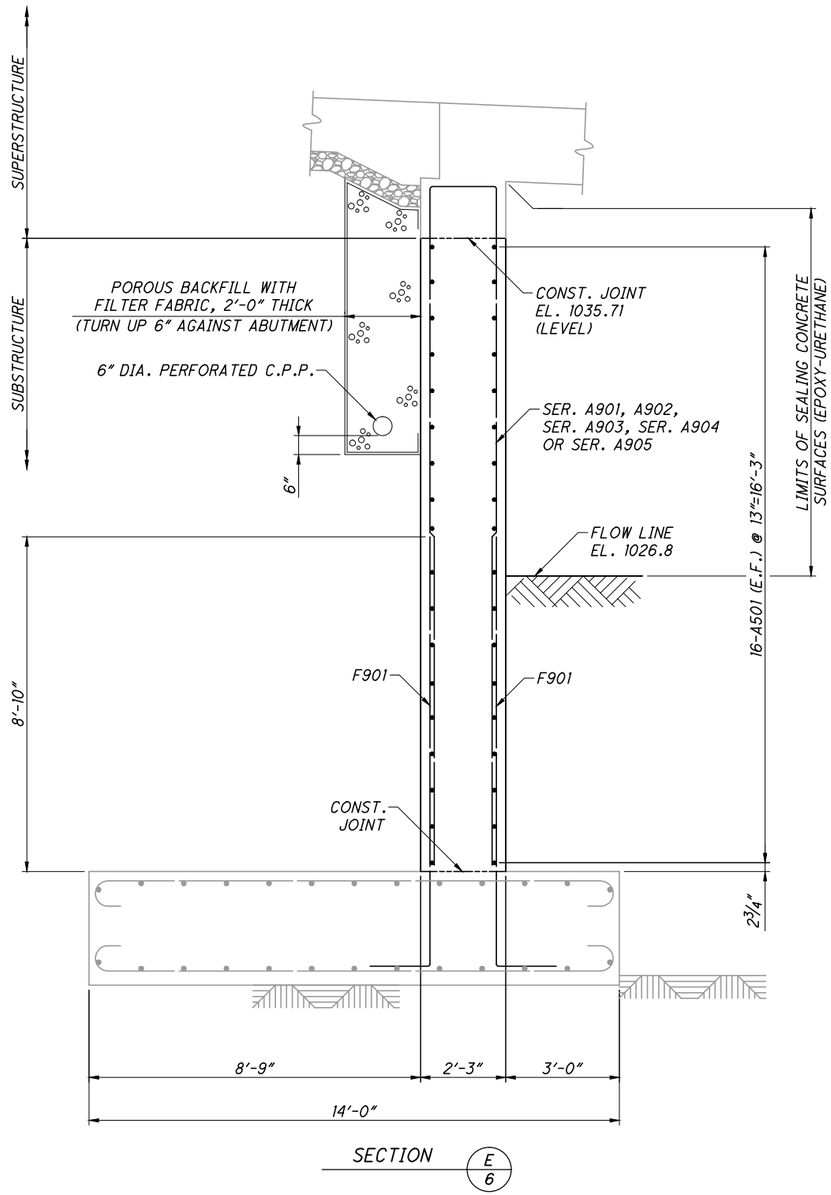
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

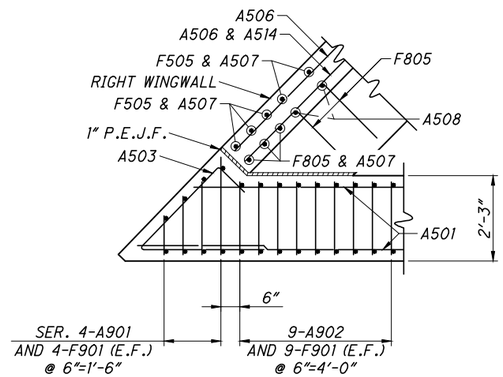
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAR001.dwg; 8/31/16 - 11:00am; mbechter

NOTES

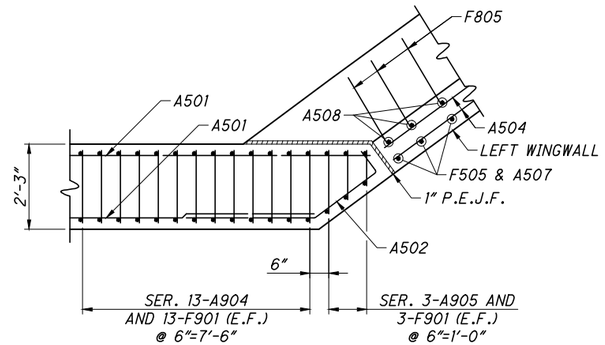
1. FOR REAR ABUTMENT FOOTING DETAILS, SEE SHEETS 4 / 29 AND 5 / 29 .
2. FOR REAR ABUTMENT PLAN AND ELEVATION, SEE SHEET 6 / 29 .
3. FOR REAR ABUTMENT/WINGWALL DETAILS, SEE SHEETS 8 / 29 THRU 10 / 29 .



SECTION E/6



SECTION F/6



SECTION G/6

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300 Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

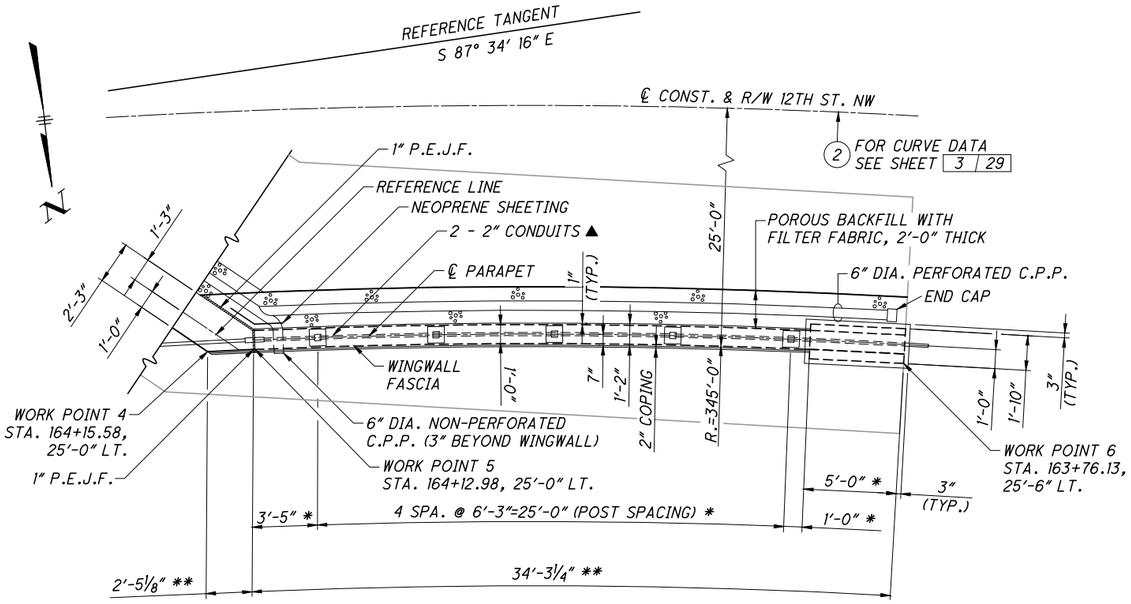
DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

REAR ABUTMENT DETAILS

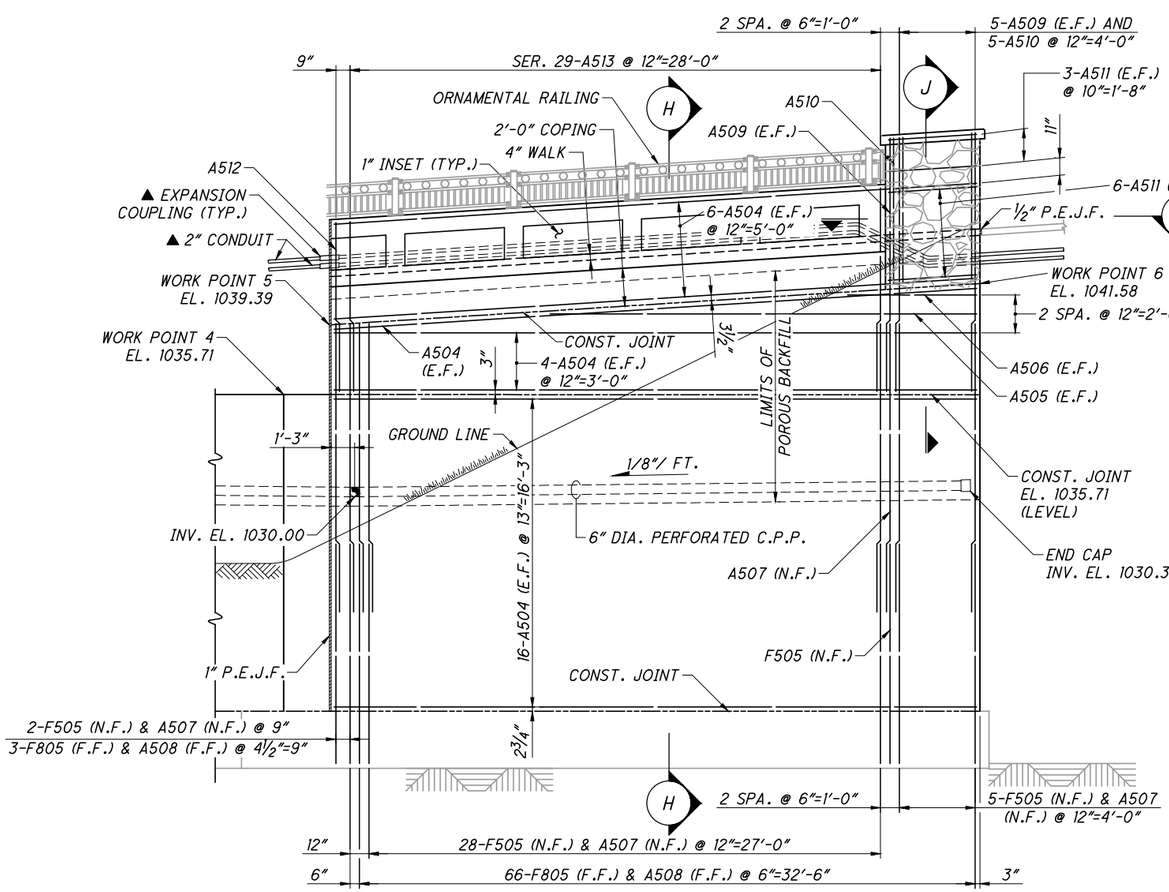
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

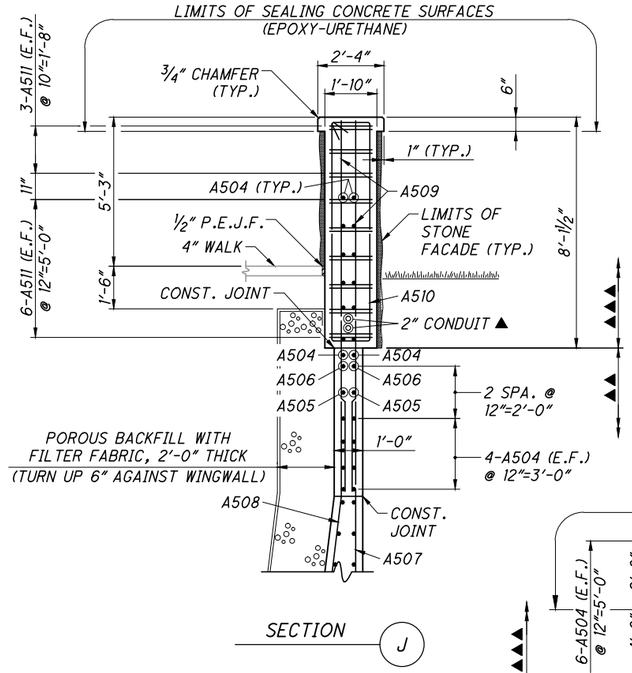
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAR001.dwg; 8/31/16 - 11:00am; mbechter



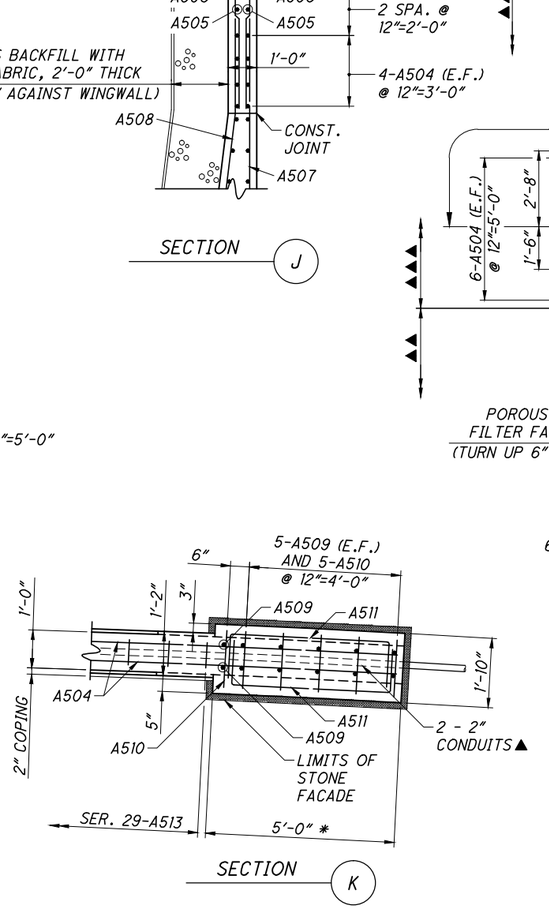
LEFT WINGWALL PLAN



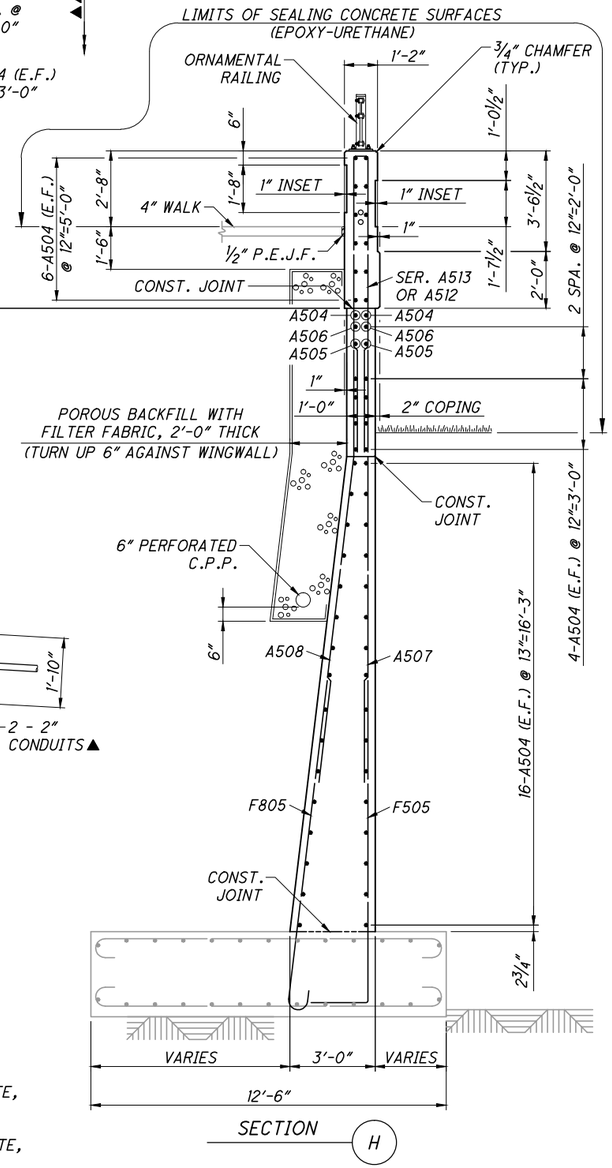
LEFT WINGWALL ELEVATION



SECTION J



SECTION K



SECTION H

LEGEND

- * - MEASURED ALONG ℄ PARAPET
- ** - MEASURED ALONG WINGWALL FASCIA
- ▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT
- ▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING
- ▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)

NOTES

1. FOR REAR ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEETS 4 | 29 AND 5 | 29 .
2. FOR ADDITIONAL REAR ABUTMENT/WINGWALL DETAILS, SEE SHEETS 6 | 29 , 7 | 29 , 9 | 29 AND 10 | 29 .
3. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 24 | 29 .
4. FOR PARAPET INSET DETAILS, SEE SHEET 23 | 29 .
5. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BAR = 43"

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76611223	

REAR ABUTMENT WINGWALL DETAILS 1 OF 3

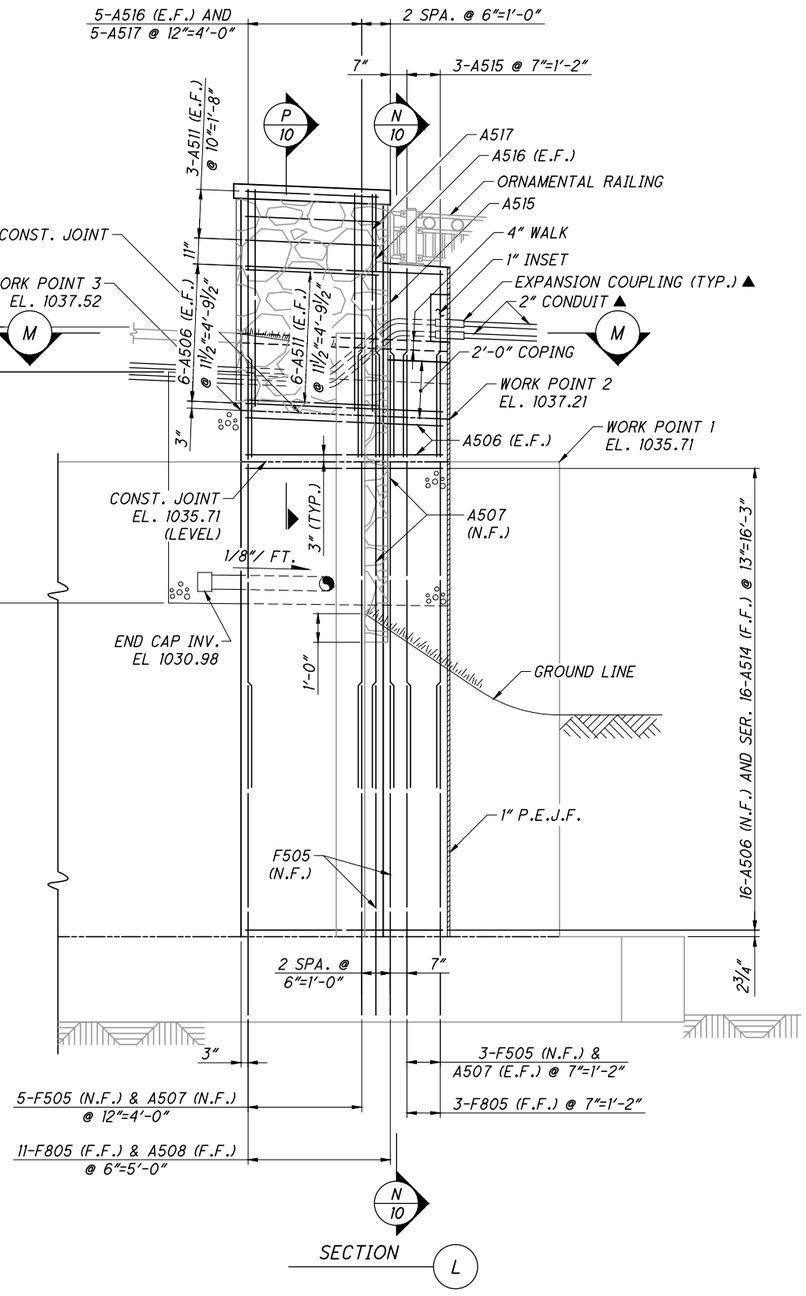
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

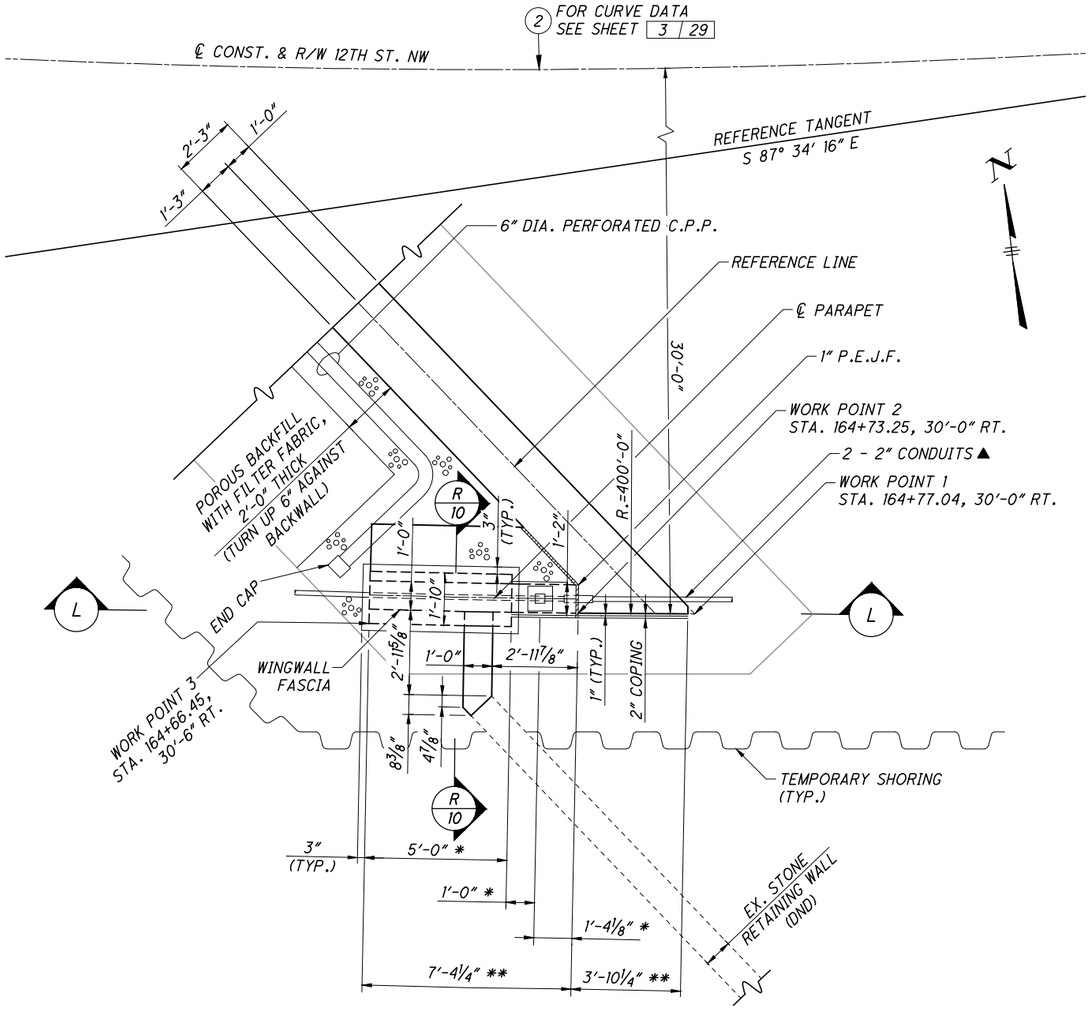
STA - 12TH STREET IMPROVEMENTS

8 | 29

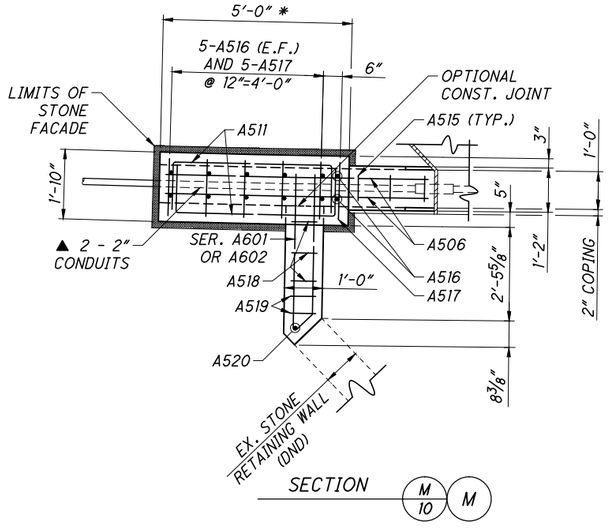
171 | 210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAR001.dwg; 8/31/16 - 11:00am; mbechter





RIGHT WINGWALL PLAN



NOTES

1. FOR REAR ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEETS 4 | 29 AND 5 | 29 .
2. FOR ADDITIONAL REAR ABUTMENT/WINGWALL DETAILS, SEE SHEETS 6 | 29 , 7 | 29 , 8 | 29 AND 10 | 29 .
3. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 24 | 29 .
4. FOR PARAPET INSET DETAILS, SEE SHEET 23 | 29 .
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43"

LEGEND

* - MEASURED ALONG ℄ PARAPET

** - MEASURED ALONG WINGWALL FASCIA

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

REAR ABUTMENT WINGWALL DETAILS 2 OF 3

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

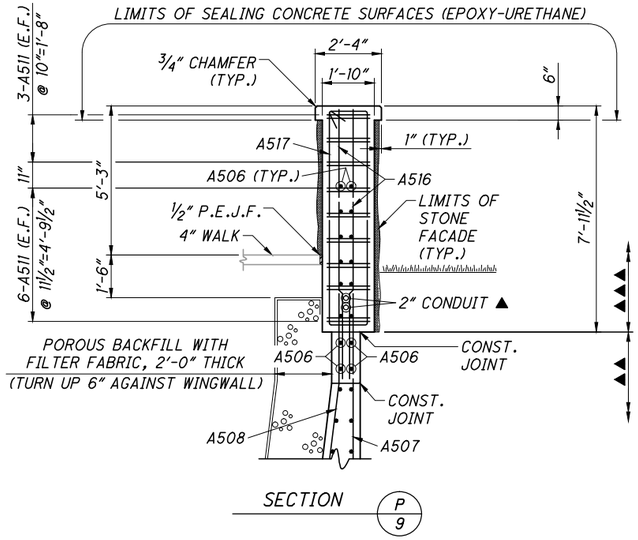
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAR001.dwg; 8/31/16 - 11:01am; mbechter

LEGEND

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

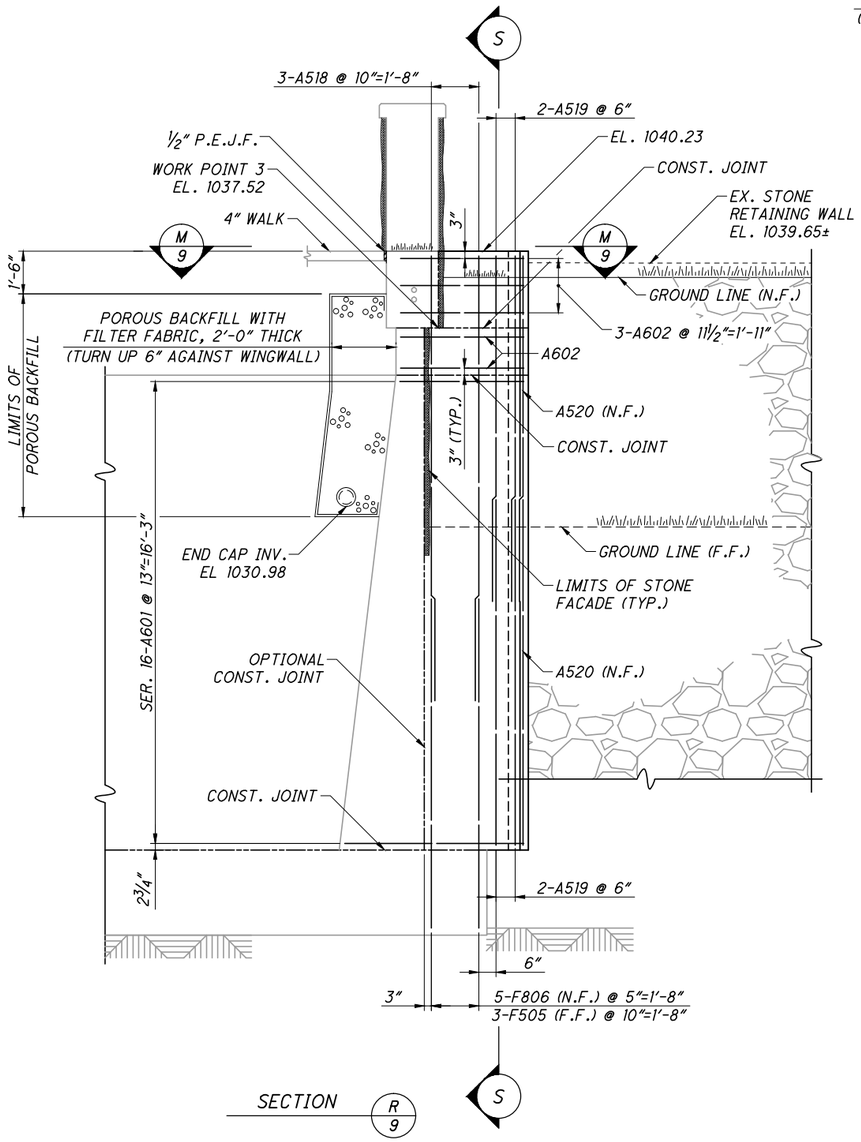
▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)



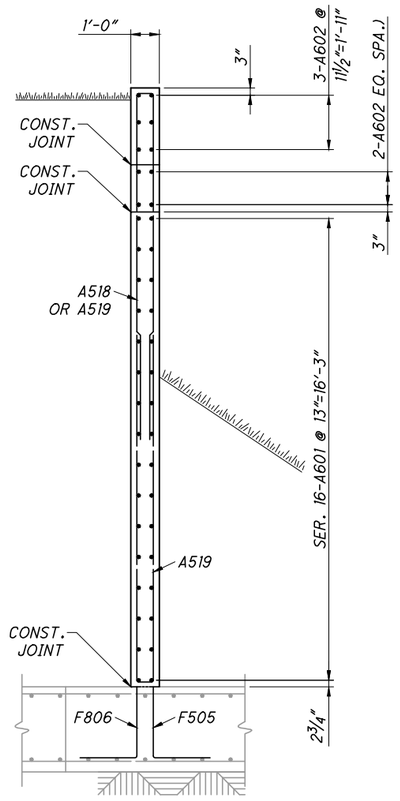
SECTION P/9

NOTES

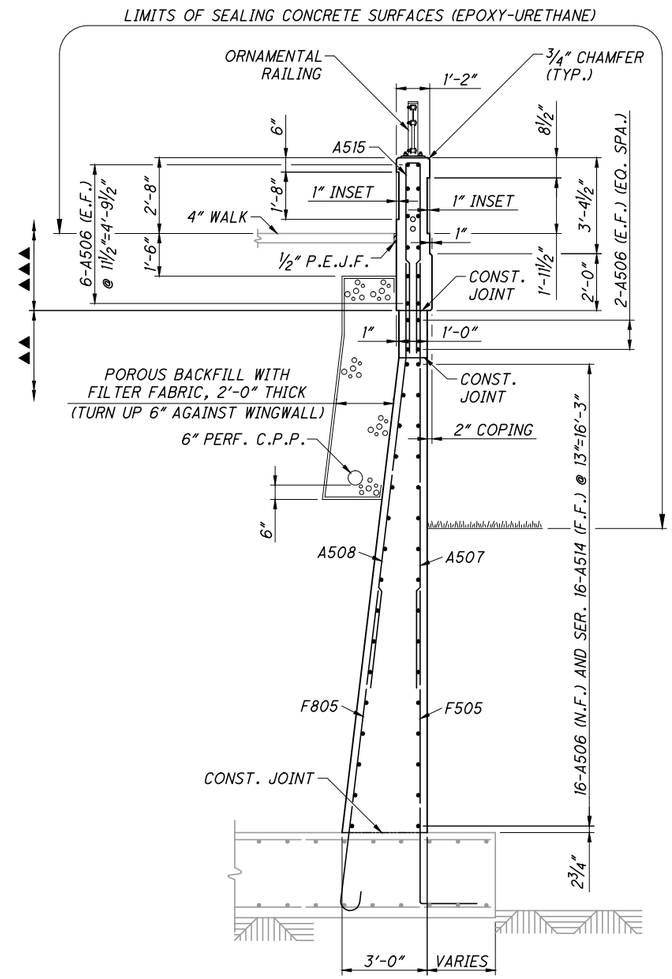
1. FOR REAR ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEETS 4 | 29 AND 5 | 29 .
2. FOR ADDITIONAL REAR ABUTMENT/WINGWALL DETAILS, SEE SHEETS 6 | 29 , 7 | 29 , 8 | 29 AND 9 | 29 .
3. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 24 | 29 .
4. FOR PARAPET INSET DETAILS, SEE SHEET 23 | 29 .
5. MINIMUM BAR LAPS ARE AS FOLLOWS: #5 BAR = 43"



SECTION R/9



SECTION S



SECTION N/9

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76611223	

REAR ABUTMENT WINGWALL DETAILS 3 OF 3

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

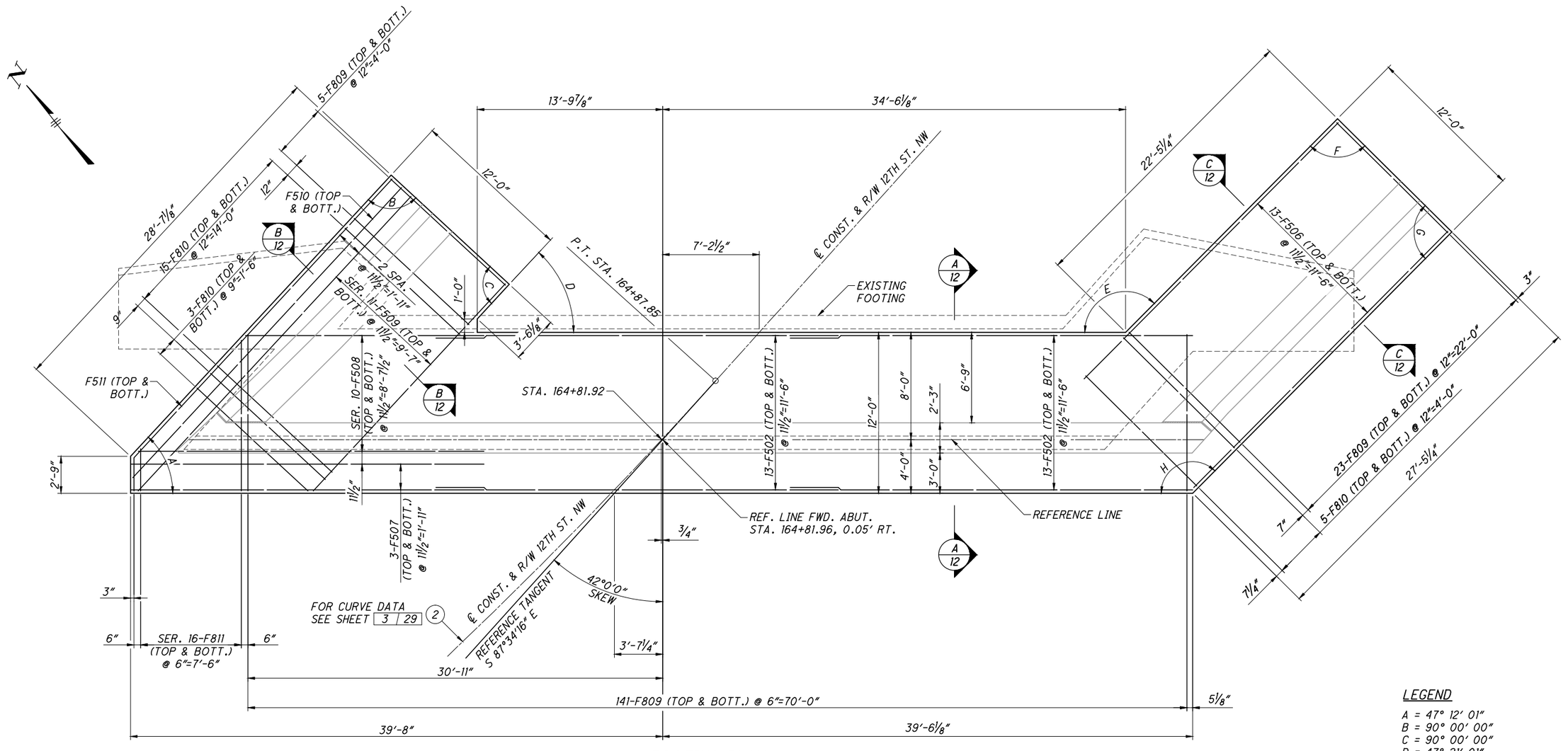
10 | 29

173 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAR001.dwg; 8/31/16 - 11:01am; mbechter

NOTES

1. FOR ADDITIONAL FORWARD ABUTMENT FOOTING DETAILS, SEE SHEET 12 | 29 .
2. FOR FORWARD ABUTMENT AND WINGWALL DETAILS, SEE SHEETS 13 | 29 THRU 16 | 29 .
3. FOR CENTERLINE DIAGRAM, SEE SHEET 3 | 29 .
4. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43"



FOOTING PLAN

LEGEND

A = 47° 12' 01"
B = 90° 00' 00"
C = 90° 00' 00"
D = 47° 21' 01"
E = 134° 44' 53"
F = 90° 00' 00"
G = 90° 00' 00"
H = 134° 44' 53"

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76612223	

FORWARD ABUTMENT FOOTING DETAILS 1 OF 2

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

11 | 29

174
210

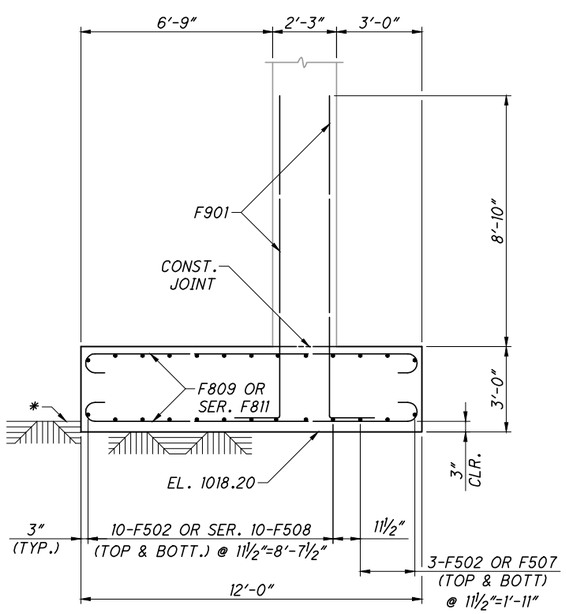
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAF001.dwg; 8/31/16 - 11:01am; mbechter

NOTES

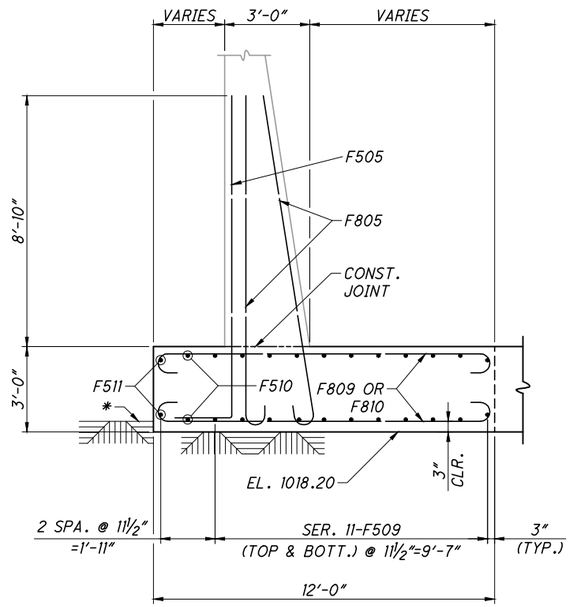
1. FOR ADDITIONAL FORWARD ABUTMENT FOOTING DETAILS, SEE SHEET 11 | 29 .
2. FOR LOCATION/PLACEMENT OF VERTICAL REINFORCING IN FORWARD ABUTMENT AND WINGWALL STEMS, SEE SHEETS 13 | 29 THRU 16 | 29 .

LEGEND

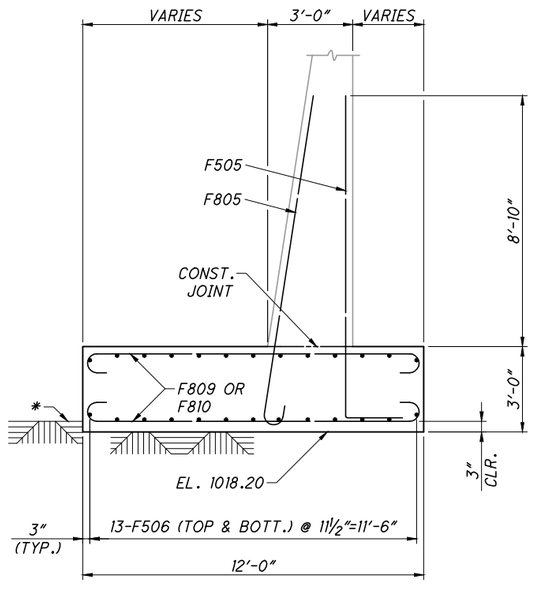
* - APPROXIMATE TOP OF ROCK EL. 1018.70



SECTION A / 11



SECTION B / 11



SECTION C / 11

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

FORWARD ABUTMENT FOOTING DETAILS 2 OF 2

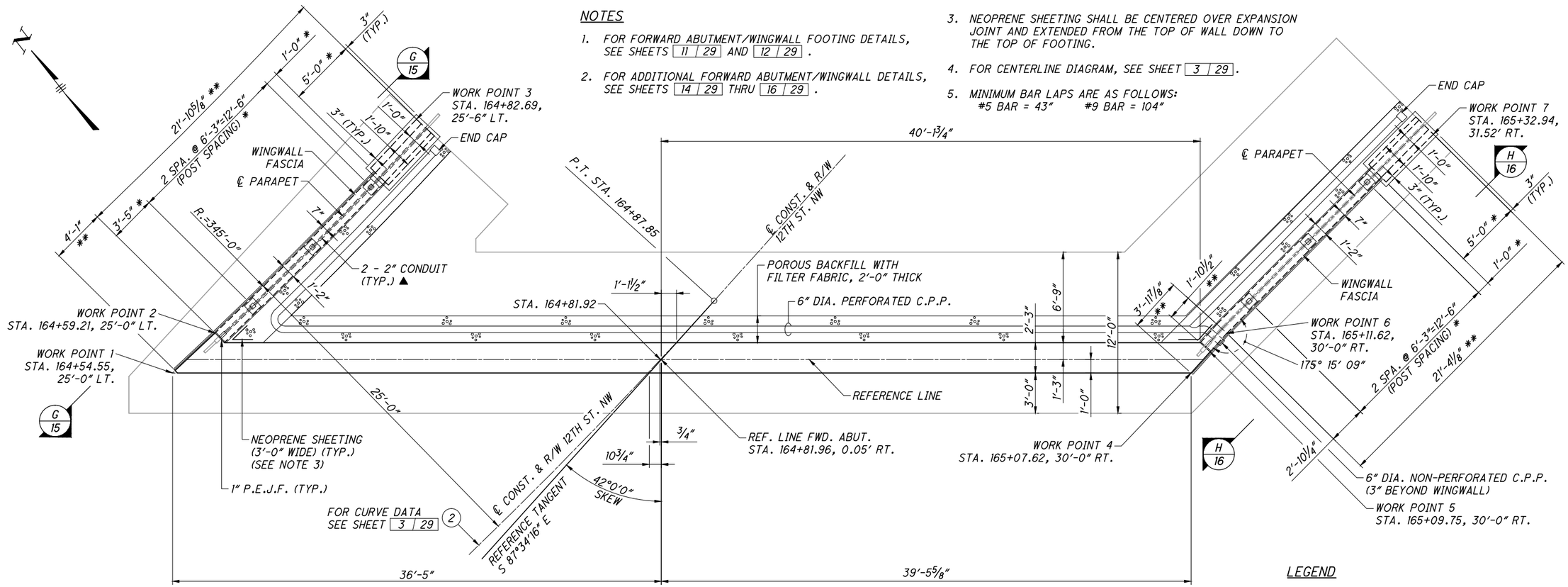
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAF001.dwg; 8/31/16 - 11:01am; mbechter

NOTES

1. FOR FORWARD ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEETS 11 | 29 AND 12 | 29 .
2. FOR ADDITIONAL FORWARD ABUTMENT/WINGWALL DETAILS, SEE SHEETS 14 | 29 THRU 16 | 29 .
3. NEOPRENE SHEETING SHALL BE CENTERED OVER EXPANSION JOINT AND EXTENDED FROM THE TOP OF WALL DOWN TO THE TOP OF FOOTING.
4. FOR CENTERLINE DIAGRAM, SEE SHEET 3 | 29 .
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43" #9 BAR = 104"



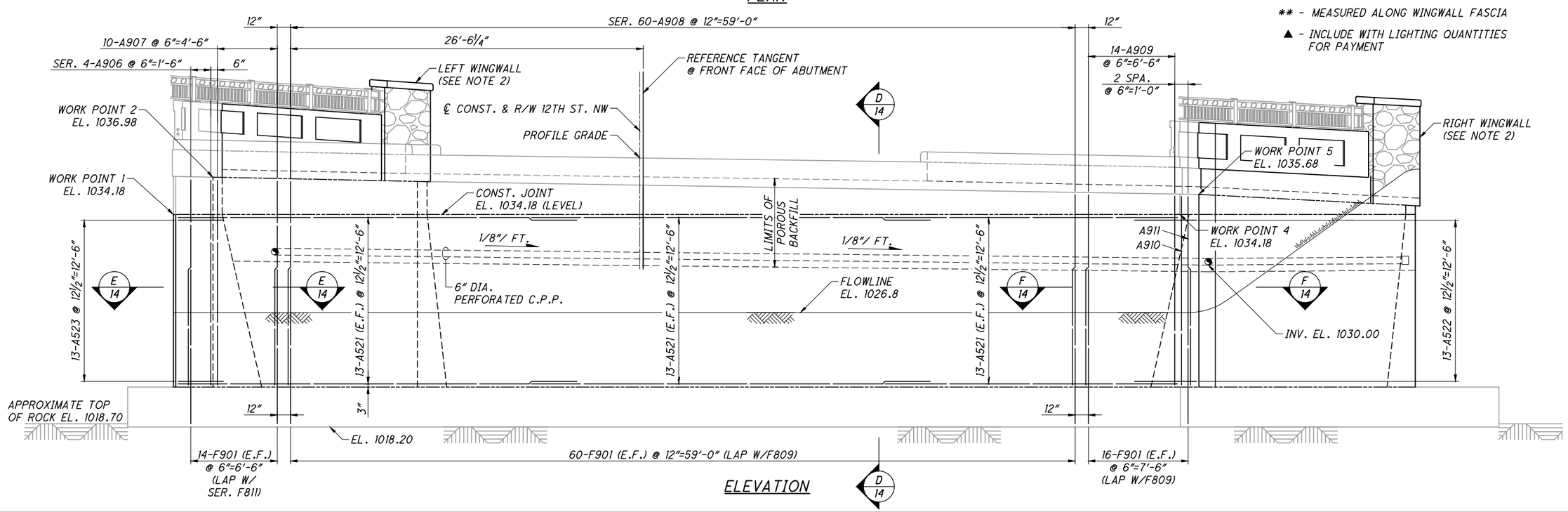
PLAN

LEGEND

* - MEASURED ALONG ℄ PARAPET

** - MEASURED ALONG WINGWALL FASCIA

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT



ELEVATION

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76611223	

FORWARD ABUTMENT PLAN AND ELEVATION

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

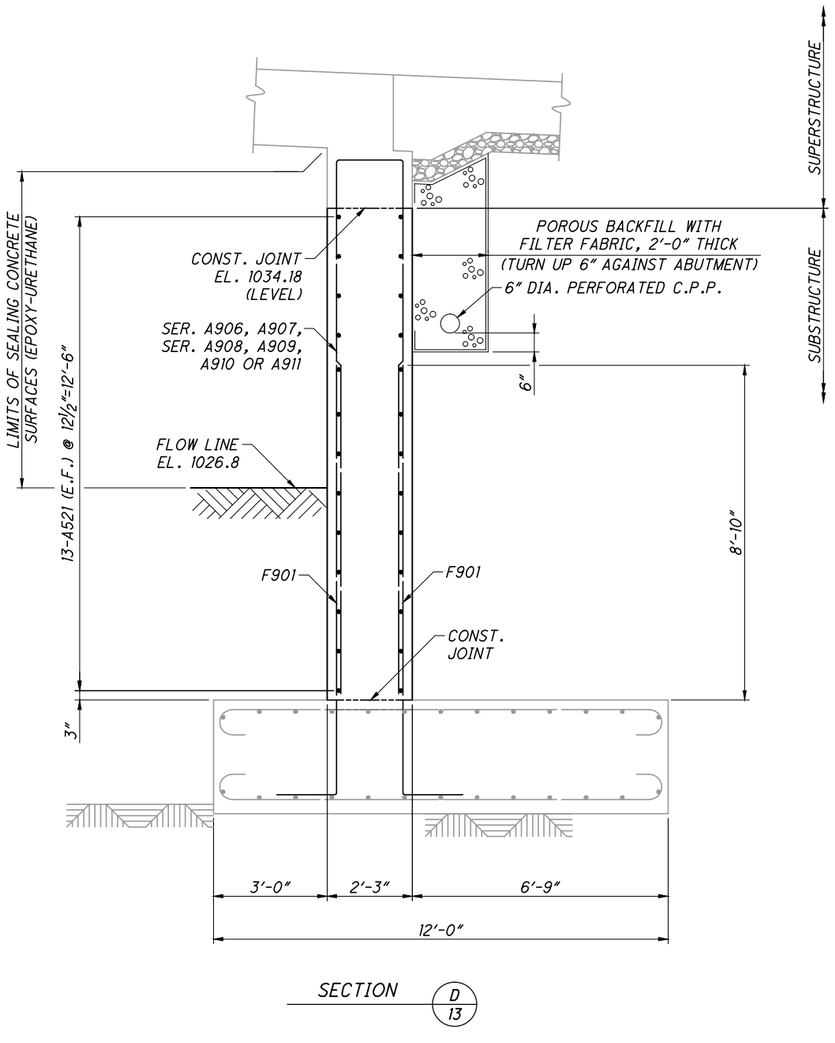
13 | 29

176
210

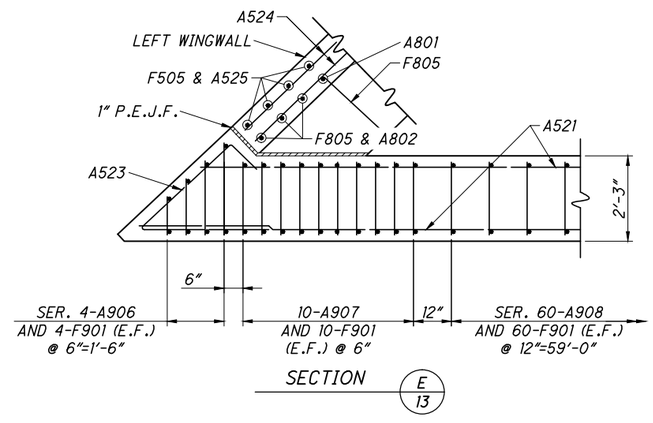
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAF001.dwg; 8/31/16 - 11:01am; mbechter

NOTES

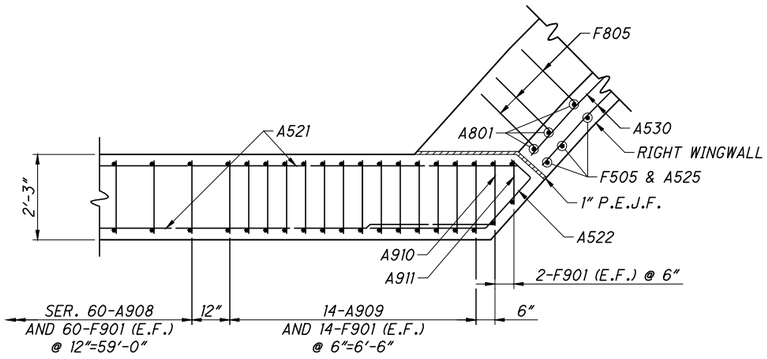
1. FOR FORWARD ABUTMENT FOOTING DETAILS, SEE SHEETS 11 | 29 AND 12 | 29 .
2. FOR FORWARD ABUTMENT PLAN AND ELEVATION, SEE SHEET 13 | 29 .
3. FOR FORWARD ABUTMENT/WINGWALL DETAILS, SEE SHEETS 15 | 29 AND 16 | 29 .



SECTION D / 13



SECTION E / 13



SECTION F / 13

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76611223	

FORWARD ABUTMENT DETAILS

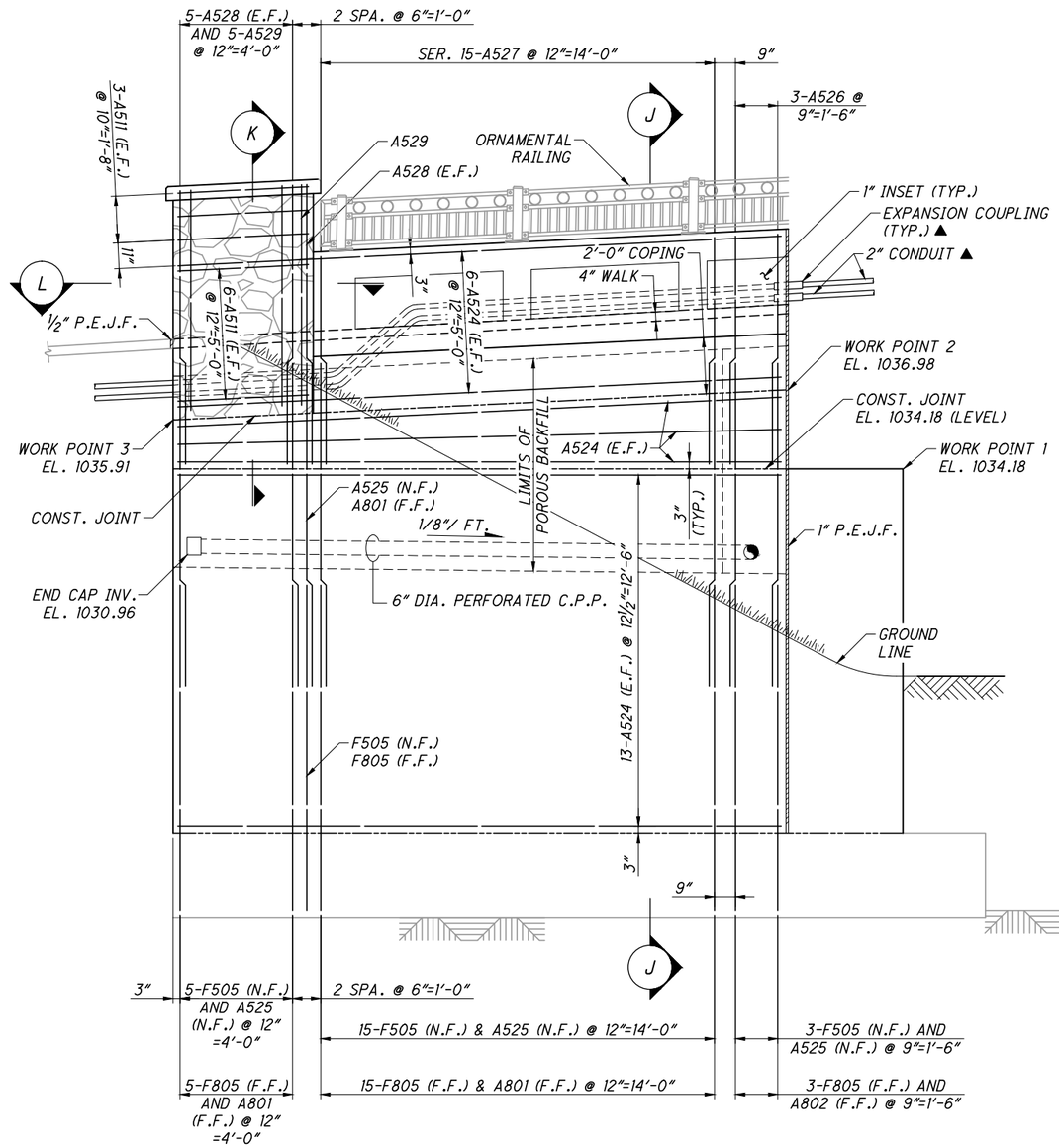
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

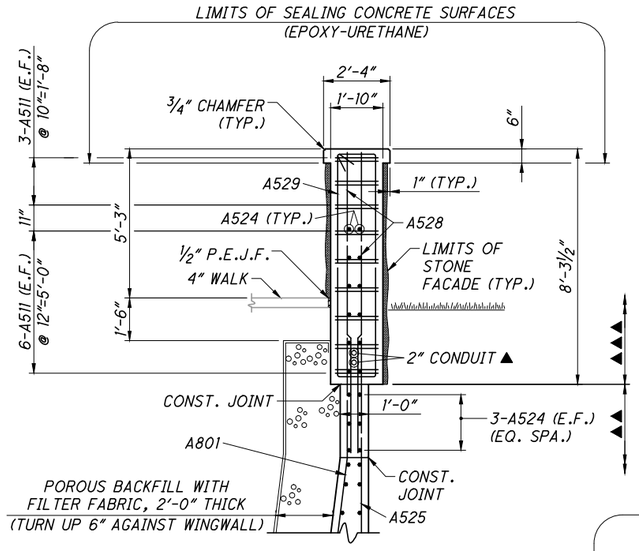
14 | 29

177 / 210

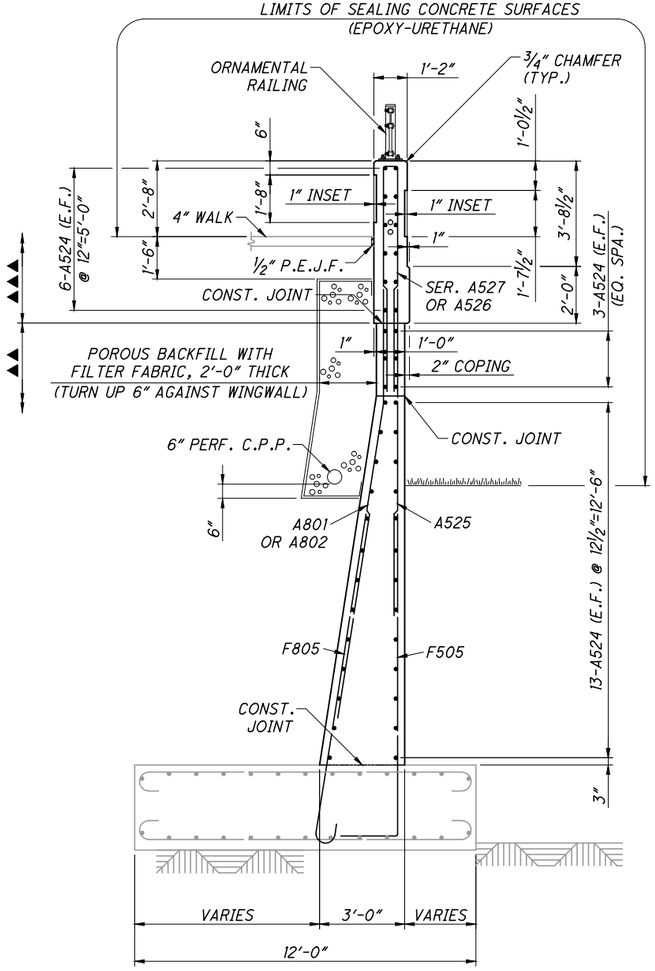
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAF001.dwg; 8/31/16 - 11:01:am; mbechter



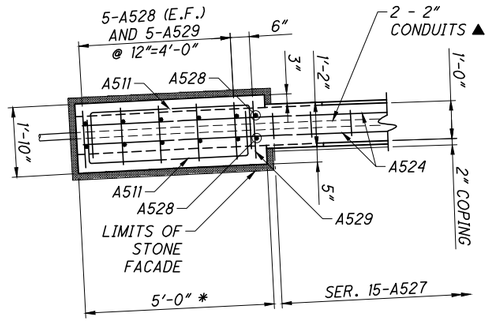
VIEW G / 13



SECTION K



SECTION J



SECTION L

NOTES

1. FOR FORWARD ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEETS 11 / 29 AND 12 / 29 .
2. FOR ADDITIONAL FORWARD ABUTMENT/WINGWALL DETAILS, SEE SHEETS 13 / 29 , 14 / 29 AND 16 / 29 .
3. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 24 / 29 .
4. FOR PARAPET INSET DETAILS, SEE SHEET 23 / 29 .
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43" #8 BAR = 87"

LEGEND

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76612223	

FORWARD ABUTMENT WINGWALL DETAILS 1 OF 2

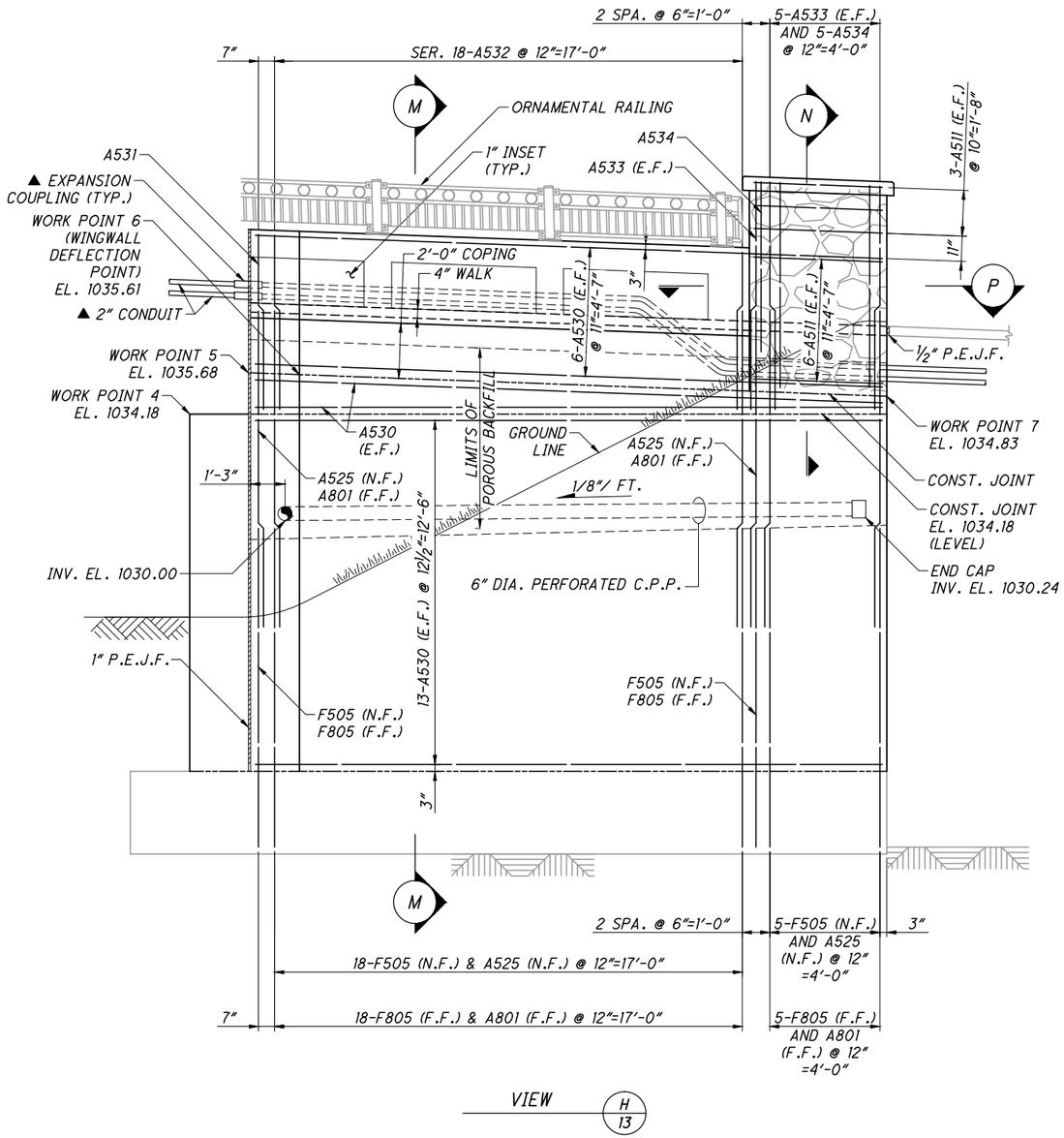
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

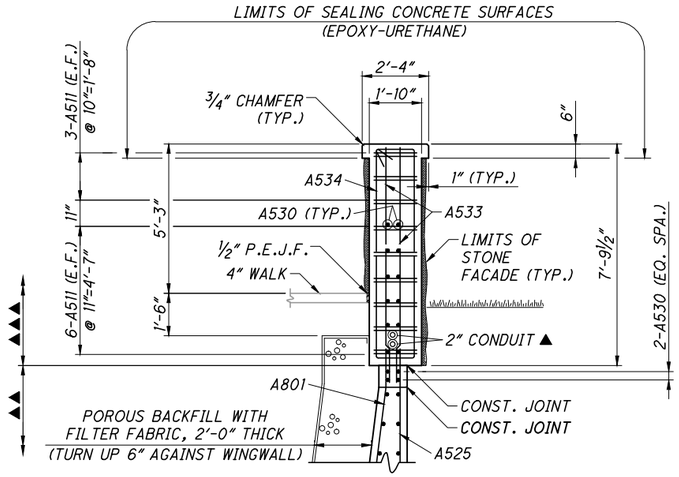
15 / 29

178 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECAF001.dwg; 8/31/16 - 11:02am; mbechter



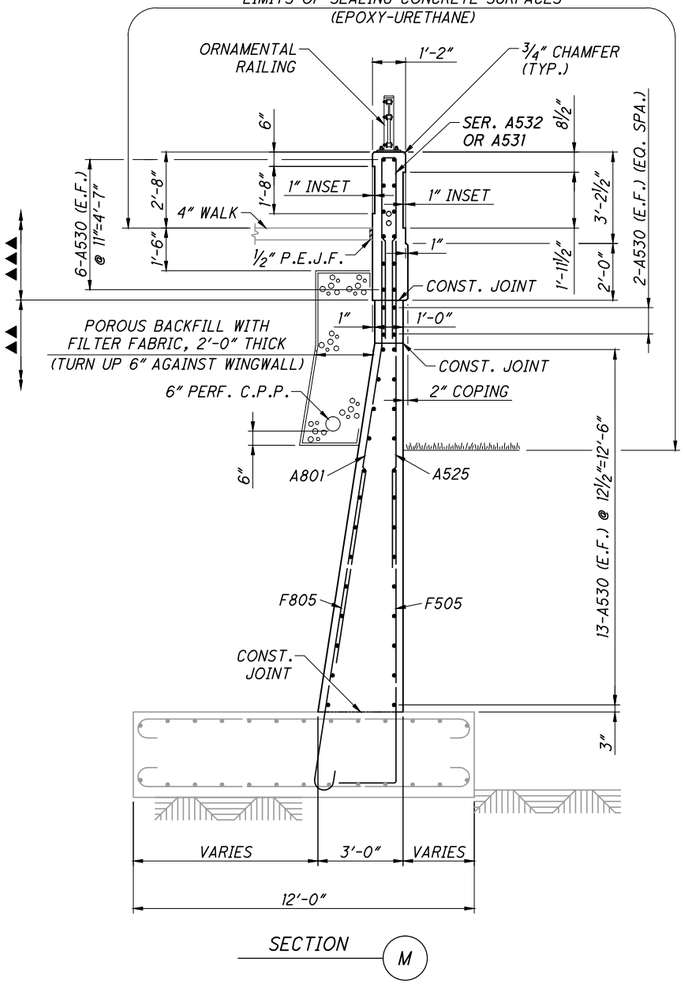
VIEW H / 13



SECTION N

NOTES

1. FOR FORWARD ABUTMENT/WINGWALL FOOTING DETAILS, SEE SHEETS 11 | 29 AND 12 | 29 .
2. FOR ADDITIONAL FORWARD ABUTMENT/WINGWALL DETAILS, SEE SHEETS 13 | 29 , 14 | 29 AND 15 | 29 .
3. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 24 | 29 .
4. FOR PARAPET INSET DETAILS, SEE SHEET 23 | 29 .
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43" #8 BAR = 87"



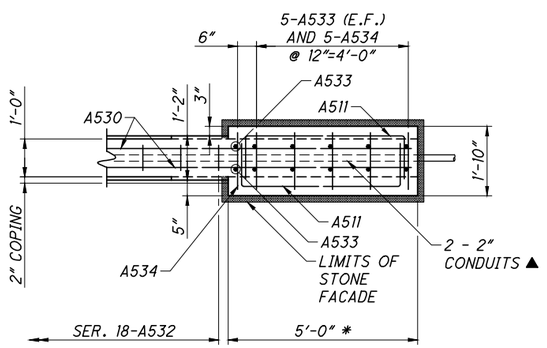
SECTION M

LEGEND

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

▲▲ - INCLUDE WITH ITEM 511-CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

▲▲▲ - INCLUDE WITH ITEM 511-CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)



SECTION P

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76612223	

FORWARD ABUTMENT WINGWALL DETAILS 2 OF 2

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

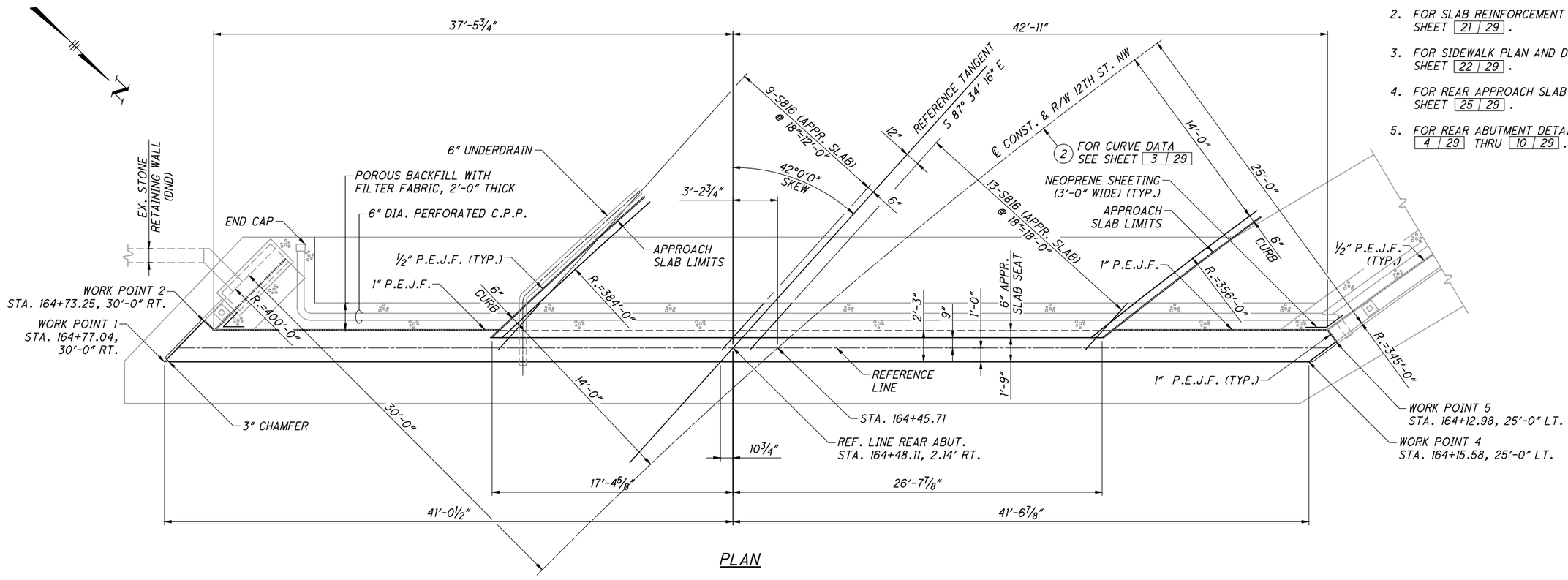
16 | 29

179 / 210

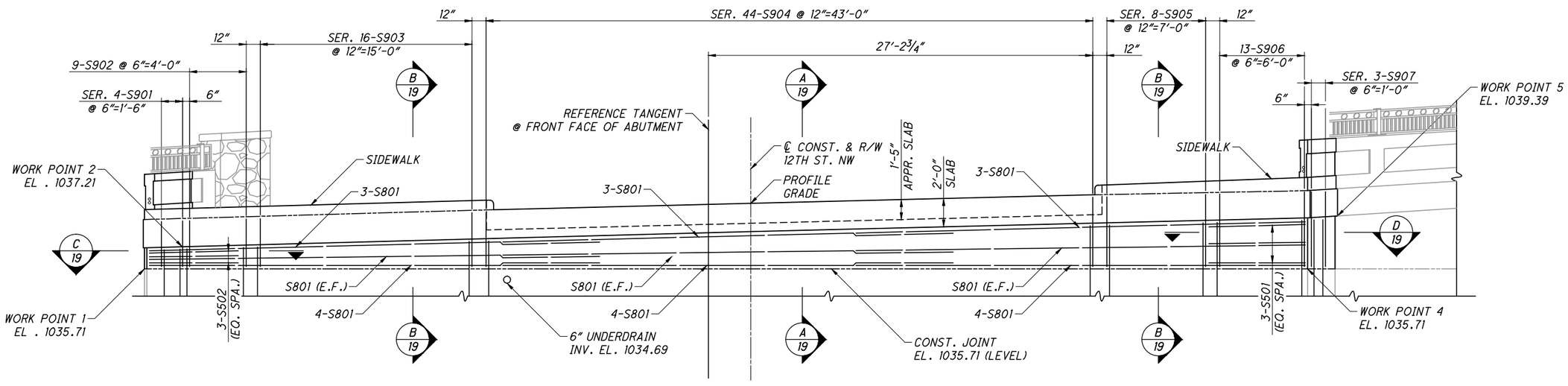
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACEOAF001.dwg; 8/31/16 - 11:02am; mbechter

NOTES

1. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43″ #8 BAR = 87″
2. FOR SLAB REINFORCEMENT PLAN, SEE SHEET 21 | 29 .
3. FOR SIDEWALK PLAN AND DETAILS, SEE SHEET 22 | 29 .
4. FOR REAR APPROACH SLAB DETAILS, SEE SHEET 25 | 29 .
5. FOR REAR ABUTMENT DETAILS, SEE SHEETS 4 | 29 THRU 10 | 29 .



PLAN



ELEVATION

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

REAR ABUTMENT DIAPHRAGM DETAILS

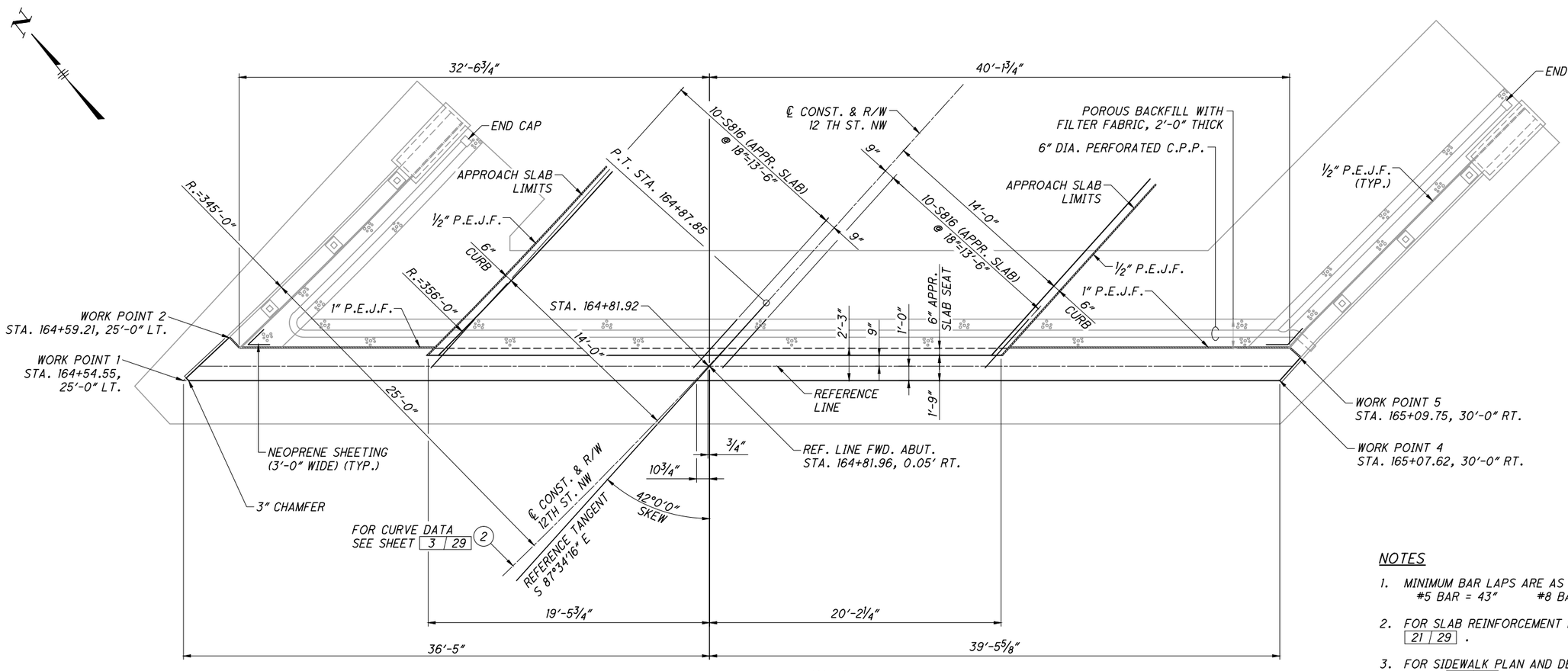
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

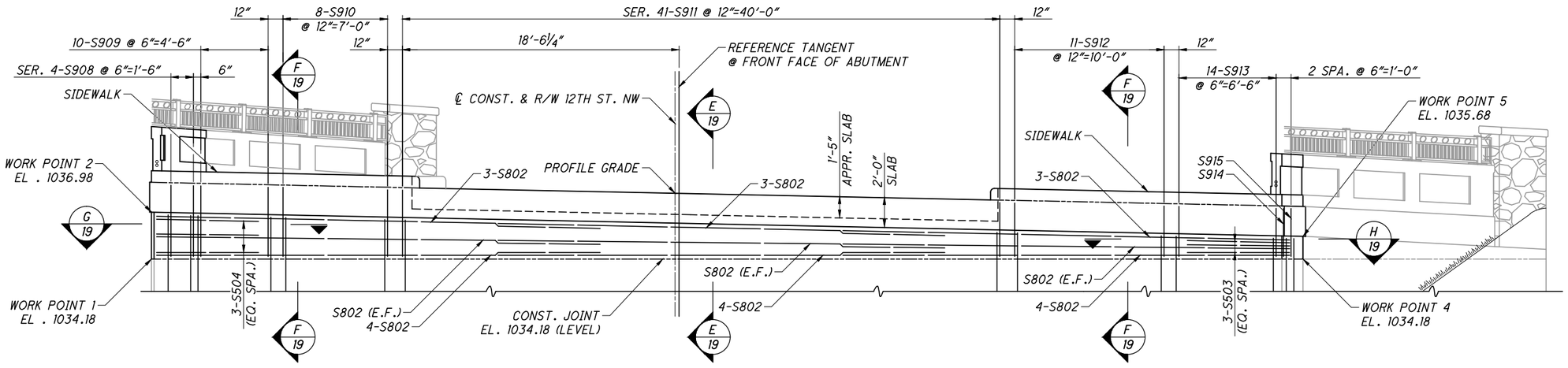
17 | 29

180
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACEGSD001.dwg; 8/31/16 - 11:02am; mbechter



PLAN



ELEVATION

NOTES

1. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43″ #8 BAR = 87″
2. FOR SLAB REINFORCEMENT PLAN, SEE SHEET 21 | 29 .
3. FOR SIDEWALK PLAN AND DETAILS, SEE SHEET 22 | 29 .
4. FOR FORWARD APPROACH SLAB DETAILS, SEE SHEET 26 | 29 .
5. FOR FORWARD ABUTMENT DETAILS, SEE SHEETS 11 | 29 THRU 16 | 29 .

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76612223	

FORWARD ABUTMENT DIAPHRAGM DETAILS

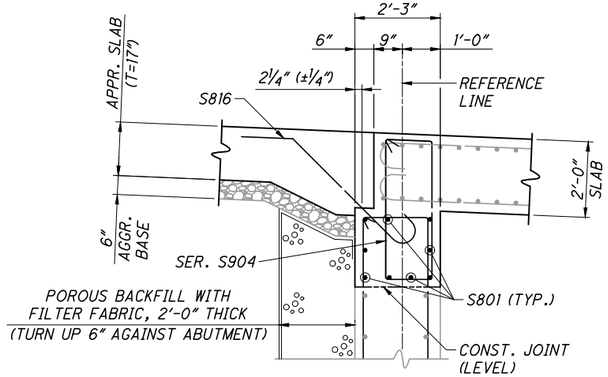
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

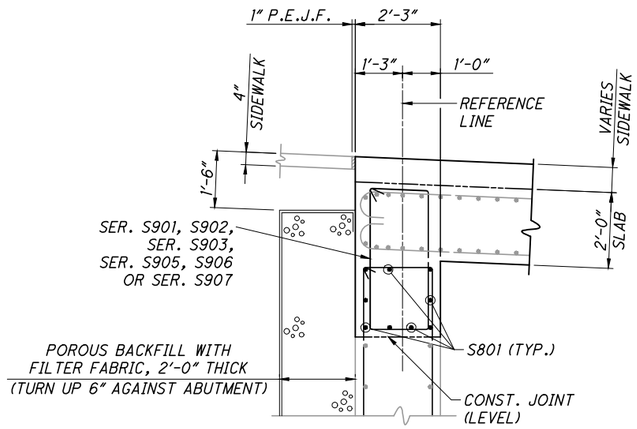
18 | 29

181
210

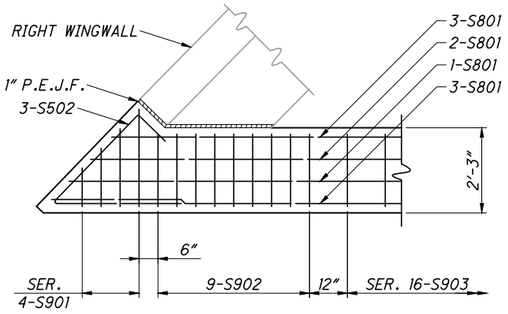
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECSD002.dwg; 8/31/16 - 11:03am; mbechter



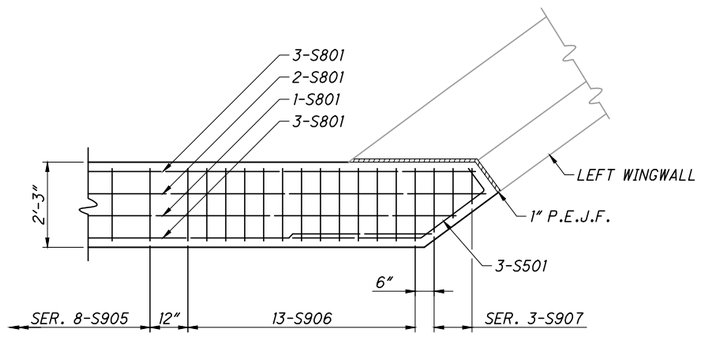
SECTION A / 17



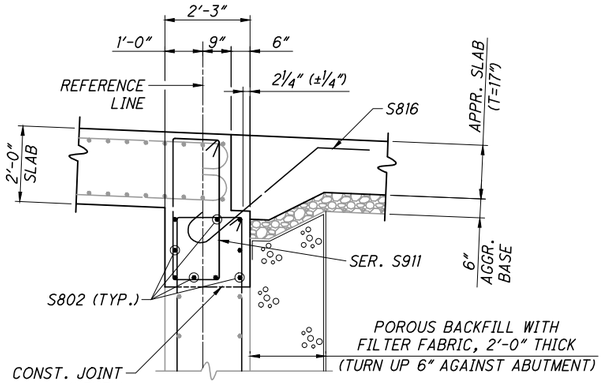
SECTION B / 17



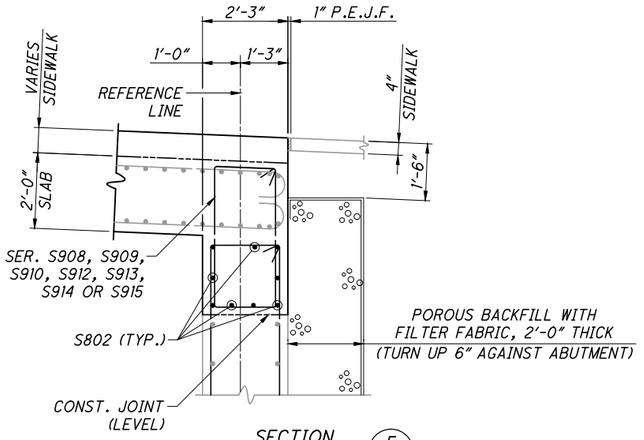
SECTION C / 17



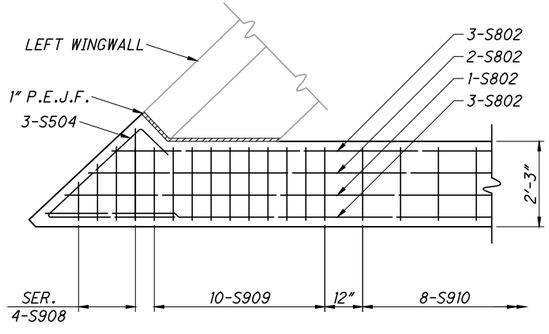
SECTION D / 17



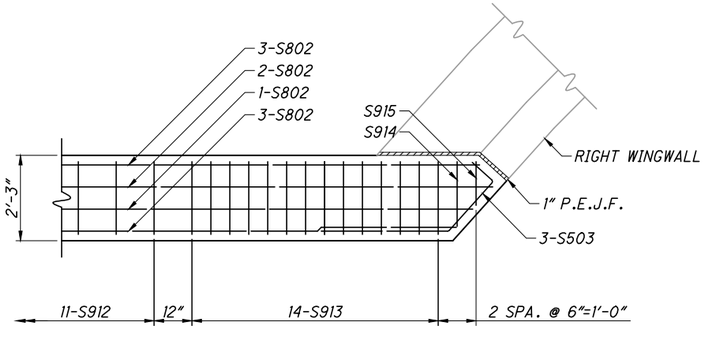
SECTION E / 18



SECTION F / 18



SECTION G / 18



SECTION H / 18

NOTES

1. FOR ADDITIONAL ABUTMENT DIAPHRAGM NOTES AND DETAILS, SEE SHEETS 17 | 29 AND 18 | 29.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76612223	

ABUTMENT DIAPHRAGM DETAILS

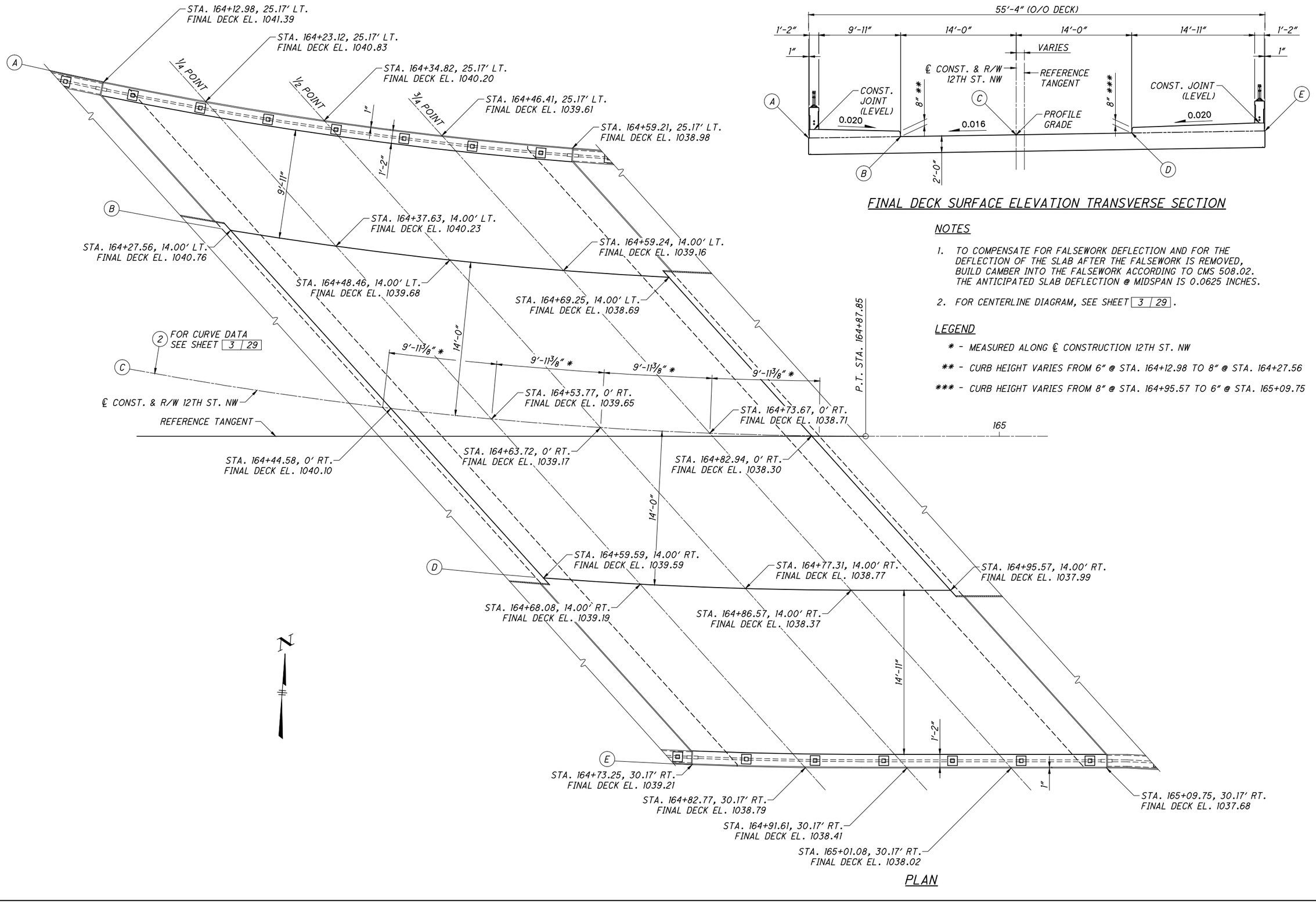
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

19 | 29

182
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECSD002.dwg; 8/31/16 - 11:03am; mbechler



PLAN

FINAL DECK SURFACE ELEVATION TRANSVERSE SECTION

NOTES

1. TO COMPENSATE FOR FALSEWORK DEFLECTION AND FOR THE DEFLECTION OF THE SLAB AFTER THE FALSEWORK IS REMOVED, BUILD CAMBER INTO THE FALSEWORK ACCORDING TO CMS 508.02. THE ANTICIPATED SLAB DEFLECTION @ MIDSPAN IS 0.0625 INCHES.
2. FOR CENTERLINE DIAGRAM, SEE SHEET 3 29.

LEGEND

* - MEASURED ALONG ℄ CONSTRUCTION 12TH ST. NW

** - CURB HEIGHT VARIES FROM 6" @ STA. 164+12.98 TO 8" @ STA. 164+27.56

*** - CURB HEIGHT VARIES FROM 8" @ STA. 164+95.57 TO 6" @ STA. 165+09.75

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76611223	

SLAB PLAN AND FINAL DECK ELEVATIONS

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

20 / 29

183
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECTS001.dwg; 8/31/16 - 11:03am; mbechter

NOTES

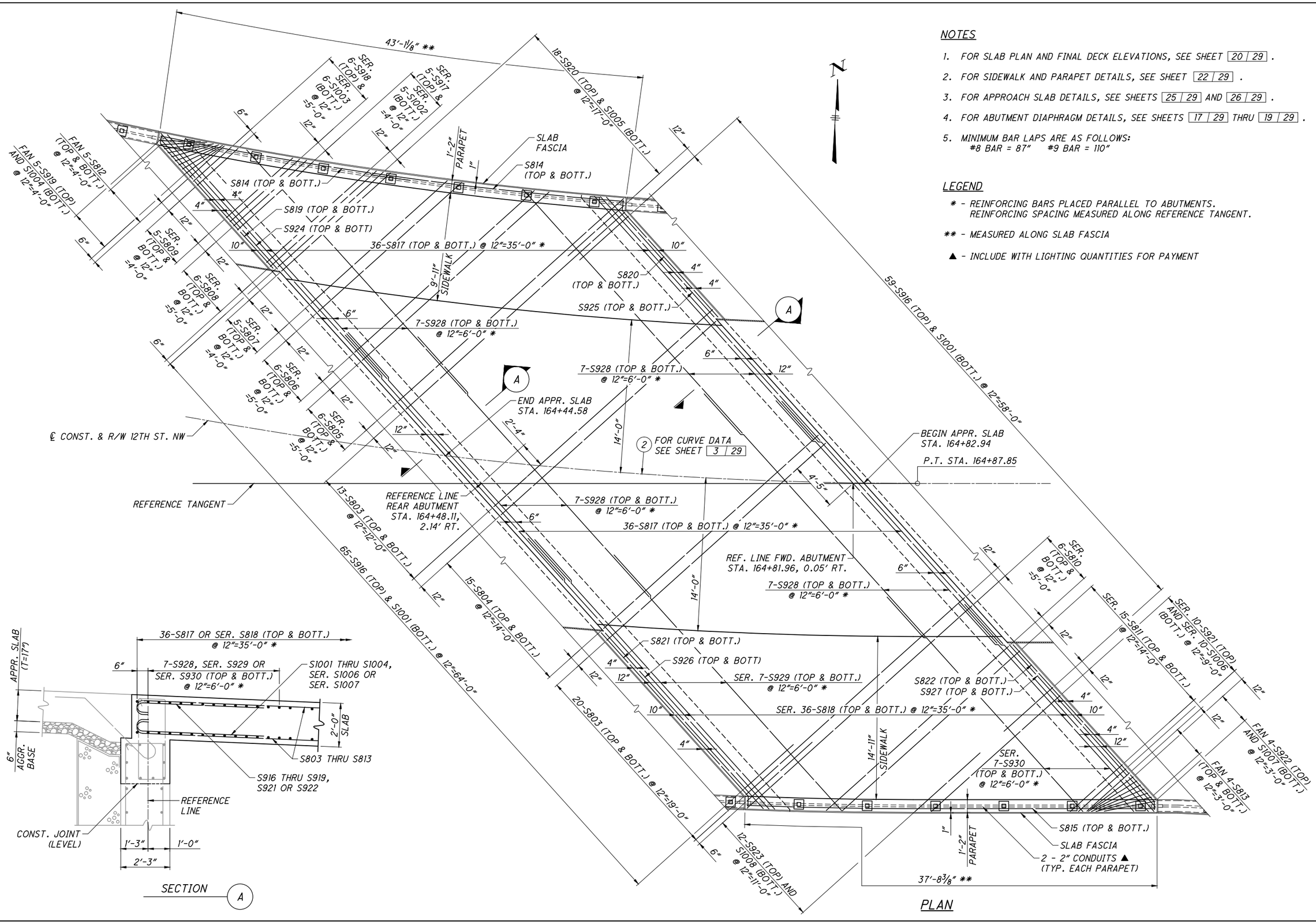
1. FOR SLAB PLAN AND FINAL DECK ELEVATIONS, SEE SHEET 20 | 29 .
2. FOR SIDEWALK AND PARAPET DETAILS, SEE SHEET 22 | 29 .
3. FOR APPROACH SLAB DETAILS, SEE SHEETS 25 | 29 AND 26 | 29 .
4. FOR ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 17 | 29 THRU 19 | 29 .
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #8 BAR = 87″ #9 BAR = 110″

LEGEND

* - REINFORCING BARS PLACED PARALLEL TO ABUTMENTS.
REINFORCING SPACING MEASURED ALONG REFERENCE TANGENT.

** - MEASURED ALONG SLAB FASCIA

▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT



PLAN

SECTION A

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76611223	

SLAB REINFORCEMENT PLAN

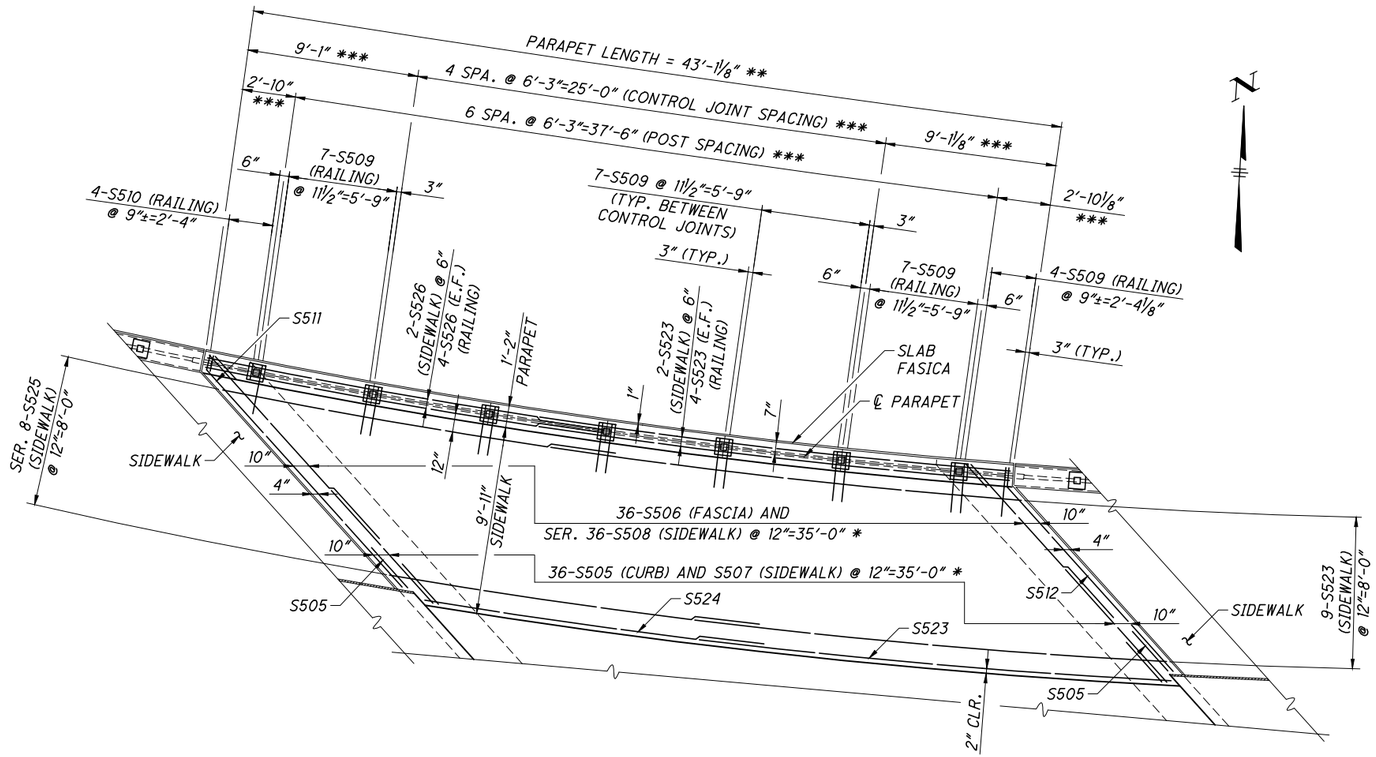
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

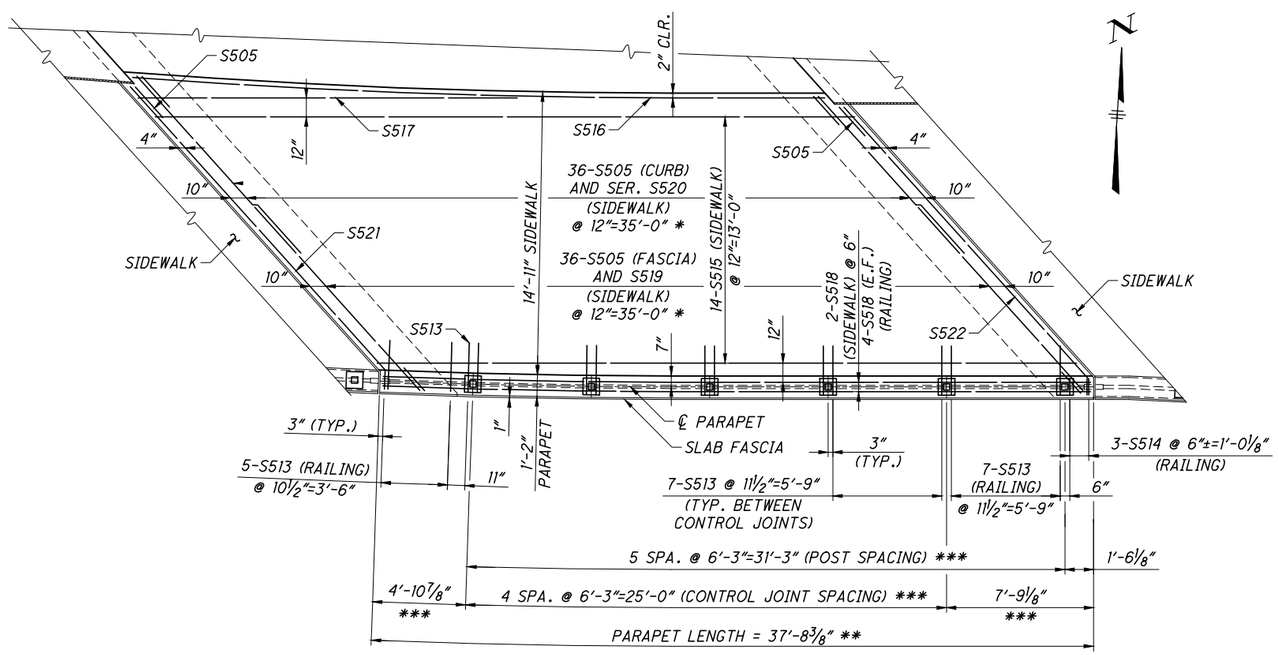
21 | 29

184
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECDP001.dwg; 8/31/16 - 11:04am; mbechter



LEFT SIDEWALK PLAN



RIGHT SIDEWALK PLAN

NOTES

1. FOR SLAB REINFORCEMENT PLAN, SEE SHEET 21 | 29 .
2. FOR TRANSVERSE SECTION AND PARAPET DETAILS, SEE SHEET 23 | 29 .
3. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 24 | 29 .
4. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43"

LEGEND

* - REINFORCING BARS PLACED PARALLEL TO ABUTMENTS. REINFORCING SPACING MEASURED ALONG REFERENCE TANGENT.

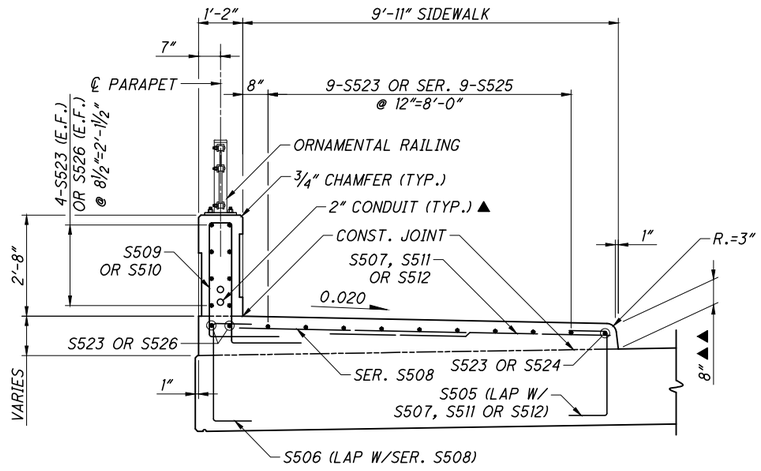
** - MEASURED ALONG SLAB FASCIA

*** - MEASURED ALONG ℄ PARAPET

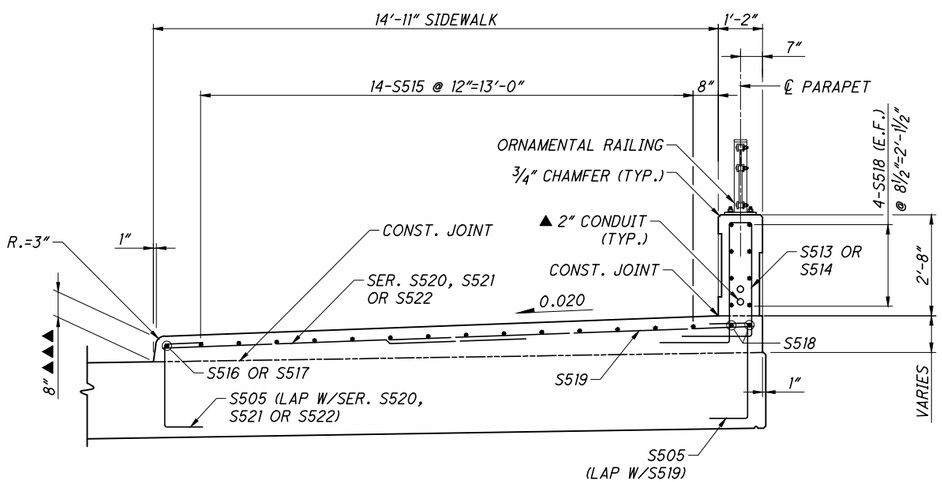
▲ - INCLUDE WITH LIGHTING QUANTITIES FOR PAYMENT

▲▲ - CURB HEIGHT VARIES FROM 6" @ STA. 164+12.98 TO 8" @ STA. 164+27.56

▲▲▲ - CURB HEIGHT VARIES FROM 8" @ STA. 164+95.57 TO 6" @ STA. 165+09.75



LEFT SIDEWALK SECTION



RIGHT SIDEWALK SECTION

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

SIDEWALK PLAN AND SECTIONS

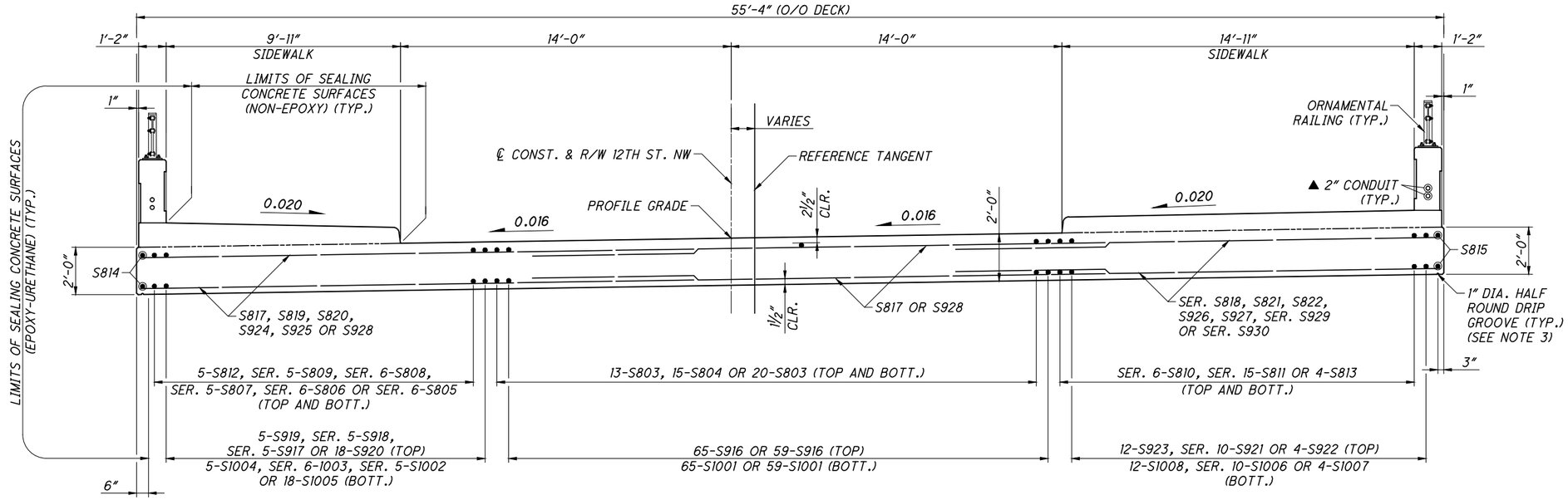
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

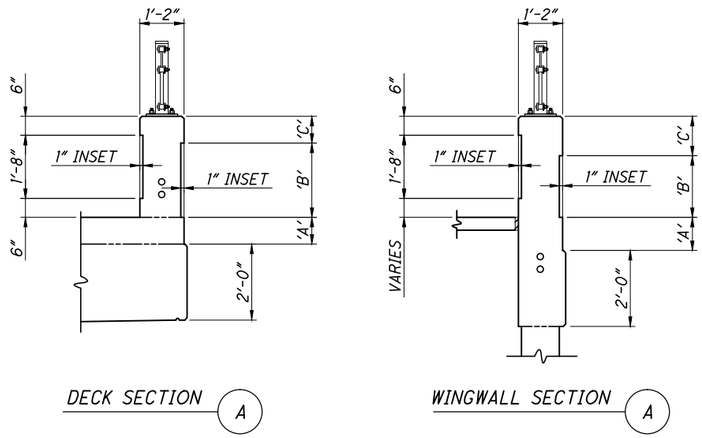
22 | 29

185
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACEODP001.dwg; 8/31/16 - 11:04am; mbechter



TRANSVERSE SECTION

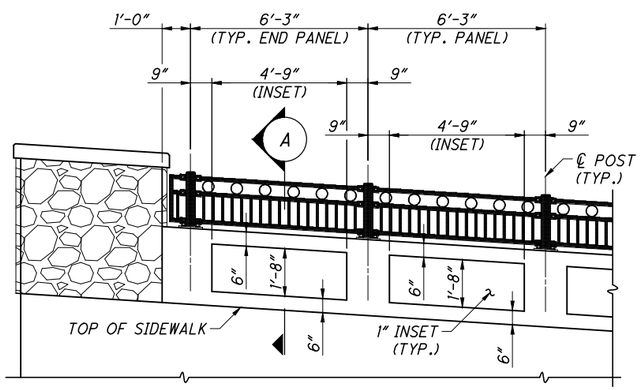


DECK SECTION A

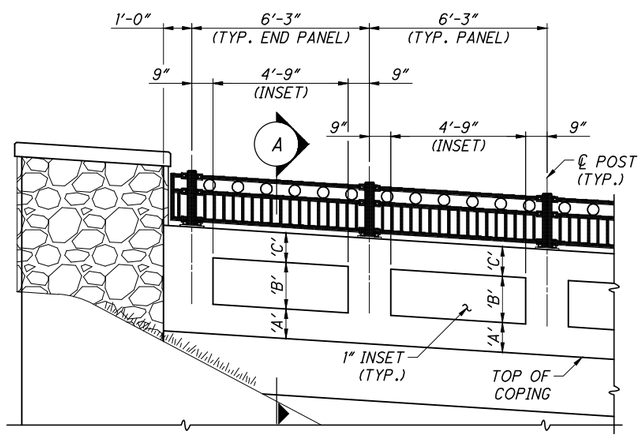
WINGWALL SECTION A

PARAPET INSET DIMENSION TABLE (DECK)			
LOCATION	'A'	'B'	'C'
LEFT PARAPET	VARIES	1'-7½"	1'-0½"
RIGHT PARAPET	VARIES	1'-11½"	8½"

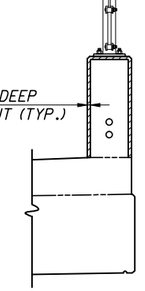
PARAPET INSET DIMENSION TABLE (WINGWALL)			
LOCATION	'A'	'B'	'C'
REAR ABUT. LEFT WINGWALL	10½"	1'-7½"	1'-0½"
REAR ABUT. RIGHT WINGWALL	8½"	1'-11½"	8½"
FORWARD ABUT. LEFT WINGWALL	1'-0½"	1'-7½"	1'-0½"
FORWARD ABUTMENT RIGHT WINGWALL	6½"	1'-11½"	8½"



PARAPET INSET DETAIL - INSIDE
(BOTH PARAPETS)



PARAPET INSET DETAIL - OUTSIDE
(BOTH PARAPETS)



CONTROL JOINT SECTION

NOTES

1. FOR SLAB REINFORCEMENT PLAN AND FINAL DECK ELEVATIONS, SEE SHEETS 20 | 29 AND 21 | 29 .
2. FOR SIDEWALK DETAILS AND REINFORCEMENT, SEE SHEET 22 | 29 .
3. DRIP GROOVES SHALL TERMINATE 2'-6" FROM THE FACE OF ABUTMENTS.
4. FOR ORNAMENTAL RAILING DETAILS, SEE SHEET 24 | 29 .
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #8 BAR = 87" #9 BAR = 110"

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED RJB | DRAWN MPB | REVIEWED CMD | DATE 1/16
CHECKED FJG | REVISED | STRUCTURE FILE NO. 76611223

TRANSVERSE SECTION AND PARAPET DETAILS

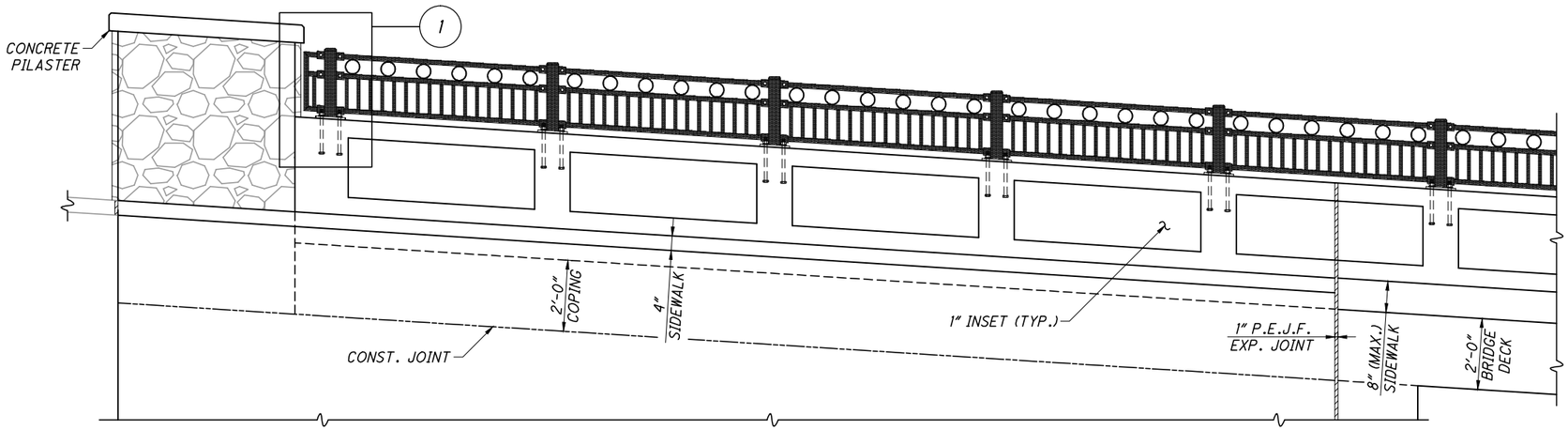
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

23 | 29

186
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECTS001.dwg; 8/31/16 - 11:04am; mbechter

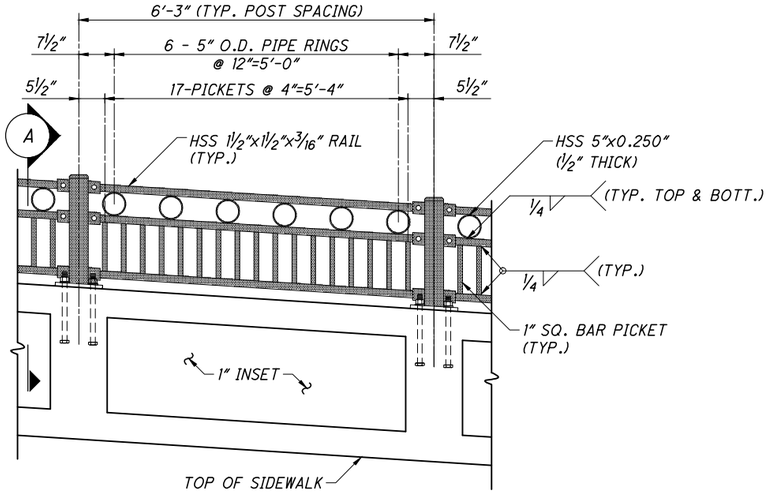


RAILING ELEVATION - INSIDE

(NORTHWEST WINGWALL SHOWN, ALL OTHERS SIMILAR)

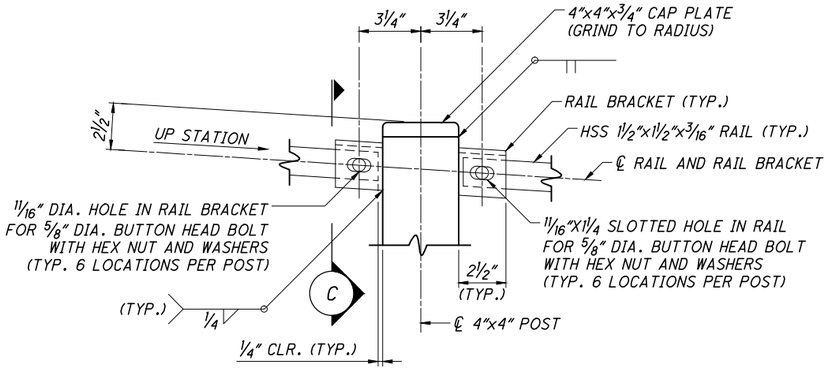
NOTES

1. ALL RAILS SHALL BE PARALLEL WITH PROFILE GRADE. ALL PICKETS AND POSTS SHALL BE VERTICAL (PLUMB).
2. THE RAILING AT THE SOUTHEAST CORNER SHALL ACCOMMODATE THE HORIZONTAL DEFLECTION ANGLE (WORK POINT 6) AS SHOWN ON SHEET 13 | 29 . FOR OTHER WINGWALL AND BRIDGE DECK POST SPACING LAYOUTS SEE SHEETS 8 | 29 , 9 | 29 , 13 | 29 AND 22 | 29 .

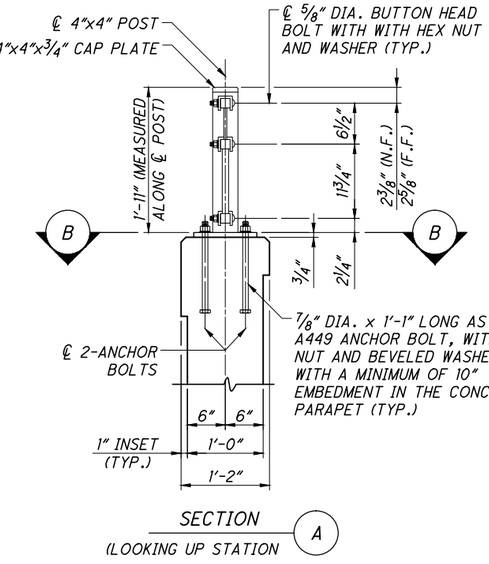


RAILING PANEL DETAIL - INSIDE

(NORTHWEST WINGWALL SHOWN, ALL OTHERS SIMILAR)

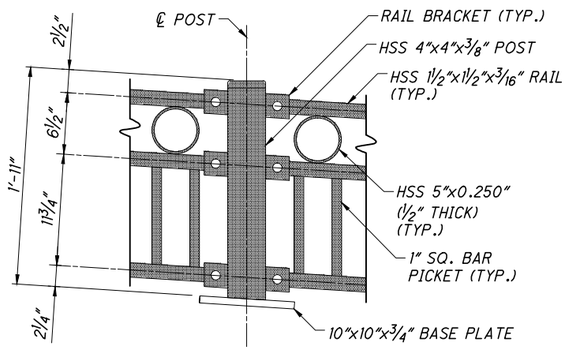


RAIL TO POST CONNECTION DETAIL

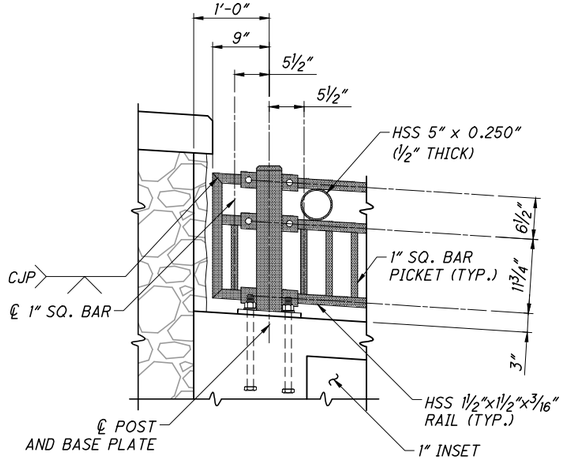


SECTION A

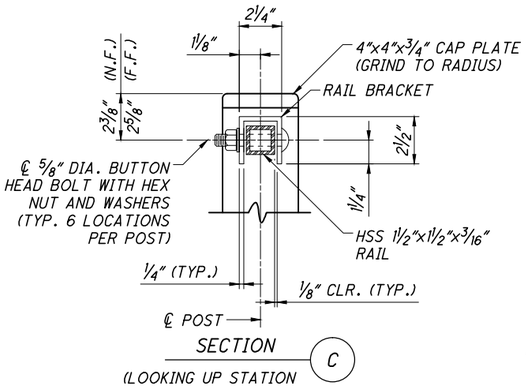
(LOOKING UP STATION)



RAIL AND POST DETAIL

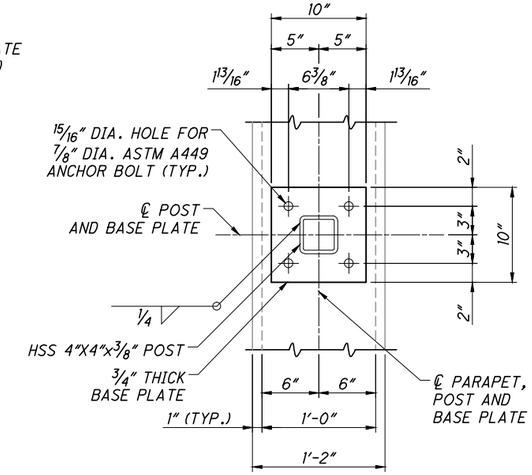


END POST DETAIL 1



SECTION C

(LOOKING UP STATION)



SECTION B

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300 Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

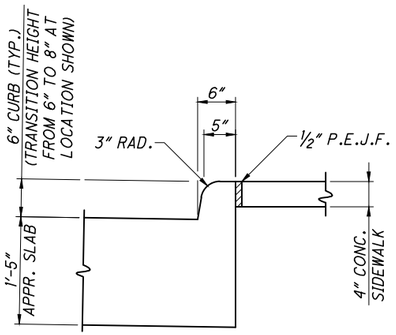
DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76612223	

ORNAMENTAL RAILING DETAILS

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

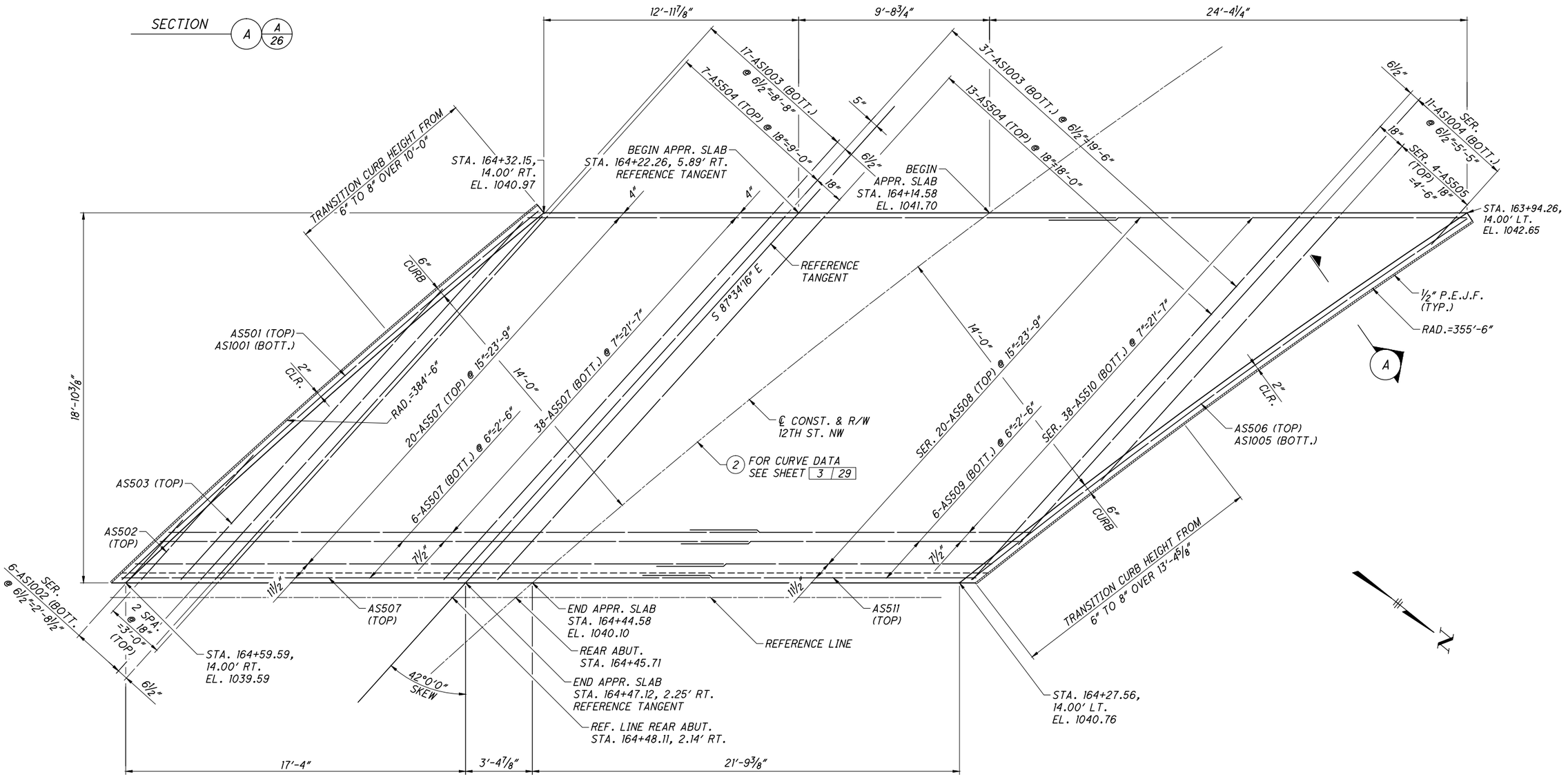
G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECTS001.dwg; 8/31/16 - 11:05am; mbechter



SECTION A — A / 26

NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS AND NOTES, SEE STANDARD DRAWING AS-1-15.
2. FOR REAR ABUTMENT DETAILS, SEE SHEETS 4 | 29 THRU 10 | 29 .
3. FOR REAR ABUTMENT DIAPHRAGM DETAILS SEE SHEET 18 | 29 .
4. PLACEMENT OF THE REINFORCING IS RELATIVE TO THE REFERENCE TANGENT.
5. INTEGRAL CURBS AND PREFORMED EXPANSION JOINT FILLER (P.E.J.F.) SHALL BE INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN FOR PAYMENT.
6. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43"
7. FOR TYPICAL SECTION, SEE SHEET 6.



PLAN

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		7661223	

REAR APPROACH SLAB DETAILS

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

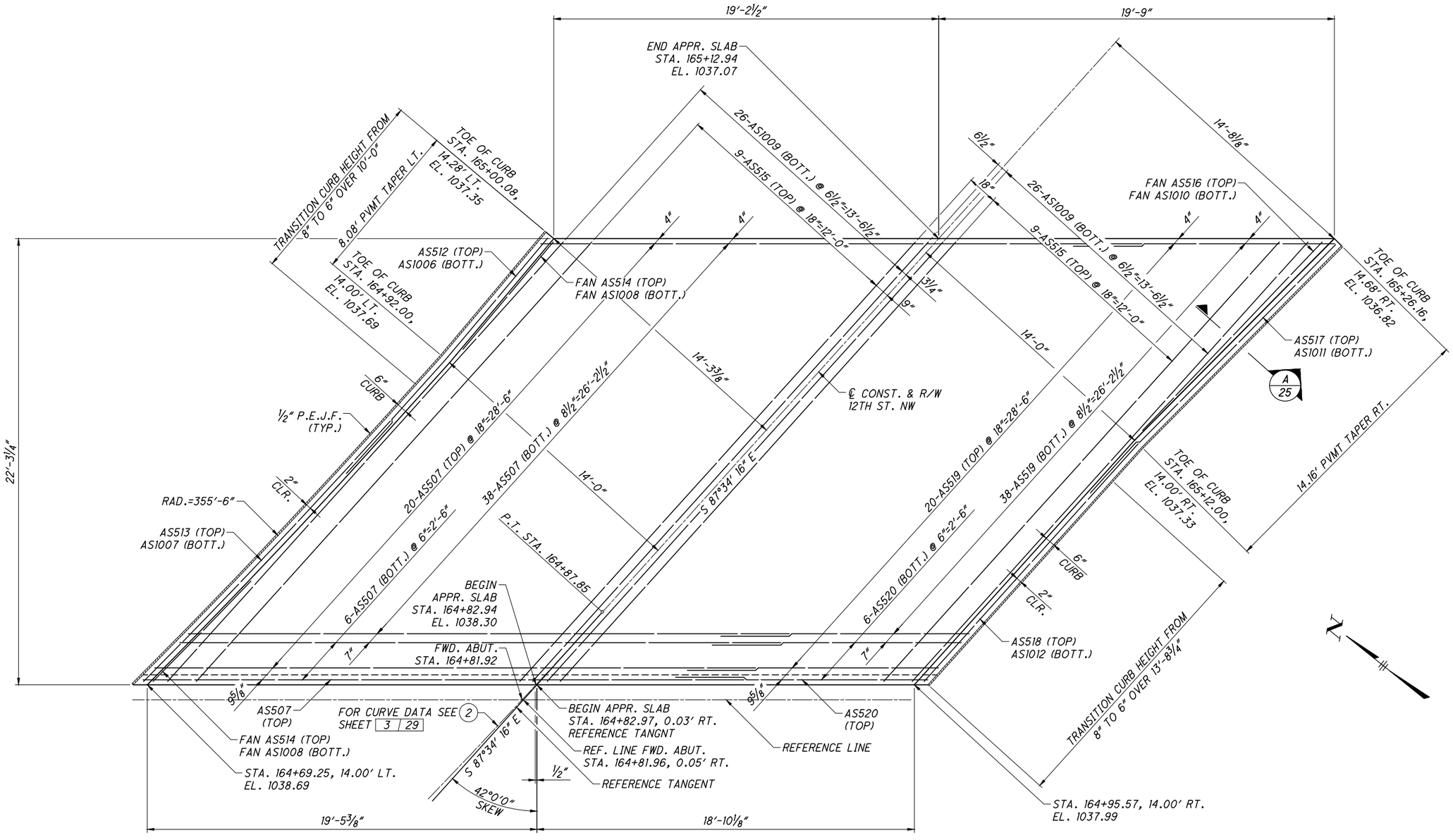
25 | 29

188 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACEGMD001.dwg; 8/31/16 - 11:05am; mbechter

NOTES

1. FOR ADDITIONAL APPROACH SLAB DETAILS AND NOTES, SEE STANDARD DRAWING AS-1-15
2. FOR FORWARD ABUTMENT DETAILS, SEE SHEETS 11 | 29 THRU 16 | 29 .
3. PLACEMENT OF THE REINFORCING IS RELATIVE TO THE REFERENCE TANGENT.
4. FOR FORWARD ABUTMENT DIAPHRAGM DETAILS SEE SHEET 18 | 29 .
5. INTEGRAL CURBS AND PREFORMED EXPANSION JOINT FILLER (P.E.J.F.) SHALL BE INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN FOR PAYMENT.
6. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #5 BAR = 43" # 10 BAR = 139"
7. FOR TYPICAL SECTION, SEE SHEET 6.



PLAN

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
RJB	MPB	CMD	1/16
CHECKED	REVISED	STRUCTURE FILE NO.	
FJG		76612223	

FORWARD APPROACH SLAB DETAILS

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

26 | 29

189
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECMD001.dwg; 8/31/16 - 11:05am; mbechter

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR ABUT.	FORWARD ABUT.	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
F501	26		26	38′-7″	1046	STR							
F502	52	52	104	30′-0″	3254	STR							
F503	6		6	31′-10″	199	STR							
F504	2 SR OF 10		2 SR OF 10	21′-6″ TO 31′-8″	555	STR							1′-1 ½″
F505	49	49	98	13′-0″	1329	1	1′-7″	11′-7″					
F506		26	26	26′-11″	730	STR							
F507		6	6	26′-5″	163	STR							
F508		2 SR OF 10	2 SR OF 10	17′-10″ TO 25′-10″	456	STR							0′-10 ¾″
F509		2 SR OF 11	2 SR OF 11	27′-1″ TO 29′-11″	654	STR							0′-3 ½″
F510		2	2	29′-6″	62	STR							
F511		2	2	30′-9″	64	19	28′-4″	1′-10″	1′-8″				
F801	296		296	15′-4″	12118	17	13′-8″						
F802	2 SR OF 20		2 SR OF 20	4′-3″ TO 14′-2″	979	16	3′-5″ TO 13′-4″						0′-6 ¼″
F803	18		18	11′-1″	533	16	10′-3″						
F804	2		2	17′-10″	95	19	15′-1″	2′-0″	1′-11″				
F805	83	49	132	12′-5″	4376	16	11′-8″						
F806	5		5	13′-5″	179	1	2′-0″	11′-7″					
F807	68		68	13′-10″	2512	17	12′-2″						
F808	10		10	13′-0″	347	16	12′-2″						
F809		338	338	13′-4″	12033	17	11′-8″						
F810		46	46	12′-6″	1535	16	11′-8″						
F811		2 SR OF 16	2 SR OF 16	4′-0″ TO 12′-1″	691	16	3′-2″ TO 11′-3″						0′-6 ½″
F901	194	180	374	13′-10″	17590	1	2′-6″	11′-7″					
A501	96		96	29′-10″	2987	STR							
A502	16		16	6′-1″	102	10	2′-9″	2′-0″	2′-1″	0′-9″			
A503	16		16	6′-11″	115	9	2′-4″	2′-5″	3′-3″	1′-0″			
A504	54		54	33′-11″	1910	STR							
A505	2		2	22′-6″	47	STR							
A506	20		20	6′-11″	144	STR							
A507	47		47	15′-6″	760	STR							
A508	80		80	15′-3″	1273	19	11′-8″	3′-7″	0′-5″				
A509	12		12	13′-1″	164	STR							
A510	6		6	19′-2″	120	3	1′-6″	7′-9″					
A511	36	36	72	7′-5″	557	2	1′-6″	4′-8″	1′-6″				
A512	1		1	18′-3″	19	2	8′-11″	0′-8″	8′-11″				
A513	1 SR OF 29		1 SR OF 29	18′-5″ TO 21′-11″	610	2	9′-0″ TO 10′-9″	0′-8″	9′-0″ TO 10′-9″				0′-1 ½″
A514	1 SR OF 16		1 SR OF 16	5′-1″ TO 6′-7″	97	STR							0′-1 ¼″
A515	4		4	13′-7″	57	2	6′-7″	0′-8″	6′-7″				
A516	12		12	9′-5″	118	STR							
A517	6		6	18′-10″	118	3	1′-6″	7′-7″					
A518	3		3	32′-7″	102	2	16′-1″	0′-8″	16′-1″				
A519	4		4	24′-11″	104	2	12′-3″	0′-8″	12′-3″				
A520	2		2	12′-3″	26	STR							
A521		78	78	27′-7″	2244	STR							
A522		13	13	5′-4″	72	10	2′-0″	2′-3″	1′-10″	0′-8″			
A523		13	13	6′-11″	94	9	2′-6″	2′-4″	3′-4″	0′-11″			
A524		44	44	21′-6″	987	STR							
				SUBTOTAL	74327								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR ABUT.	FORWARD ABUT.	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
A525		49	49	11′-6″	588	STR							
A526		3	3	16′-7″	52	2	8′-1″	0′-8″	8′-1″				
A527		1 SR OF 15	1 SR OF 15	15′-3″ TO 16′-5″	248	2	7′-5″ TO 8′-0″	0′-8″	7′-5″ TO 8′-0″				0′-0 ½″
A528		12	12	9′-9″	122	STR							
A529		6	6	19′-6″	122	3	1′-6″	7′-11″					
A530		42	42	20′-11″	916	STR							
A531		1	1	13′-1″	15	2	6′-4″	0′-8″	6′-4″				
A532		1 SR OF 18	1 SR OF 18	11′-11″ TO 12′-11″	233	2	5′-9″ TO 6′-3″	0′-8″	5′-9″ TO 6′-3″				0′-0 ¼″
A533		12	12	7′-6″	94	STR							
A534		6	6	18′-6″	116	3	1′-6″	7′-5″					
A601	1 SR OF 16		1 SR OF 16	8′-5″ TO 12′-5″	250	40	0′-8″	4′-3″ TO 6′-3″	0′-6″	3′-9″ TO 5′-9″			0′-1 ½″
A602	5		5	8′-3″	62	40	0′-8″	4′-2″	0′-6″	3′-8″			
A801		46	46	15′-2″	1863	19	11′-4″	4′-0″	0′-7″				
A802		3	3	15′-11″	128	STR							
A901	1 SR OF 4		1 SR OF 4	36′-1″ TO 37′-8″	502	2	17′-10″	1′-0″ TO 2′-7″	17′-10″				0′-6 ¼″
A902	9		9	37′-2″	1137	2	17′-11″	1′-11″	17′-11″				
A903	1 SR OF 68		1 SR OF 68	37′-6″ TO 40′-4″	8998	2	18′-1″ TO 19′-6″	1′-11″	18′-1″ TO 19′-6″				0′-0 ¼″
A904	1 SR OF 13		1 SR OF 13	40′-6″ TO 40′-10″	1797	2	19′-7″ TO 19′-9″	1′-11″	19′-7″ TO 19′-9″				0′-0 ¼″
A905	1 SR OF 3		1 SR OF 3	40′-0″ TO 40′-9″	412	2	19′-10″	0′-11″ TO 1′-8″	19′-10″				0′-4 ½″
A906		1 SR OF 4	1 SR OF 4	40′-0″ TO 32′-8″	435	2	15′-5″	1′-0″ TO 2′-5″	15′-5″				0′-5 ¾″
A907		10	10	32′-0″	1088	2	15′-4″	1′-11″	15′-4″				
A908		1 SR OF 60	1 SR OF 60	29′-6″ TO 31′-10″	6256	2	14′-1″ TO 15′-3″	1′-11″	14′-1″ TO 15′-3″				0′-0 ¼″
A909		14	14	29′-4″	1396	2	14′-0″	1′-11″	14′-0″				
A910		1	1	28′-11″	98	2	13′-11″	1′-8″	13′-11″				
A911		1	1	28′-5″	97	2	13′-11″	1′-2″	13′-11″				
				SUBTOTAL	27025								

BAR MARK LEGEND

A = ABUTMENT
AS = APPROACH SLAB
F = FOOTING
S = SUPERSTRUCTURE

NOTES

1. ALL REINFORCING BARS SHALL BE EPOXY COATED.
2. ALL REINFORCING STEEL BARS SHALL BE A MINIMUM 2″ CLEAR FROM FACE OF CONCRETE UNLESS NOTED OTHERWISE.
3. ALL APPROACH SLAB REINFORCING TO BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17″), AS PER PLAN.
4. FOR BAR DIAGRAM DETAILS, SEE SHEET 29 / 29.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED RJB | DRAWN MPB | REVIEWED CMD | DATE 1/16
CHECKED FJG | REVISED | STRUCTURE FILE NO. 76611223

REINFORCING SCHEDULE

BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECRL001.dwg; 8/31/16 - 11:05am; mbechter

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S501	3	6′-3″	20	10	2′-11″	2′-2″	2′-1″	0′-9″			
S502	3	7′-4″	23	9	2′-6″	2′-7″	3′-3″	1′-0″			
S503	3	5′-7″	18	10	2′-5″	2′-8″	1′-9″	0′-9″			
S504	3	7′-9″	24	9	2′-7″	2′-5″	3′-5″	1′-0″			
S505	112	3′-11″	458	2	1′-0″	2′-2″	1′-0″				
S506	36	4′-3″	160	2	1′-0″	2′-6″	1′-0″				
S507	36	8′-0″	300	STR							
S508	1 SR OF 36	11′-0″ TO 13′-2″	454	STR							0′-0 3/4″
S509	46	10′-0″	480	30	1′-10″	0′-8″	3′-2″	3′-0″			
S510	4	6′-9″	28	2	3′-2″	0′-8″	3′-2″				
S511	1	16′-2″	17	19	15′-5″	0′-5″	0′-8″				
S512	1	14′-1″	15	19	13′-1″	0′-8″	0′-9″				
S513	41	9′-6″	406	30	1′-10″	0′-8″	2′-11″	2′-9″			
S514	3	6′-3″	20	2	2′-11″	0′-8″	2′-11″				
S515	14	36′-11″	539	STR							
S516	1	36′-6″	38	STR							
S517	1	20′-0″	21	STR							
S518	10	37′-4″	389	STR							
S519	36	13′-0″	488	STR							
S520	1 SR OF 36	11′-4″ TO 12′-9″	452	STR							0′-0 1/2″
S521	1	21′-1″	22	19	20′-1″	0′-9″	0′-9″				
S522	1	20′-2″	21	19	19′-4″	0′-7″	0′-7″				
S523	20	25′-2″	525	STR							
S524	1	18′-1″	19	STR							
S525	1 SR OF 9	19′-9″ TO 21′-0″	191	STR							0′-1 7/8″
S526	10	21′-4″	223	STR							
S801	27	32′-3″	2325	STR							
S802	27	30′-1″	2169	STR							
S803	66	28′-7″	5037	17	26′-11″						
S804	30	28′-1″	2249	17	26′-5″						
S805	2 SR OF 6	24′-8″ TO 29′-4″	865	17	23′-0″ TO 27′-8″						0′-11 1/4″
S806	2 SR OF 6	19′-4″ TO 23′-9″	689	17	17′-8″ TO 22′-1″						0′-10 1/2″
S807	2 SR OF 5	15′-0″ TO 18′-5″	445	17	13′-4″ TO 16′-9″						0′-10 1/4″
S808	2 SR OF 6	10′-7″ TO 14′-8″	406	17	8′-11″ TO 13′-0″						0′-9 3/4″
S809	2 SR OF 5	6′-8″ TO 9′-10″	220	17	5′-0″ TO 8′-2″						0′-9 1/2″
S810	2 SR OF 6	24′-1″ TO 29′-4″	857	17	22′-5″ TO 27′-8″						1′-0 1/2″
S811	2 SR OF 15	8′-0″ TO 23′-6″	1262	17	6′-4″ TO 21′-10″						1′-1 1/4″
S812	10	5′-1″	136	16	4′-3″						
S813	8	6′-1″	130	16	5′-3″						
S814	4	25′-0″	267	STR							
S815	2	37′-4″	199	STR							
S816	42	6′-3″	701	18	4′-1″	1′-0″	0′-11″				
S817	144	30′-0″	11534	STR							
SUB-TOTAL			34842								

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S818	2 SR OF 36	30′-2″ TO 37′-8″	6520	STR							0′-2 1/2″
S819	2	16′-2″	86	19	15′-5″	0′-5″	0′-8″				
S820	2	14′-0″	75	19	13′-1″	0′-8″	0′-9″				
S821	2	21′-1″	113	19	20′-1″	0′-9″	0′-9″				
S822	2	20′-1″	107	19	19′-4″	0′-7″	0′-7″				
S901	1 SR OF 4	10′-3″ TO 13′-5″	161	33	1′-0″ TO 2′-7″	3′-3″					0′-6 1/4″
S902	9	12′-1″	370	33	1′-11″	3′-3″					
S903	1 SR OF 16	12′-3″ TO 13′-1″	689	33	1′-11″	3′-4″ TO 3′-9″					0′-0 1/4″
S904	1 SR OF 44	12′-3″ TO 14′-3″	1982	33	1′-5″	3′-10″ TO 4′-10″					0′-0 1/4″
S905	1 SR OF 8	15′-5″ TO 15′-9″	424	33	1′-11″	4′-11″ TO 5′-1″					0′-0 1/4″
S906	13	15′-11″	704	33	1′-11″	5′-2″					
S907	1 SR OF 3	14′-3″ TO 15′-9″	153	33	0′-11″ TO 1′-8″	5′-4″					0′-4 1/2″
S908	1 SR OF 4	13′-3″ TO 16′-1″	199	33	1′-0″ TO 2′-5″	4′-9″					0′-5 3/4″
S909	10	14′-11″	507	33	1′-11″	4′-8″					
S910	8	14′-7″	397	33	1′-11″	4′-6″					
S911	1 SR OF 41	11′-9″ TO 13′-5″	1754	33	1′-5″	3′-7″ TO 4′-5″					0′-0 1/4″
S912	11	12′-5″	464	33	1′-11″	3′-5″					
S913	14	12′-1″	575	33	1′-11″	3′-3″					
S914	1	11′-7″	39	33	1′-8″	3′-3″					
S915	1	10′-7″	36	33	1′-2″	3′-3″					
S916	124	7′-3″	3057	16	6′-0″						
S917	1 SR OF 5	11′-10″ TO 15′-2″	230	17	9′-4″ TO 12′-8″						0′-10″
S918	1 SR OF 6	7′-2″ TO 11′-1″	187	17	4′-8″ TO 8′-7″						0′-9 1/2″
S919	5	5′-0″	85	16	3′-9″						
S920	18	9′-4″	571	17	6′-10″						
S921	1 SR OF 10	8′-4″ TO 18′-4″	453	17	5′-10″ TO 15′-10″						1′-1 1/4″
S922	4	6′-0″	82	16	4′-9″						
S923	12	10′-6″	428	17	8′-0″						
S924	2	16′-0″	109	STR							
S925	2	14′-8″	100	STR							
SUB-TOTAL			20657								

NOTES

1. FOR ADDTIONAL NOTES, SEE SHEET 27 | 29 .
2. FOR BAR DIAGRAM DETAILS, SEE SHEET 29 | 29 .

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECRL001.dwg; 8/31/16 - 11:06am; mbechter

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300 Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

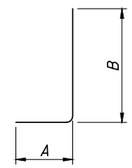
DESIGNED RJB | DRAWN MPB | REVIEWED CMD | DATE 1/16
CHECKED FJG | REVISED | STRUCTURE FILE NO. 76612223

REINFORCING SCHEDULE

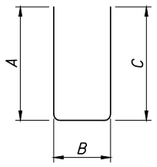
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

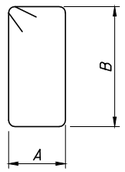
MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE											
S926	2	21'-7"	147	STR							
S927	2	19'-11"	135	STR							
S928	56	35'-0"	6664	STR							
S929	2 SR OF 7	29'-8" TO 31'-4"	1452	STR							0'-3 1/4"
S930	2 SR OF 7	24'-1" TO 24'-11"	1166	STR							0'-1 3/4"
S1001	124	7'-5"	3957	16	6'-0"						
S1002	1 SR OF 5	12'-2" TO 15'-6"	298	17	9'-4" TO 12'-8"						0'-10"
S1003	1 SR OF 6	7'-6" TO 11'-5"	243	17	4'-8" TO 8'-7"						0'-9 1/2"
S1004	5	5'-2"	111	16	3'-9"						
S1005	18	9'-8"	749	17	6'-10"						
S1006	1 SR OF 10	8'-8" TO 18'-8"	588	17	5'-10" TO 15'-10"						1'-1 1/4"
S1007	4	6'-2"	106	16	4'-9"						
S1008	12	10'-10"	559	17	8'-0"						
SUB-TOTAL			16175								



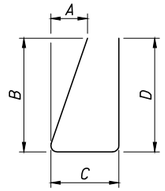
TYPE-1



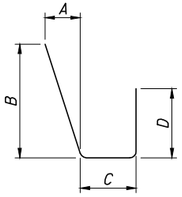
TYPE-2



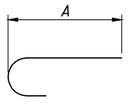
TYPE-3



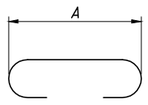
TYPE-9



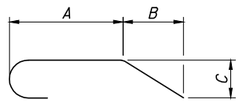
TYPE-10



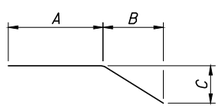
TYPE-16



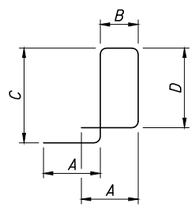
TYPE-17



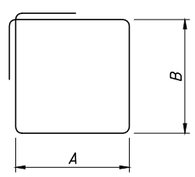
TYPE-18



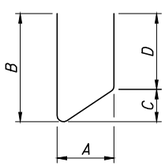
TYPE-19



TYPE-30



TYPE-33



TYPE-40

MARK	NUMBER REAR APPR. SLAB	FORWARD APPR. SLAB	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
APPROACH SLABS													
AS501	1		1	28'-4"	30	STR							
AS502	1		1	8'-7"	9	STR							
AS503	1		1	20'-0"	21	STR							
AS504	20		20	24'-11"	520	STR							
AS505	1 SR OF 4		1 SR OF 4	2'-0" TO 18'-2"	42	STR							5'-4 3/4"
AS506	1		1	31'-3"	33	STR							
AS507	65	65	130	30'-0"	4068	STR							
AS508	1 SR OF 20		1 SR OF 20	17'-3" TO 21'-5"	403	STR							0'-2 3/4"
AS509	6		6	17'-4"	109	STR							
AS510	1 SR OF 38		1 SR OF 38	17'-7" TO 21'-5"	773	STR							0'-1 1/4"
AS511	1		1	17'-2"	18	STR							
AS512		1	1	15'-6"	16	STR							
AS513		1	1	18'-1"	19	STR							
AS514		2	2	7'-0"	15	STR							
AS515		18	18	29'-6"	554	STR							
AS516		1	1	13'-0"	14	STR							
AS517		1	1	17'-5"	18	STR							
AS518		1	1	16'-2"	17	STR							
AS519		58	58	13'-4"	807	STR							
AS520		7	7	12'-9"	93	STR							
AS1001	1		1	29'-9"	128	16	28'-4"						
AS1002	1 SR OF 6		1 SR OF 6	5'-6" TO 26'-0"	407	16	4'-1" TO 24'-7"						4'-1 1/4"
AS1003	54		54	26'-4"	6119	16	24'-11"						
AS1004	1 SR OF 11		1 SR OF 11	3'-5" TO 24'-0"	647	16	2'-0" TO 22'-7"						2'-0 3/4"
AS1005	1		1	32'-8"	141	16	31'-3"						
AS1006		1	1	15'-6"	67	STR							
AS1007		1	1	27'-1"	117	16	25'-8"						
AS1008		2	2	8'-5"	72	16	7'-0"						
AS1009		52	52	30'-11"	6918	16	29'-6"						
AS1010		1	1	13'-0"	56	STR							
AS1011		1	1	17'-5"	75	STR							
AS1012		1	1	25'-1"	108	16	23'-8"						
APPROACH SLAB TOTAL					22434								

NOTE

1. FOR ADDTIONAL NOTES, SEE SHEET 27 | 29.

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED RJB | DRAWN MPB | CHECKED FJG | REVIEWED CMD | DATE 1/16

STRUCTURE FILE NO. 7661223

REVISED

REINFORCING SCHEDULE

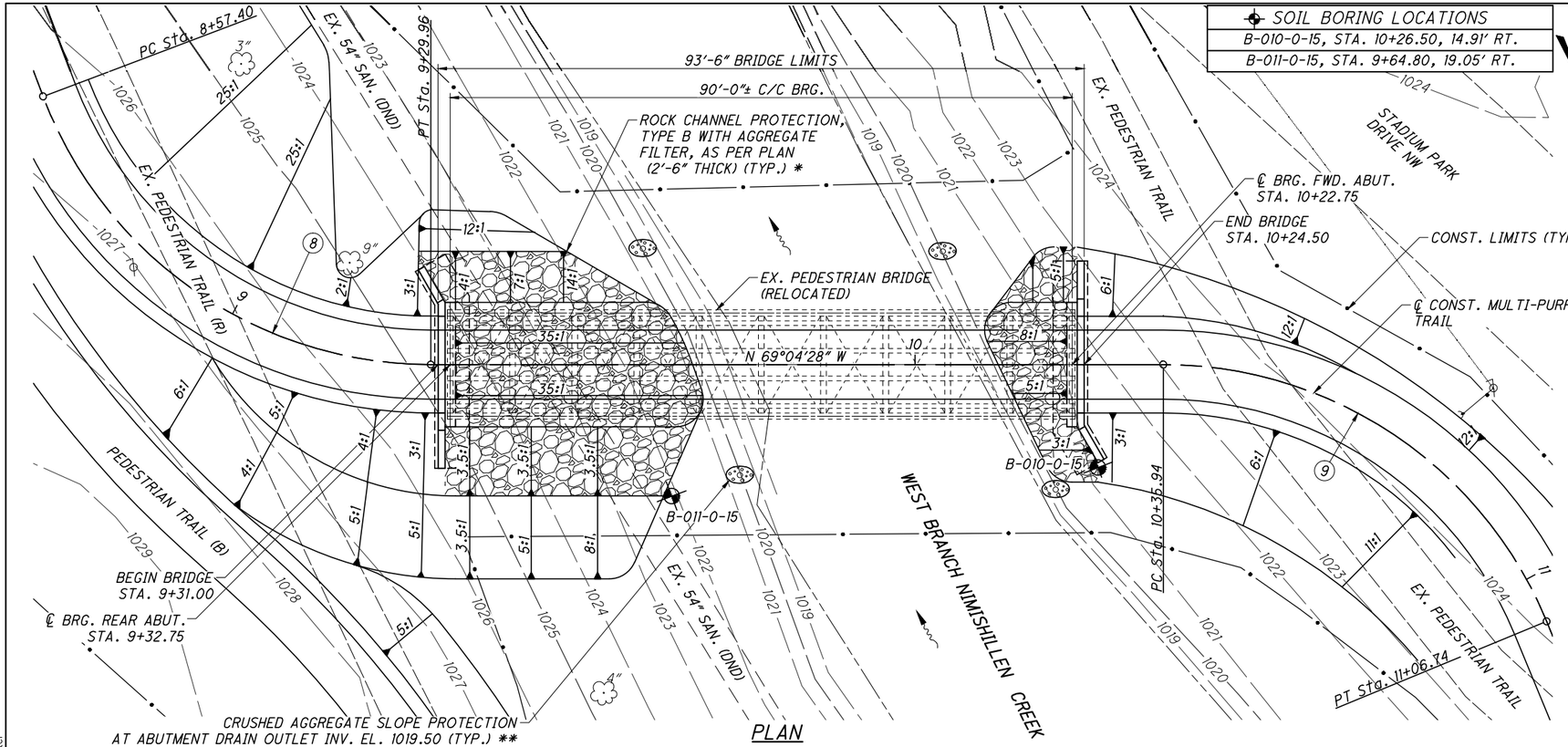
BRIDGE NO. STA-12NW-1300
OVER CANTON PARKS WATERWORKS RACEWAY

STA - 12TH STREET IMPROVEMENTS

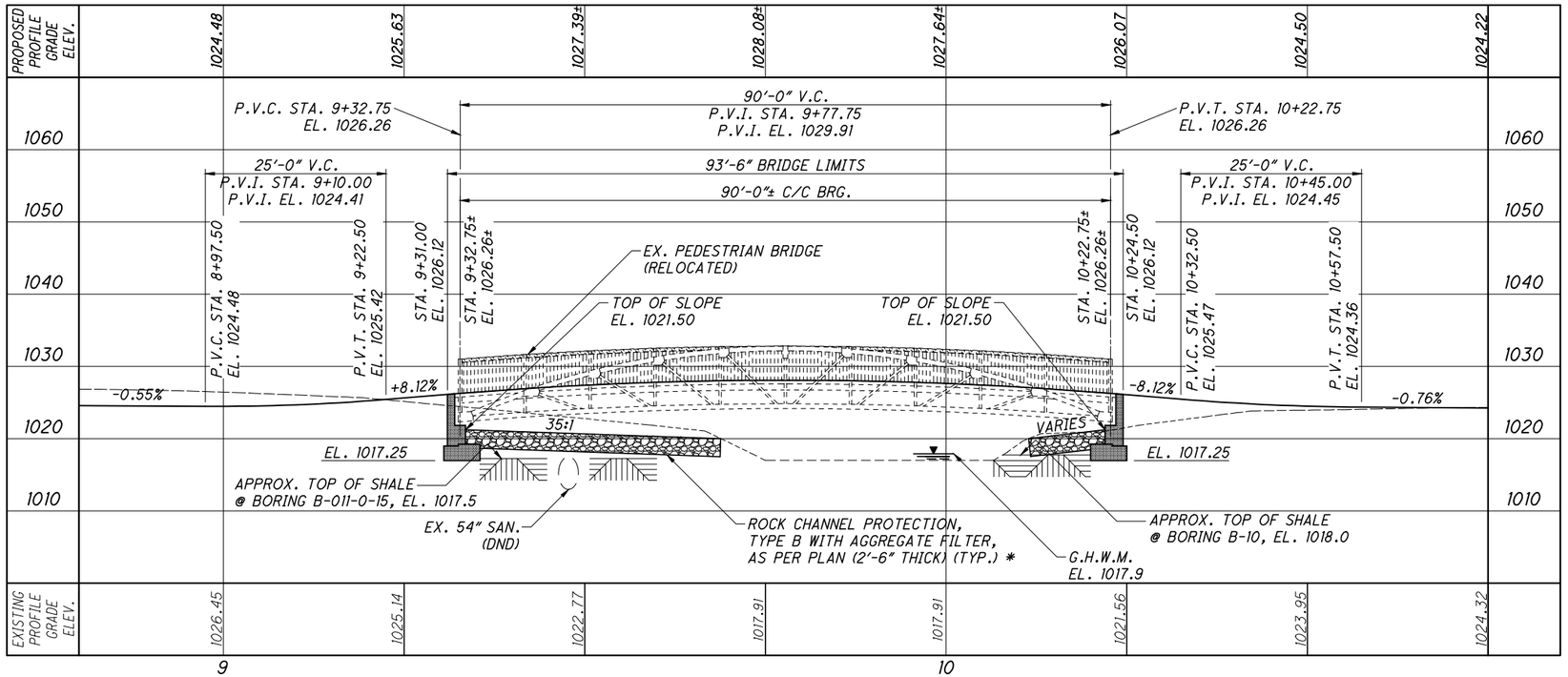
29 | 29

192
210

G:\Project\AK000315.R001\Drawing\90671\structures\Raceway Bridge\sheets\RACECRL001.dwg; 8/31/16 - 11:06am; mbechter



PLAN



ELEVATION

NOTE

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR LOCATION OF EXISTING PEDESTRIAN BRIDGE, SEE SCHEMATIC PLAN ON SHEET 2 OF 210 .

LEGEND

* - TO BE INCLUDED WITH ROADWAY QUANTITIES FOR PAYMENT

** - TO BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED C.P.P., INCLUDING SPECIALS, AS PER PLAN.

DND - DO NOT DISTURB

R - TO BE REMOVED

(8) CURVE DATA

P.I.= Sta. 8+98.86
D = 69° 17' 10"
Dc = 95° 29' 35"
R = 60.000
T = 41.46'
L = 72.56'
E = 12.93
C = 68.22
C. B. = N 34° 25' 53" W

(9) CURVE DATA

P.I.= Sta. 10+76.12
D = 67° 36' 44"
Dc = 95° 29' 35"
R = 60.000
T = 40.18'
L = 70.80'
E = 12.21
C = 66.77
C. B. = N 35° 16' 06" W

BENCHMARK No. 2

STA. 69+70.5, 228.0' RT. (℄ CONST. 12TH ST. NW)
ELEV. 1022.12'
SQUARE CHISELED ON A CORNER OF CONCRETE RETAINING WALL NEAR THE END OF THE WALL, WEST SIDE OF THE RIVER, SOUTH OF 12TH STREET.

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL THRU-TRUSS ON CONCRETE STUB ABUTMENT ON PILE
SPANS: 90'-0"± C/C BEARING
ROADWAY: 14'-0"± F/F RAIL
LOADING: H-15-44 TRUCK AND 85 PSF PEDESTRIAN LOAD
SKEW: 0°
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.20±
STRUCTURAL FILE NUMBER: N/A
DATE BUILT: 2007

PROPOSED STRUCTURE

TYPE: RELOCATED SINGLE SPAN STEEL THRU-TRUSS ON NEW REINFORCED CONCRETE STUB ABUTMENTS ON SPREAD FOOTINGS
SPANS: 90'-0"± C/C BEARING
ROADWAY: 14'-0"± F/F RAIL
LOADING: H-15-44 TRUCK AND 85 PSF PEDESTRIAN LOAD
SKEW: 0°
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.20±
COORDINATES: LATITUDE 40° 48' 39" N
LONGITUDE 81° 23' 30" W

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
FJG	MPB	RBB	01/16
CHECKED	REVISED	STRUCTURE FILE NO.	
SKK		N/A	

COUNTY
STA. 9+31.00 TO STA. 10+24.50

SITE PLAN
PEDESTRIAN BRIDGE
OVER WEST BRANCH NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

1 / 6

193 / 210

G:\Project\AK000315.R001\Drawing\90671\structures\Pedestrian Bridge\sheets\PEDCSP001.dwg; 8/31/16 - 11:23am; mbechter

ESTIMATED QUANTITIES					CALC. BY: / CHK'D BY:	MPB / FJG	10/26/15 / 01/26/16	AS PER PLAN
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT'S	GENERAL	STR. SHT. NO.
202	11201	1	LS	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			1	2
503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING			1	
503	21102	103	CY	UNCLASSIFIED EXCAVATION, INCLUDING SHALE		103		
509	10000	4,602	LB	EPOXY COATED REINFORCING STEEL		4,602		
511	43510	48	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING		48		
512	10100	46	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		46		
518	21200	18	CY	POROUS BACKFILL WITH FILTER FABRIC		18		
518	40000	58	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		58		
518	40011	114	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN		114		1 , 4
SPECIAL	53000200	1	LS	STRUCTURE, MISC.: RELOCATE EXISTING PEDESTRIAN BRIDGE	1			

STRUCTURAL GENERAL NOTES

DESIGN SPECIFICATIONS

THIS SUBSTRUCTURE DESIGN CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 7TH EDITION - 2014, INCLUDING THE 2015 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

SUPERSTRUCTURE (PER ORIGINAL PLANS):
H-15-44 VEHICLE AND 0.085 KIPS/FT^2 PEDESTRIAN LOAD.

SUBSTRUCTURE:
H-15-44 VEHICLE AND 0.085 KIPS/FT^2 PEDESTRIAN LOAD.

DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

FOUNDATION BEARING RESISTANCE

ABUTMENT FOOTINGS AS DESIGNED PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.46 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 3.91 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 19.6 KIPS PER SQUARE FOOT.

FOOTINGS

FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

AFTER THE EXISTING PEDESTRIAN BRIDGE IS MOVED TO ITS NEW LOCATION, ALL REMAINING PORTIONS OF THE EXISTING STRUCTURE SHALL BE REMOVED. REMOVE THE EXISTING CONCRETE ABUTMENTS AND PILES TO A MINIMUM OF ONE FOOT BELOW THE PROPOSED GROUND SURFACE. THE EXISTING ROCK CHANNEL PROTECTION SHALL ALSO BE REMOVED UNDER THIS ITEM.

ITEM SPECIAL - STRUCTURE, MISC.: RELOCATE EXISTING PEDESTRIAN BRIDGE

THIS ITEM INCLUDES ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY TO RELOCATE THE EXISTING PEDESTRIAN BRIDGE TO THE NEW LOCATION SHOWN IN THESE PLANS.

THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS IN ACCORDANCE WITH ITEM 501 DETAILING METHODS/PROCEDURES FOR DISMANTLING, MOVING AND ERECTING THE PEDESTRIAN BRIDGE.

THE WEIGHT OF THE EXISTING PEDESTRIAN BRIDGE IS APPROXIMATELY 140,000 POUNDS. AT THE OPTION OF THE CONTRACTOR THE EXISTING PEDESTRIAN BRIDGE MAY BE CAREFULLY DISMANTLED INTO TWO PIECES AT THE EXISTING FIELD SPLICES. FOR THIS OPTION THE CONTRACTOR SHALL REPLACE ALL EXISTING FIELD SPLICE BOLTS WITH NEW ASTM A325 HIGH STRENGTH BOLTS. ANY ASPHALT PAVEMENT THAT REQUIRES REMOVAL / REPLACEMENT SHALL BE INCLUDED WITH THIS ITEM.

THE RELOCATED PEDESTRIAN BRIDGE SHALL BE SET ON NEW 1/8" THICK NEOPRENE PADS SECURED IN PLACE WITH NEW ANCHOR BOLTS. THE NEOPRENE PADS AND ANCHOR BOLTS ARE ALSO TO BE INCLUDED FOR PAYMENT UNDER THIS ITEM.

EXTREME CARE SHALL BE USED SO AS NOT TO DAMAGE THE EXISTING PEDESTRIAN BRIDGE DURING THE MOVING OPERATION.

ANY DAMAGE TO THE EXISTING BRIDGE (INCLUDING PAINT) THAT OCCURS AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE CITY WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ABBREVIATIONS

AGGR. = AGGREGATE
ABUT. = ABUTMENT
APPR. = APPROACH
BOTT. = BOTTOM
BRG. = BEARING
CLR. = CLEAR
CONST. = CONSTRUCTION
C.P.P. = CORRUGATED PLASTIC PIPE
E.F. = EACH FACE
EL. = ELEVATION
EQ. = EQUAL
EX. = EXISTING
F.F. = FAR FACE
FWD. = FORWARD
INV. = INVERT
LT. = LEFT
MIN. = MINIMUM
N.F. = NEAR FACE
O.H.W.M. = ORDINARY HIGH WATER MARK
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
RT. = RIGHT
SER. = SERIES
SPA. = SPACES
STA. = STA.
STM. = STORM
TYP. = TYPICAL

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

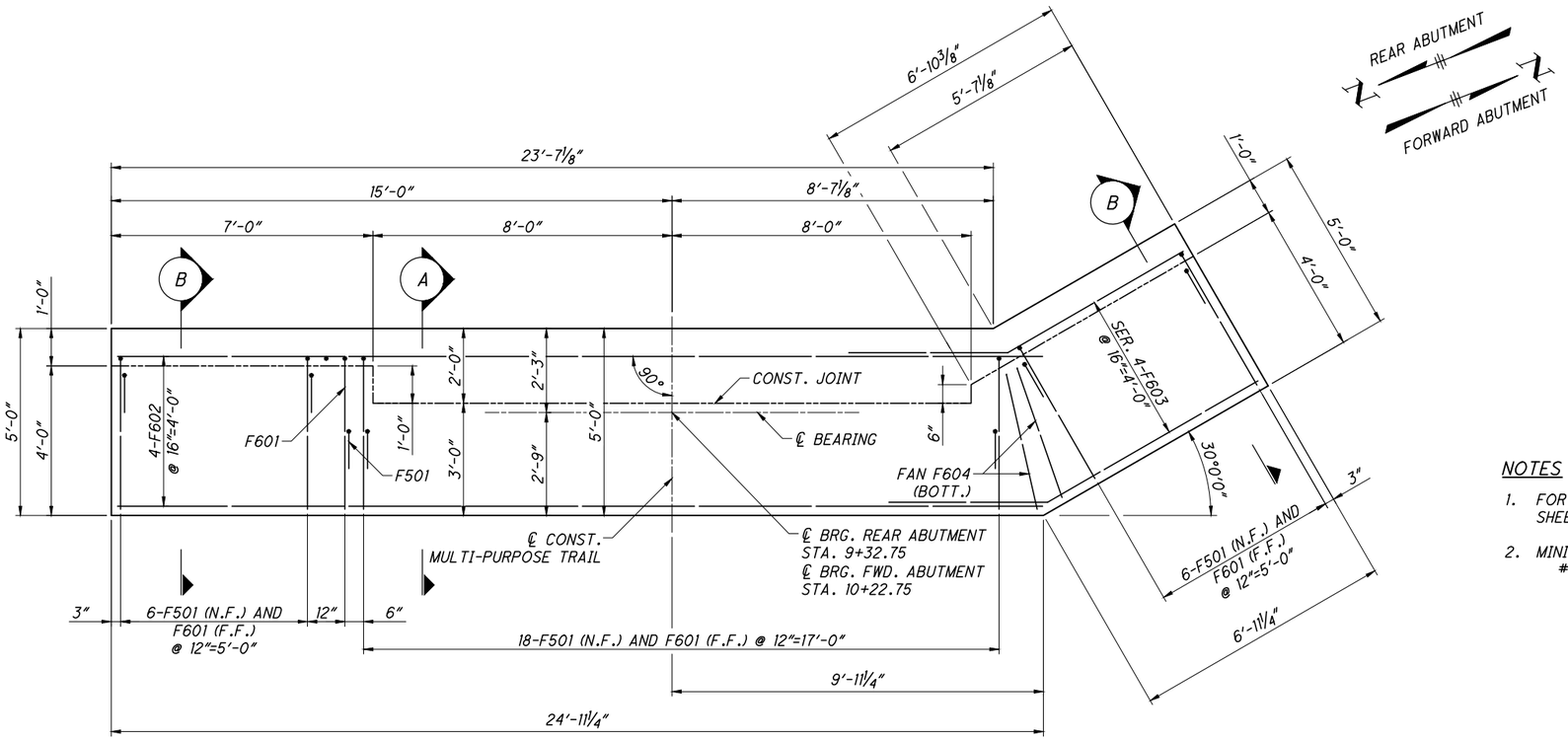
DESIGNED FJG | CHECKED SKK
DRAWN MPB | REVISED
REVIEWED RBB | DATE 01/16
STRUCTURE FILE NO. N/A

STA - 12TH STREET IMPROVEMENTS
STRUCTURAL GENERAL NOTES & EST. QUANTITIES
PEDESTRIAN BRIDGE
OVER WEST BRANCH NIMISHILLEN CREEK

2 / 6

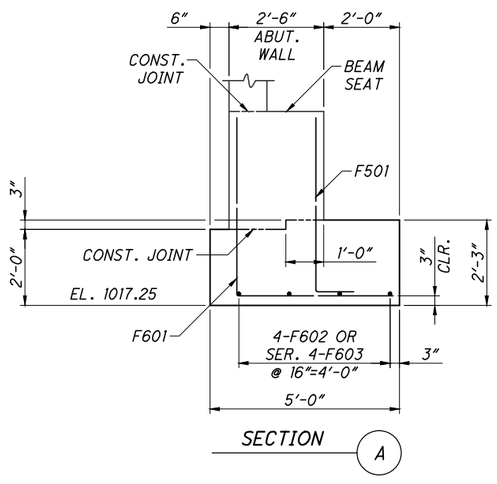
194
210

G:\Project\AK000315.R001\Drawing\90671\structures\Pedestrian Bridge\sheets\PEDCGN001.dwg; 8/31/16 - 11:23am; mbechter

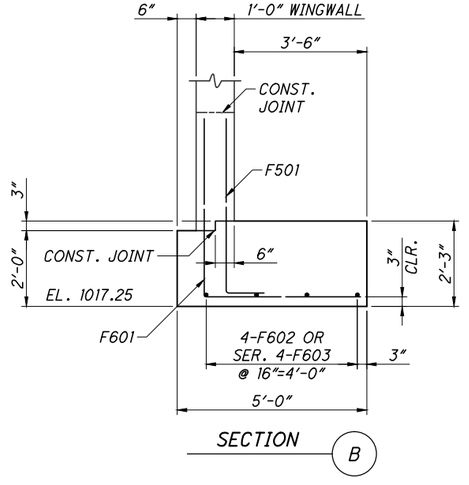


PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



SECTION A



SECTION B

NOTES

1. FOR ADDITIONAL ABUTMENT DETAILS AND NOTES, SEE SHEETS 4 6 AND 5 6 .
2. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #6 BAR = 49"

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
FJC	MPB	RBB	01/16
CHECKED	REVISED	STRUCTURE FILE NO.	
SKK		N/A	

ABUTMENT FOOTING DETAILS

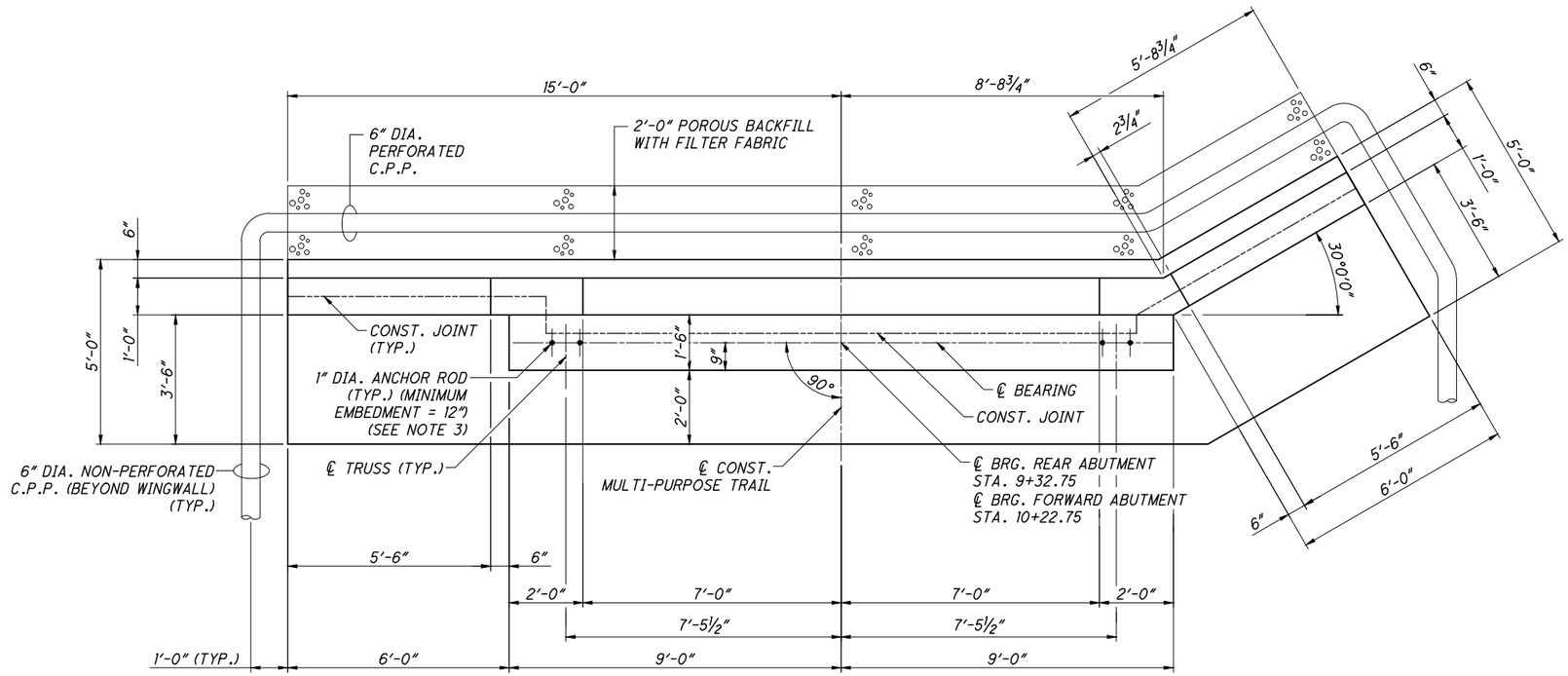
PEDESTRIAN BRIDGE
OVER WEST BRANCH NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

3 6

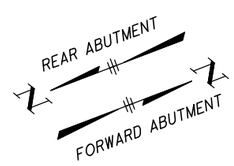
195
210

G:\Project\AK000315.R001\Drawing\90671\structures\Pedestrian Bridge\sheets\PEDCAR001.dwg; 8/31/16 - 11:24am; mbechter



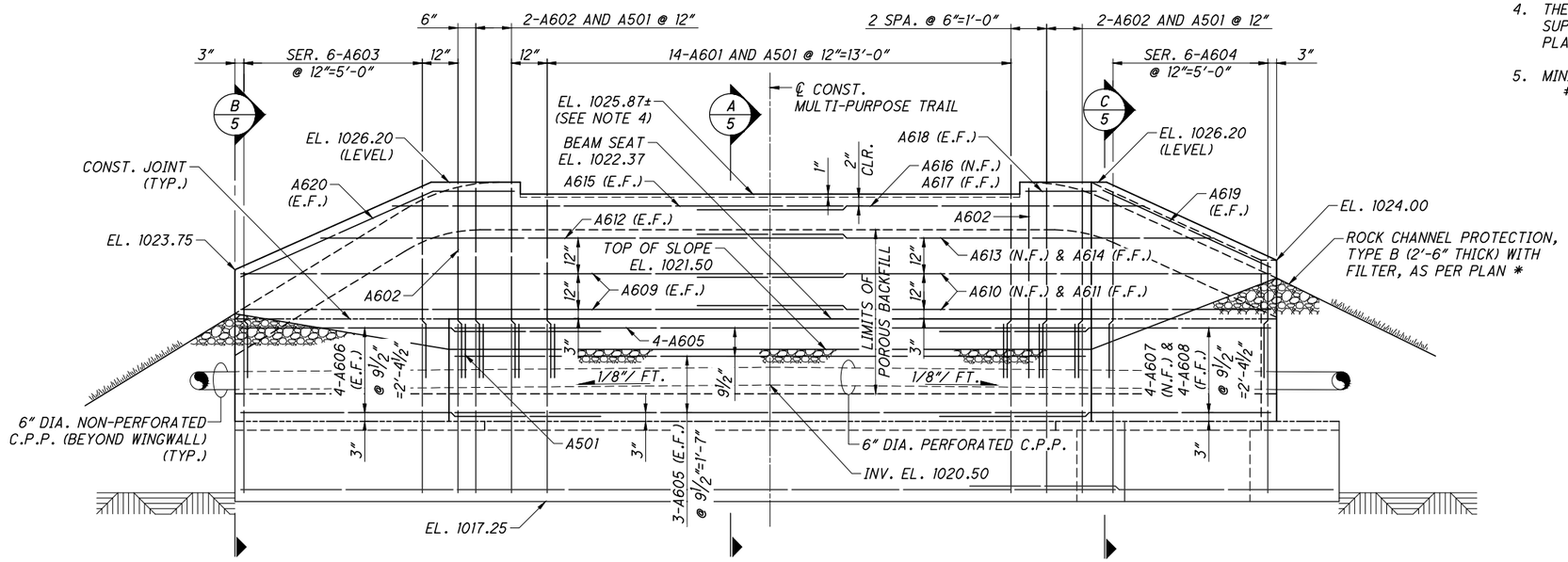
PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



NOTES

1. FOR ADDITIONAL ABUTMENT DETAILS AND NOTES, SEE SHEET 5 | 6 .
2. FOR ABUTMENT FOOTING DETAILS, SEE SHEET 3 | 6 .
3. THE CONTRACTOR SHALL VERIFY THE EXISTING ANCHOR ROD SPACING. ANCHOR RODS MAY BE DRILLED-IN OR CAST-IN-PLACE. ABUTMENT SEAT REINFORCING SHALL BE ADJUSTED AS NECESSARY TO AVOID INTERFERENCE WITH ANCHOR RODS.
4. THE CONTRACTOR SHALL VERIFY THE EXISTING SUPERSTRUCTURE DEPTH / BACKWALL HEIGHTS PRIOR TO PLACING BACKWALL CONCRETE.
5. MINIMUM BAR LAPS ARE AS FOLLOWS:
   #6 BAR = 49"



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

LEGEND

* - INCLUDED WITH ROADWAY QUANTITIES

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel.: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

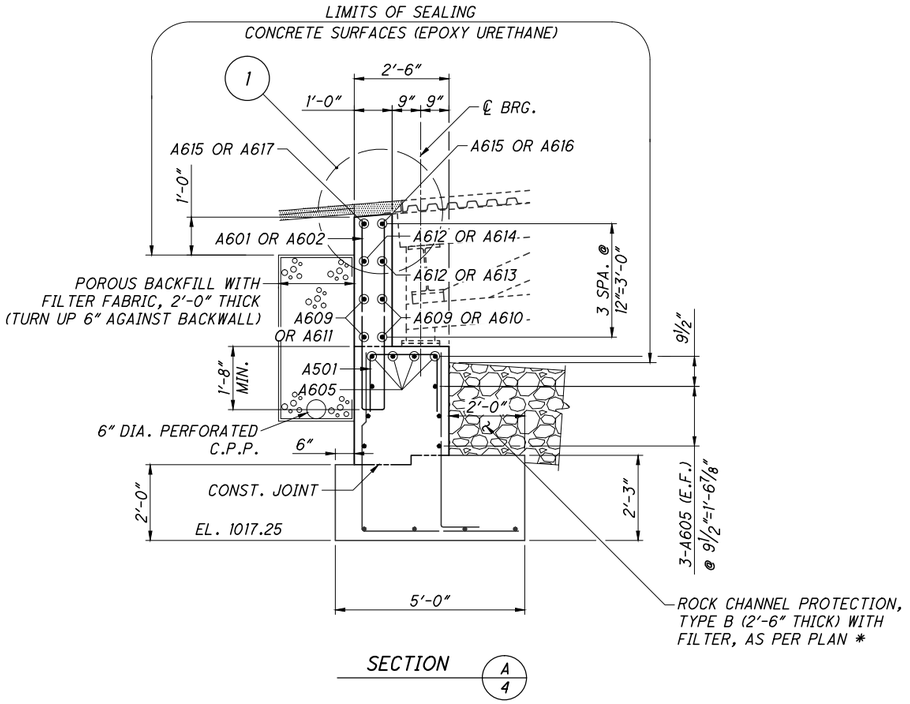
DESIGNED	DRAWN	REVIEWED	DATE
FJG	MPB	RBB	01/16
CHECKED	REVISED	STRUCTURE FILE NO.	
SKK		N/A	

ABUTMENT PLAN AND ELEVATION

PEDESTRIAN BRIDGE
OVER WEST BRANCH NIMISHILLEN CREEK

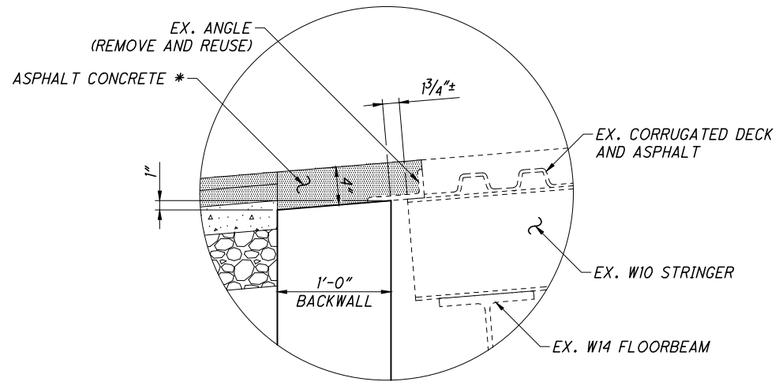
STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Pedestrian Bridge\sheets\PEDCAR001.dwg; 8/31/16 - 11:24am; mbechter

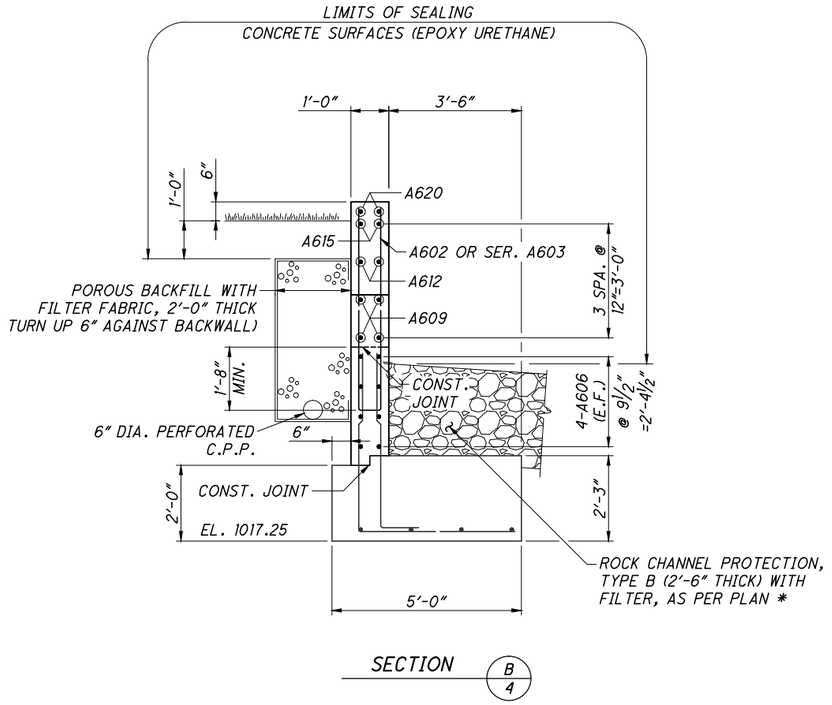


NOTES

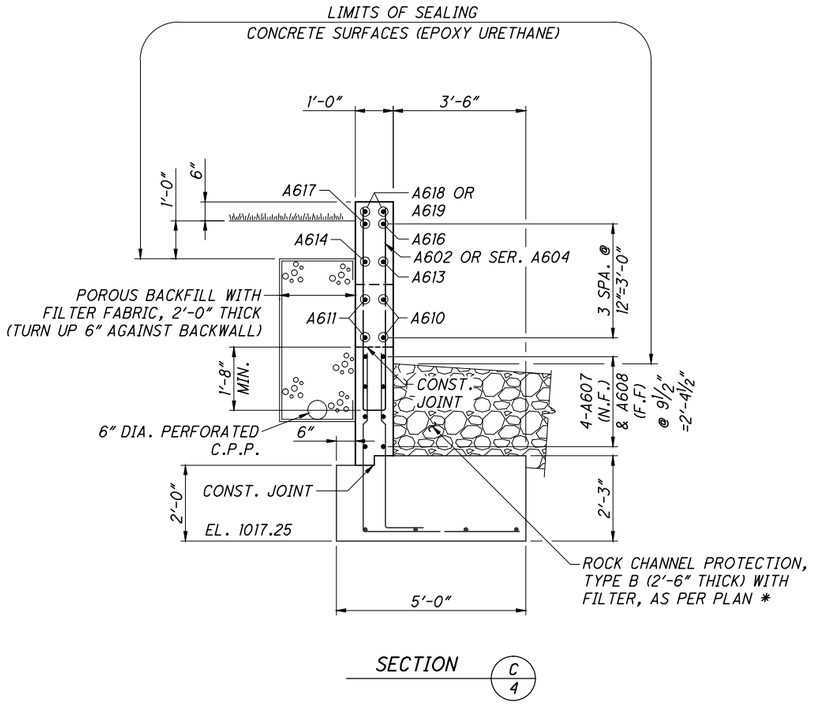
1. FOR ABUTMENT FOOTING DETAILS, SEE SHEET 3 / 6 .
2. FOR ABUTMENT PLAN AND ELEVATION, SEE SHEET 4 / 6 .
3. CONCRETE SEALER SHALL NOT BE APPLIED UNDER TRUSS BEARINGS.



DETAIL 1



SECTION B 4



SECTION C 4

LEGEND

* - INCLUDED WITH ROADWAY QUANTITES

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel.: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
FJG	MPB	RBB	01/16
CHECKED	REVISED	STRUCTURE FILE NO.	
SKK		N/A	

ABUTMENT DETAILS

PEDESTRIAN BRIDGE
OVER WEST BRANCH NIMISHILLEN CREEK

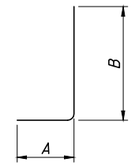
STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\structures\Pedestrian Bridge\sheets\PEDCAR001.dwg; 8/31/16 - 11:24am; mbechter

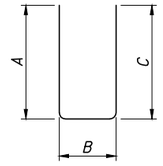
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR ABUT.	FORWARD ABUT.	TOTAL				A	B	C	D	E	R	INC
ABUTMENTS													
F501	31	31	62	6'-0"	388	1	1'-6"	4'-8"					
F601	31	31	62	8'-7"	799	1	4'-1"	4'-8"					
F602	4	4	8	24'-9"	297	STR							
F603	1 SR OF 4	1 SR OF 4	2 SR OF 4	9'-8" TO 10'-9"	122	19	5'-5" TO 6'-6"	3'-8"	2'-2"				0'-4 1/4"
F604	2	2	4	3'-8"	22	STR							
A501	19	19	38	4'-11"	195	2	1'-6"	2'-2"	1'-6"				
A601	14	14	28	10'-4"	435	2	5'-0"	0'-8"	5'-0"				
A602	6	6	12	11'-0"	198	2	5'-4"	0'-8"	5'-4"				
A603	1 SR OF 6	1 SR OF 6	2 SR OF 6	6'-4" TO 10'-10"	155	2	3'-0" TO 5'-3"	0'-8"	3'-0" TO 5'-3"				0'-5 1/2"
A604	1 SR OF 6	1 SR OF 6	2 SR OF 6	6'-10" TO 10'-10"	159	2	3'-3" TO 5'-3"	0'-8"	3'-3" TO 5'-3"				0'-4 3/4"
A605	10	10	20	17'-8"	531	STR							
A606	8	8	16	10'-3"	246	STR							
A607	4	4	8	9'-9"	117	19	5'-9"	3'-6"	2'-0"				
A608	4	4	8	9'-7"	115	19	5'-7"	3'-6"	2'-0"				
A609	4	4	8	16'-11"	203	STR							
A610	2	2	4	16'-8"	100	19	11'-0"	5'-0"	2'-11"				
A611	2	2	4	16'-6"	99	19	10'-11"	4'-11"	2'-10"				
A612	2	2	4	14'-8"	88	STR							
A613	1	1	2	15'-0"	45	19	11'-0"	3'-6"	2'-0"				
A614	1	1	2	14'-10"	45	19	10'-11"	3'-5"	2'-0"				
A615	2	2	4	12'-8"	76	STR							
A616	1	1	2	12'-9"	38	19	11'-0"	1'-7"	0'-11"				
A617	1	1	2	12'-7"	38	19	10'-11"	1'-5"	0'-10"				
A618	2	2	4	1'-9"	11	STR							
A619	2	2	4	5'-2"	31	STR							
A620	2	2	4	8'-2"	49	19	5'-11"	2'-1"	0'-11"				
				TOTAL	4602								

NOTES

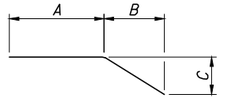
1. ALL REINFORCING BARS SHALL BE EPOXY COATED.
2. ALL REINFORCING STEEL BARS SHALL BE A MINIMUM 2" CLEAR FROM FACE OF CONCRETE UNLESS NOTED OTHERWISE.



TYPE-1



TYPE-2



TYPE-19

DESIGN AGENCY
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300, Akron, Ohio 44308
Tel: 330-434-1995 Fax: 330-374-1095 www.arcadis.com

DESIGNED	DRAWN	REVIEWED	DATE
FJC	MPB	RBB	01/16
CHECKED	REVISED	STRUCTURE FILE NO.	
SKK		N/A	

REINFORCING SCHEDULE
PEDESTRIAN BRIDGE
OVER WEST BRANCH NIMISHILLEN CREEK

STA - 12TH STREET IMPROVEMENTS

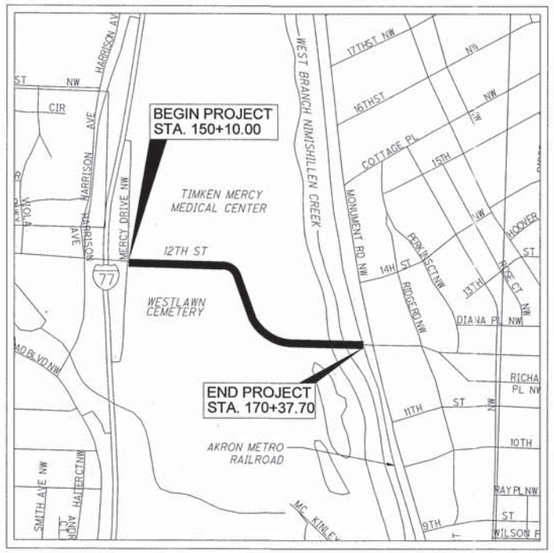
6 | 6

198
210

G:\Project\AK000315.R001\Drawing\90671\structures\Pedestrian Bridge\sheets\PEDCRL001.dwg; 8/31/16 - 11:25am; mbechter

RIGHT OF WAY
LEGEND SHEET
STA - 12th STREET
BRIDGES REPLACEMENT

PART OF ORIGINAL CANTON TOWNSHIP
NE & SE 1/4 SECTION 5, T 10, R 8
PART OF CITY OF CANTON OUTLOTS 219, 220, 222, 230
CITY OF CANTON
COUNTY OF STARK, STATE OF OHIO



LOCATION MAP

LATITUDE: 40°48'38" N LONGITUDE: 81°23'39" W

SCALE IN FEET

0 500 1,000 1,500 2000

N

LEGEND:

- o = IRON PIN FOUND
- [M] = MONUMENT BOX FOUND
- [M] = MONUMENT BOX TO BE SET
- ● = IRON PIN SET (5/8" X 30" REBAR W/ OHIO REGISTERED SUREYOR'S IDENTIFICATION CAP
- ℄ = PROPERTY LINE
- Z = LAND HOOK LINE
- DND = DO NOT DISTURB
- ——— = CENTERLINE
- ——R/W—— = PROPOSED RIGHT OF WAY LINE
- —Ex R/W— = PROPOSED RIGHT OF WAY LINE
- ——T—— = TEMPORARY RIGHT OF WAY LINE
- ——— = CONSTRUCTION LIMITS
- —x——x— = FENCE LINE
- = TREE LINE
- —SAN— = SANITARY LINE
- = WATER VALVE
- (G) = GAS VALVE
- = LIGHT POLE
- = POWER POLE
- = TELEPHONE/POWER POLE
- = SHRUB
- = EVERGREEN TREE
- = DECIDUOUS TREE/DIAMETER
- [MB] = MAILBOX
- [CB] = CATCH BASIN
- = SIGN
- [T] = TELEPHONE PEDESTAL
- (T) = TELEPHONE MANHOLE
- (SA) = SANITARY MANHOLE
- (ST) = STORM WATER MANHOLE

STRUCTURE KEY

- RESIDENTIAL
- INSTITUTIONAL
- PARKS

PLAN PREPARED BY:
ARCADIS
ARCADIS U.S., Inc.
222 South Main Street, Suite 300 Akron, Ohio 44308
Tel: 330.434.1995 Fax: 330.374.1095 www.arcadis-us.com

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RL01.dwg: 1/27/16 - 12:37pm: RHoy

INDEX OF SHEETS:

LEGEND SHEET	1
CENTERLINE PLAT	2
PROPERTY MAP	3
SUMMARY OF ADDITIONAL R/W	4
RIGHT OF WAY DETAIL SHEETS	5–11
LINE & CURVE TABLE	12

PARCEL IDENTIFIER LEGEND

- WD – WARRANTY DEED
- T – TEMPORARY EASEMENT
- S – SEWER EASEMENT
- SH – STANDARD HIGHWAY EASEMENT

PLANS PREPARED BY:

FIRM NAME: ARCADIS U.S., INC.
R/W DESIGNER: PHILIP BERDIS
R/W REVIEWER: ROBERT HOY
FIELD REVIEWER: ANGIE MARINUCCI
PRELIMINARY FIELD REVIEW DATE: 5/19/15
TRACINGS FIELD REVIEW DATE 9/8/15
OWNERS UPDATED BY: ROBERT HOY
DATE COMPLETED: 1/18/16
PLAN COMPLETION DATE: _____

I, Robert G. Hoy, P. S. have conducted a survey of the existing conditions for the City of Canton, Ohio in September 2012. The results of that survey are contained herein. Underground utility locations are shown for informational purposes only.

The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System, North Zone. NAD 83(CORS2007) datum. All coordinates listed are Project Ground Coordinates (US Survey Foot) to convert to State Plane Grid Coordinates, multiply the Ground Coordinates by the Project Adjustment Factor of 0.9999030.

As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein, established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue as well as prepared the legal descriptions necessary to acquire the parcels as shown herein.

All of my work contained herein was conducted in accordance with the Ohio Administrative Code Chapter 4733-37 Standards for Boundary Surveys unless so noted. The words "I" as used herein are to mean that either myself or someone working under my direct supervision.

STATE OF OHIO
ROBERT G. HOY
8142
REGISTERED
PROFESSIONAL SURVEYOR

01/27/2016
Arcadis U.S., Inc.
Robert G. Hoy, Ohio Professional Land Surveyor No. 8142

PROJECT DESCRIPTION:

ROADWAY IMPROVEMENTS OF 12TH STREET NW FROM THE MERCY DRIVE/I-77 RAMPS TO MONUMENT DRIVE. A DISTANCE OF APPROXIMATELY 0.38 MILES, INCLUDING NEW PAVEMENT, SIDEWALKS, STORM SEWER, AND STREETSCAPING. THE IMPROVEMENTS WILL ALSO INCLUDE THE REPLACEMENT OF THE BRIDGES OVER NIMISHILLEN CREEK AND CANTON PARKS WATERWORKS RACEWAY, AND IMPROVEMENTS TO THE MULTI-PURPOSE AND WALKING TRAILS.

PROJECT CONTROL:

NAD83(CORS2007) OHIO STATE PLANE, NORTH ZONE
U.S. FOOT, GRID NORTH.
PROJECT ADJUSTMENT FACTOR: 0.9999030

ALL COORDINATES LISTED ARE PROJECT GROUND COORDINATES. TO CONVERT TO STATE PLANE GRID

COORDINATES, MULTIPLY THE GROUND COORDINATES LISTED BY THE COMBINED SCALE FACTOR (PROJECT ADJUSTMENT FACTOR) LISTED ABOVE.

UTILITY OWNERS:

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

NATURAL GAS DIST./TRANS.
DOMINION EAST OHIO GAS
320 SPRINGSIDE DR.
AKRON, OHIO 44333
330-664-2409
ATTN: BRYAN DAYTON
RELOCATION@DOM.COM
EMERGENCY NO.
1-800-521-4400

TELEPHONE
AT&T
50 WEST BOWERY STREET
AKRON, OHIO 44308
ATTN: RICH WILSON
330-384-2245
CINDY ZUCHEGNO
330-384-3561
EMERGENCY NO. - 24 HRS
1-800-572-4545 OPTION#4

COMMUNICATIONS CABLE
TIME WARNER CABLE
5520 WHIPPLE AVE N.W.
NORTH CANTON, OHIO 44720
330-494-9200
330-555-3003
ATTN: JUSTIN FREUDEMAN
330-555-3192
330-472-4449(CELL)

ELECTRIC
AMERICAN ELECTRIC POWER
301 CLEVELAND AVE. S.W.
P.O. BOX 24400
CANTON, OHIO 44701-4400 EXT.
330-438-7718
ATTN: RAY ZITNEY
EMERGENCY NO.
1-800-672-2017

ONECOMMUNITY
800 W. ST. CLAIR AVE.
2ND FLOOR
CLEVELAND, OH 44113
ATTN: MARC ZANATH
216-923-2348

WATER
CITY ENGINEER'S OFFICE
WATER DEPARTMENT
2664 HARRISBURG RD. N.E.
CANTON, OHIO 44708
330-489-3310
ATTN: BRENT BURRIER OR
LEWI MILLER

SANITARY AND STORM SEWER
2436-30TH ST. N.E.
CANTON, OHIO 44705
330-489-3381
ATTN: TERRY CONNER

TRAFFIC INTERCONNECT
CITY ENGINEER'S OFFICE
2436-30TH ST. N.E.
CANTON, OHIO 44705
330-489-3381
ATTN: DOUG SERBAN

NOTE:
THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNER OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.

FEDERAL PROJECT NO. -

PID NO. 90671

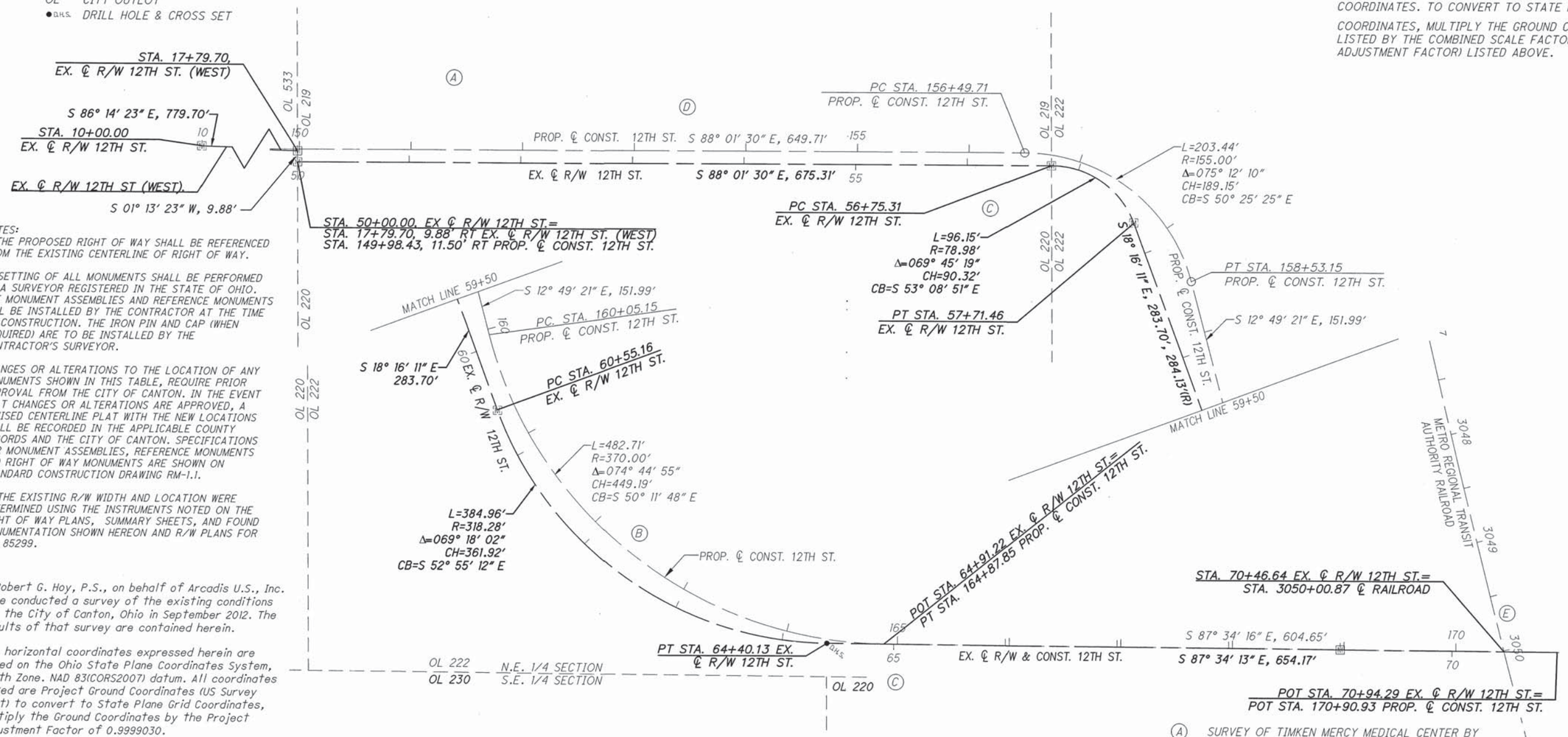
R/W DESIGNER PSB
R/W REVIEWER RGH

RIGHT OF WAY LEGEND

STA - 12TH STREET
BRIDGES REPLACEMENT

PART OF ORIGINAL CANTON TOWNSHIP NE & SE 1/4 SECTION 5, T10, R8
PART OF CITY OF CANTON OUTLOTS 219, 220, 222, 230
CITY OF CANTON
COUNTY OF STARK, STATE OF OHIO

LEGEND
- ○ IRON PIN FOUND
- [M] MONUMENT BOX FOUND
- [M] MONUMENT BOX SET
- OL CITY OUTLOT
- ●D.H.S. DRILL HOLE & CROSS SET



PROJECT CONTROL:

BASIS OF BEARINGS: NAD83(CORS2007) OHIO STATE PLANE, NORTH ZONE, U.S. FOOT, GRID NORTH.

PROJECT ADJUSTMENT FACTOR: 0.9999030

ALL COORDINATES LISTED ARE PROJECT GROUND COORDINATES. TO CONVERT TO STATE PLANE GRID COORDINATES, MULTIPLY THE GROUND COORDINATES LISTED BY THE COMBINED SCALE FACTOR (PROJECT ADJUSTMENT FACTOR) LISTED ABOVE.

NOTES:
1. THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE EXISTING CENTERLINE OF RIGHT OF WAY.

2. SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN IN THIS TABLE, REQUIRE PRIOR APPROVAL FROM THE CITY OF CANTON. IN THE EVENT THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN THE APPLICABLE COUNTY RECORDS AND THE CITY OF CANTON. SPECIFICATIONS FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

3. THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING THE INSTRUMENTS NOTED ON THE RIGHT OF WAY PLANS, SUMMARY SHEETS, AND FOUND MONUMENTATION SHOWN HEREON AND R/W PLANS FOR PID 85299.

I, Robert G. Hoy, P.S., on behalf of Arcadis U.S., Inc. have conducted a survey of the existing conditions for the City of Canton, Ohio in September 2012. The results of that survey are contained herein.

The horizontal coordinates expressed herein are based on the Ohio State Plane Coordinates System, North Zone. NAD 83(CORS2007) datum. All coordinates listed are Project Ground Coordinates (US Survey Foot) to convert to State Plane Grid Coordinates, multiply the Ground Coordinates by the Project Adjustment Factor of 0.9999030.

As a part of this project I have reestablished the locations of the existing property lines and centerline of existing Right of Way for property takes contained herein, established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue as well as prepared the legal descriptions necessary to acquire the parcels as shown herein.

All of my work contained herein was conducted in accordance with the Ohio Administrative Code Chapter 4733-37 Standards for Boundary Surveys unless so noted. The words "I" as used herein are to mean that either myself or someone working under my direct supervision.

01/27/2016
Arcadis U.S., Inc.
Robert G. Hoy
Ohio Professional Land Surveyor No. 8142

STATE OF OHIO
ROBERT G. HOY
8142
REGISTERED
PROFESSIONAL SURVEYOR

CENTERLINE MONUMENT TABLE - EXISTING 12TH STREET					
		PROJECT COORDINATES SEE SURVEY CERT.		MONUMENT ASSEMBLY	
STATION	OFFSET	NORTHING (Y)	EASTING (X)		DESCRIPTION
10+00.00	0	419039.5510	2273013.9060		1" REBAR FOUND IN MON. BOX
17+79.70	0	4189988.4150	2273791.9248	1	MONUMENT ASSEMBLEY SET
50+00.00	0	418978.5350	2273791.6570		1" REBAR FOUND IN MON. BOX
56+75.31	0	418955.2620	2274466.5690	1	1" REBAR FOUND IN MON. BOX
57+71.09	0	418901.4453	2274538.7243		1" REBAR FOUND IN MON. BOX
57+71.46	0	418631.6915	2274538.8421	1	MONUMENT ASSEMBLEY SET
60+55.16	0	418631.6915	2274627.7803	1	MONUMENT ASSEMBLEY SET
60+55.65	0	418631.2302	2274627.9330		1" REBAR FOUND IN MON. BOX
64+40.13	0	418413.4787	2274916.5197		DRILL HOLE & CROSS SET
69+50.00	0	418393.9833	2275375.9803	1	MONUMENT ASSEMBLEY SET
TOTAL CARRIED TO GENERAL SUMMARY SHEET				5	

(A) SURVEY OF TIMKEN MERCY MEDICAL CENTER BY GARRETT & ASSOCIATES

(B) EASEMENT MAP FOR DRIVE THROUGH CITY PARK FOR H.H. TIMKEN

(C) INDEX MAP FOR 12TH ST. DEDICATIONS

(D) DEDICATION PLAT DATED 12/29/60 VOL. 34 P. 109

(E) RIGHT-OF-WAY SURVEY FOR METRO REGIONAL TRANSIT AUTHORITY BY KS ASSOCIATES, INC. DATED 3/7/01

RECEIVED _____, 20 __
RECORDED _____, 20 __
BOOK _____ PAGE _____
COUNTY RECORDER

REV.	DATE	DESCRIPTION
		DATE OF COMPLETION

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

PID NO. 90671

R/W DESIGNER PSB
R/W REVIEWER RGH

CENTERLINE PLAT

STA - 12TH STREET BRIDGES REPLACEMENT

2 / 12

200
210

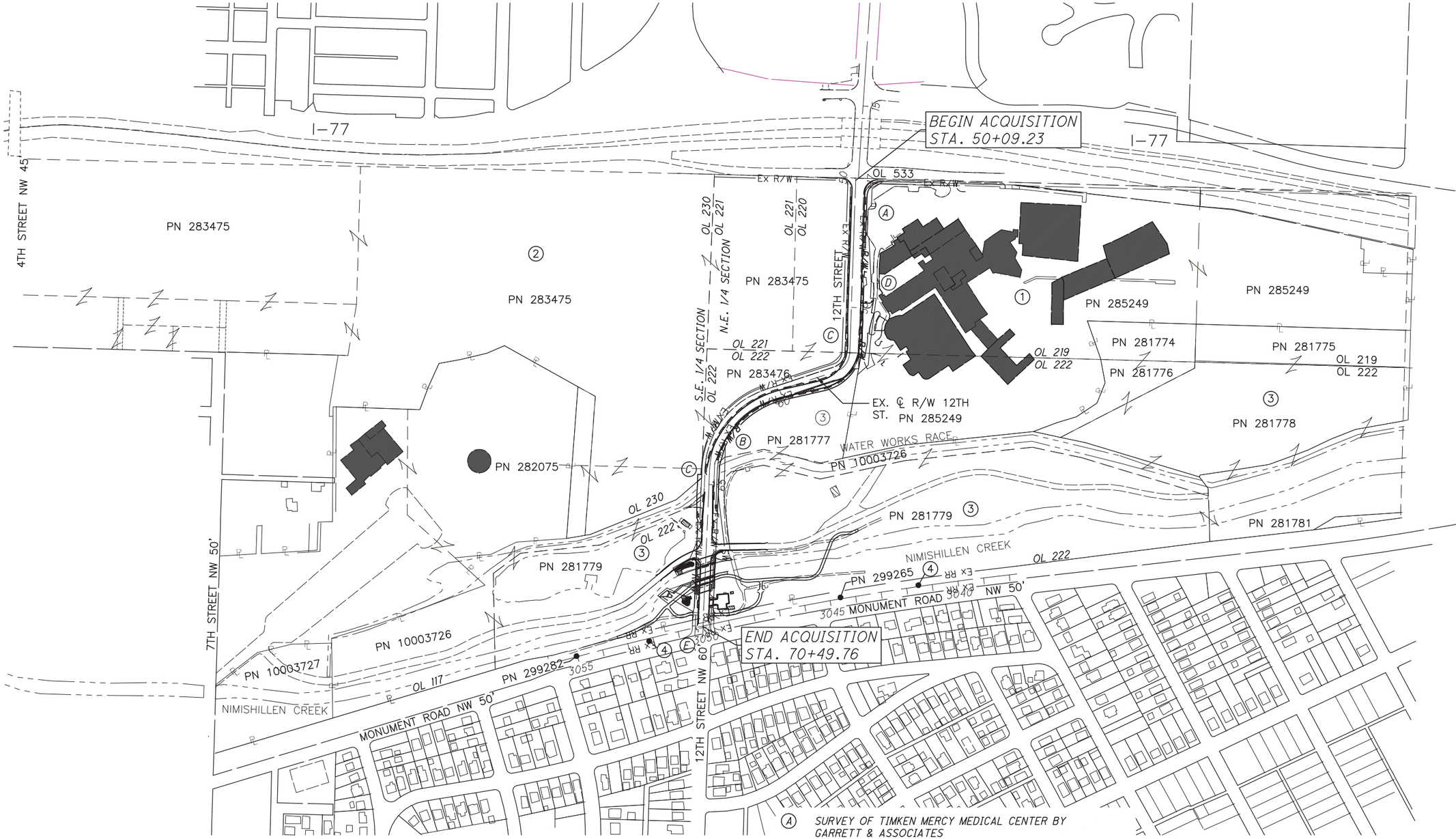
G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RC01.dwg 27-Jan-16 12:46 PM

PART OF ORIGINAL CANTON TOWNSHIP NE & SE 1/4 SECTION 5, T10, R8

PART OF CITY OF CANTON OUTLOTS 219, 220, 222, & 230

CITY OF CANTON

COUNTY OF STARK, STATE OF OHIO



OWNERSHIP NAME AND NUMBER:

1. CSAHS/VHHS – CANTON, INC.
2. THE CANTON CEMETERY ASSOCIATION
3. CITY OF CANTON, OHIO
4. METRO REGIONAL TRANSIT AUTHORITY

(A) *SURVEY OF TIMKEN MERCY MEDICAL CENTER BY GARRETT & ASSOCIATES*

(B) *EASEMENT MAP FOR DRIVE THROUGH CITY PARK FOR H.H. TIMKEN*

(C) *INDEX MAP FOR 12TH ST. DEDICATIONS*

(D) *DEDICATION PLAT DATED 12/29/60 VOL. 34 P. 109*

(E) *RIGHT-OF-WAY SURVEY FOR METRO REGIONAL TRANSIT AUTHORITY BY KS ASSOCIATES, INC. DATED 3/7/01*

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

N

0 100 200 400 HORIZONTAL SCALE IN FEET

PID NO. 90671

R/W DESIGNER PSB

R/W REVIEWER RGH

PROPERTY MAP

STA - 12TH STREET IMPROVEMENTS

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RM01.dwg 31-Aug-16 5:55 PM

TOTAL NUMBER OF:
4 OWNERSHIPS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
13 PARCELS

NET RESIDUE = RECORD AREA – TOTAL P.R.O. – NET TAKE

ALL AREAS IN ACRES

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE CITY OF CANTON UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO	OWNERS RECORD INSTRUMENT VOLUME	OWNERS RECORD INSTRUMENT PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	FUND TYPE	REMARKS	AS ACQUIRED INSTRUMENT NUMBER
1-WD1	CSAHS/VHHS - CANTON, INC.	5,6	2000020848		285249	35.320	0.000	0.081	0.000	0.081	S(1)				UTILITY EASEMENT DEED Volume 2175, Page 153 BLANKET OVER LOT 219;	
															HIGHWAY & CHANNEL EASEMENT Deed Volume 2564, Page 612;HIGHWAY EASEMENT	
															Deed Volume 2564, Page 618; UTILITY EASEMENT Deed Volume 3326, Page 357 now	
1-WD2		6						0.035	0.000	0.035	S(1)*	35.204			PARCEL 242455 NOT WITHIN PROJECT;UTILITY EASEMENT Deed Volume 3362, Page 64	
															CANNOT BE PLOTTED; UTILITY EASEMENT Deed Volume 4328, Page 846 plotted;	
															EASEMENT Deed Volume 4359, Page 617; UTILITY EASEMENT Deed Volume 4360, Page	
															399 CANNOT BE PLOTTED POSSIBLE BLANKET;TEMPORARY CONSTRUCTION EASEMENT	
															Instrument 200405040031288 plotted; (LISTED AS CSAHS/UHHS CANTON, INC.	
															IN TITLE REPORT); TAKE SIGN;TAKE 2 LIGHT POLES; TAKE FLOWER BED;	
															TAKE 1-27",3-9",2-12",3-24",1-21",1-18" TREES;TAKE LIGHT POLE W/ SECURITY CAMERA;	
															IRRIGATION SYSTEM*, SIGN*	
1-T		5,6						0.411	0.000	0.411					REGRADE, RECONSTRUCT DRIVE, CONSTRUCT NEW DRIVE AT 56+40;	
2-SH	THE CANTON CEMETERY ASSOCIATION	8	523	294	283475	60.000	0.000	0.007	0.000	0.007			59.993		TAKE 18" TREE	
			2294	428	283476	1.910	0.000	0.000	0.000	0.000			1.910			
	TOTAL					61.910	0.000	0.007	0.000	0.007						
2-T1		5			283475		0.000	0.001	0.000	0.001					GRADING	
2-T2		6,7			283475		0.000	0.087	0.000	0.087					GRADING	
	TOTAL															
3-WD1	CITY OF CANTON, OHIO	6-9	2758	312	281777	2.530	0.000	0.241	0.000	0.241			2.289		RESTRICTION FOR PUBLIC PARK USE Deed Volume 2758, Page 312;	
			126	261	10003726	5.410	0.000	0.016	0.000	0.016					TAKE 1-3",1-6",3-9",1'12",1-15",4-18",1-24",2-27",1-30",1-42" TREES	
			564	63	281779	19.110	0.000	0.084	0.000	0.084					RELOCATE MONUMENT STONE; TAKE 18 WOOD POSTS; TAKE STONE WALL; TAKE BENCH	
			251	262											TAKE 2 LIGHT POLES;TAKE 2 BRICK POSTS W/ GATE	
			275	412												
	TOTAL					27.050	0.000	0.341	0.000	0.341						
3-WD2		8,9			10003726			0.029	0.000	0.029			5.365			
					281779			0.086	0.000	0.086			18.940			
	TOTAL							0.115		0.115						
3-S1		8,9			281777			0.001	0.000	0.001					STORM SEWER AND BMP	
					10003726			0.037	0.000	0.037						
					281779			0.149	0.000	0.149						
	TOTAL							0.187	0.000	0.187						
3-S2		9,11			281779			0.102	0.000	0.102					STORM SEWER AND BMP	
3-S3		9,11			281779			0.142	0.000	0.142					STORM SEWER AND BMP	
4-SH1	METRO REGIONAL TRANSIT AUTHORITY	9	2000035339		299265	3.910	0.043	0.005	0.000	0.005		3.862			HIGHWAY EASEMENT (12TH ST. NW) DV 576 P 546; UTILITY EASEMENT	
															INSTRUMENT 200401270005347 CANNOT BE PLOTTED;	
4-SH2		9			299282	3.270	0.016	0.006	0.000	0.006			3.248		Instrument #2000035339 CANNOT BE PLOTTED; FREIGHT EASEMENT	

80% FEDERAL, 20% LOCAL

* – DENOTES RIGHT–OF–WAY ENCROACHMENT
(C) – CALCULATED
WD – FEE SIMPLE RESERVATION OF ACCESS
T – TEMPORARY EASEMENT
S – SEWER EASEMENT
SH – STANDARD HIGHWAY EASEMENT

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTHS IN DURATION.

ALL TEMPORARY EASEMENTS SHALL NOT BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR. ALL TEMPORARY EASEMENTS SHALL BE VACATED IMMEDIATELY UPON COMPLETION OF THE WORK REQUIRED.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

FEDERAL PROJECT NO. -

STATE JOB No. -

PID NO. 90671

R/W DESIGNER PSB

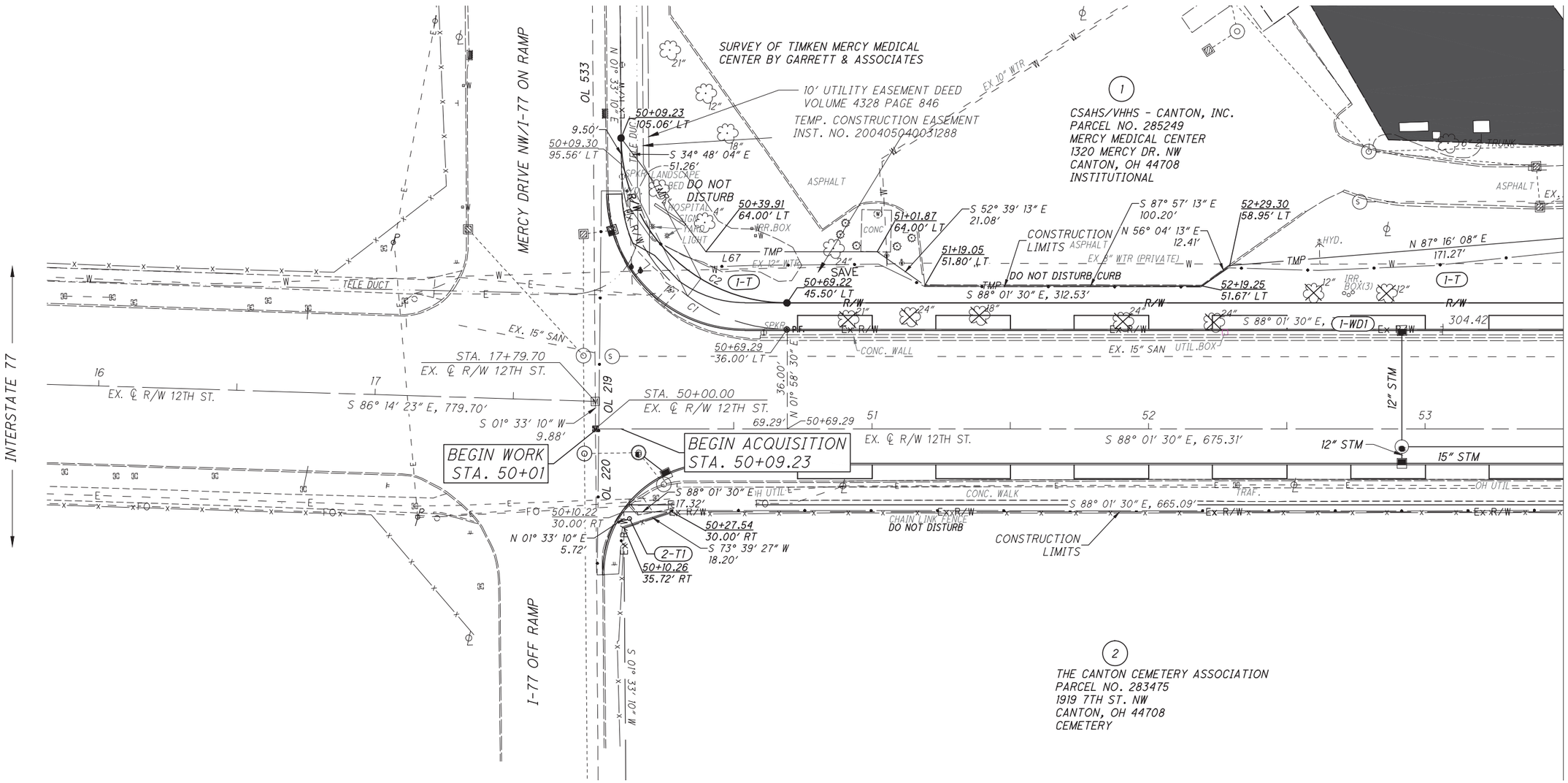
R/W REVIEWER RGH

SUMMARY OF ADDITIONAL RIGHT OF WAY

STA - 12TH STREET BRIDGES REPLACEMENT

G:\Project\AK0003315.R001\Drawing\90671\row\sheets\90671RS01.dwg; 8/31/16 - 5:57pm; mlove

PART OF ORIGINAL CANTON TOWNSHIP NE 1/4 SECTION 5, T10, R8
PART OF CITY OF CANTON OUTLOTS 219 & 220,
CITY OF CANTON
COUNTY OF STARK, STATE OF OHIO



SEE SHEET 210 FOR LINE AND CURVE TABLES

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90671

R/W DESIGNER
DESIGNED
R/W REVIEWER
RGH

RIGHT OF WAY DETAIL SHEET STA. 50+00 TO STA 53+50

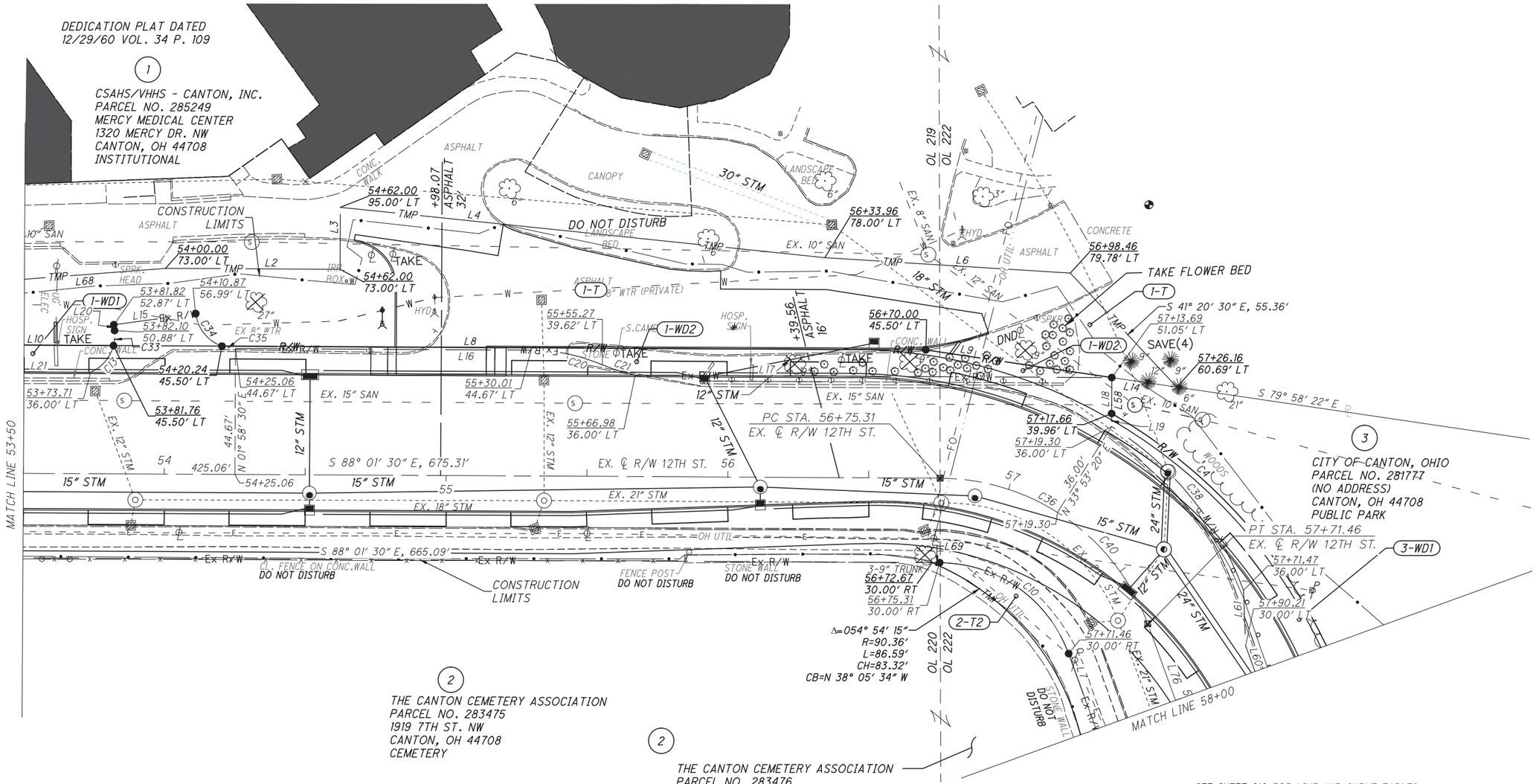
STA - 12TH STREET IMPROVEMENTS

5 / 12

203 / 210

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RD01.dwg 31-Aug-16 5:58 PM

PART OF ORIGINAL CANTON TOWNSHIP NE 1/4 SECTION 5, T10, R8
PART OF CITY OF CANTON OUTLOTS 219, 220, & 222,
CITY OF CANTON
COUNTY OF STARK, STATE OF OHIO



SEE SHEET 210 FOR LINE AND CURVE TABLES

DND - DO NOT DISTURB
* - DENOTES R/W ENCROACHMENT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90671

R/W DESIGNER DESIGNED
R/W REVIEWER RGH

RIGHT OF WAY DETAIL SHEET STA. 53+50 TO 58+00

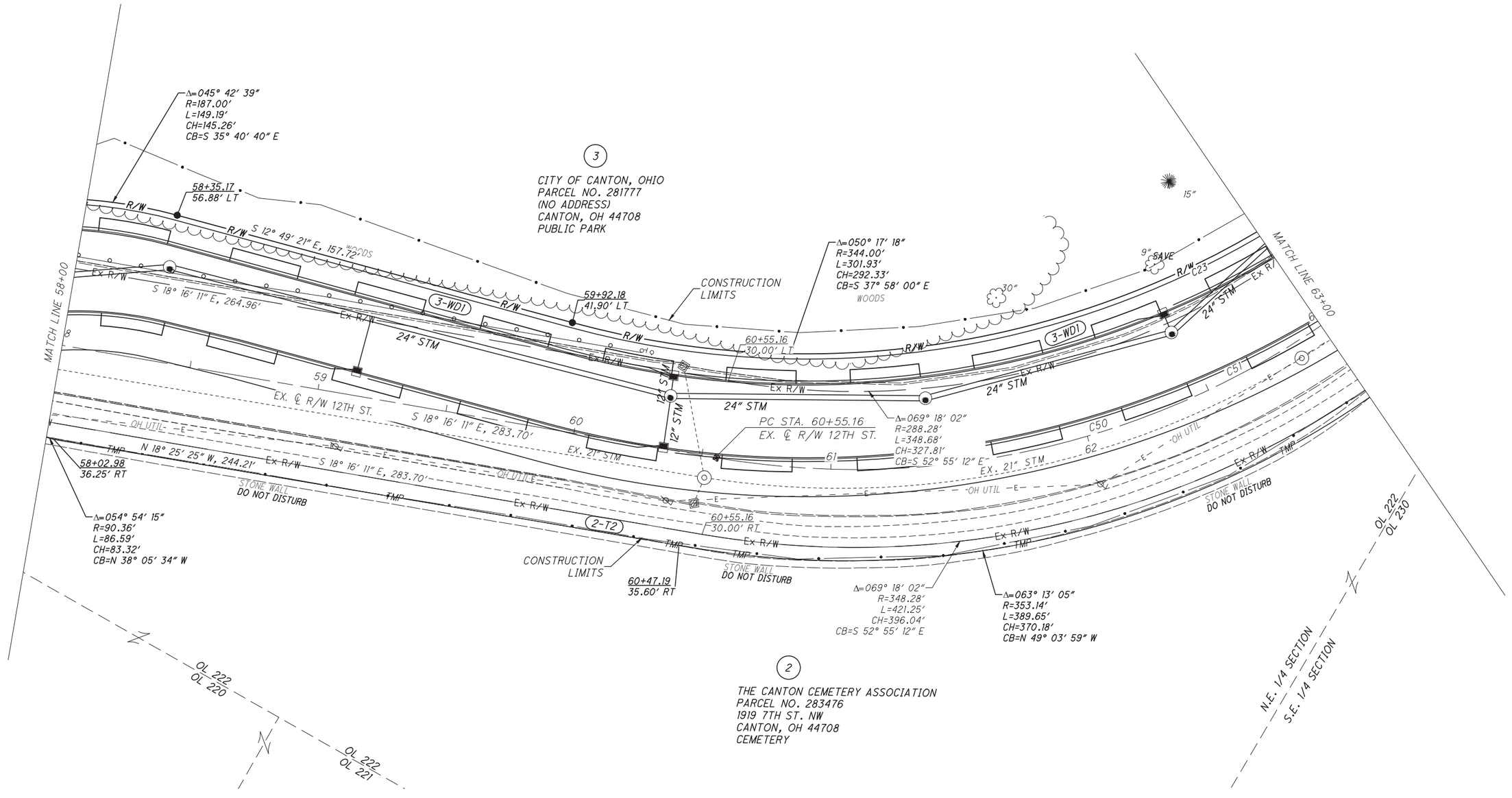
STA - 12TH STREET IMPROVEMENTS

6 / 12

204 / 210

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RD01.dwg 31-Aug-16 5:59 PM

PART OF ORIGINAL CANTON TOWNSHIP NE 1/4 SECTION 5, T10, R8
PART OF CITY OF CANTON OUTLOT 222
CITY OF CANTON
COUNTY OF STARK, STATE OF OHIO



SEE SHEET 210 FOR LINE AND CURVE TABLES

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90671

R/W DESIGNER DESIGNED
R/W REVIEWER RGH

RIGHT OF WAY DETAIL SHEET
STA. 58+00 TO STA. 63+00

STA - 12TH STREET IMPROVEMENTS

7 / 12

205 / 210

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RD01.dwg 31-Aug-16 6:01 PM

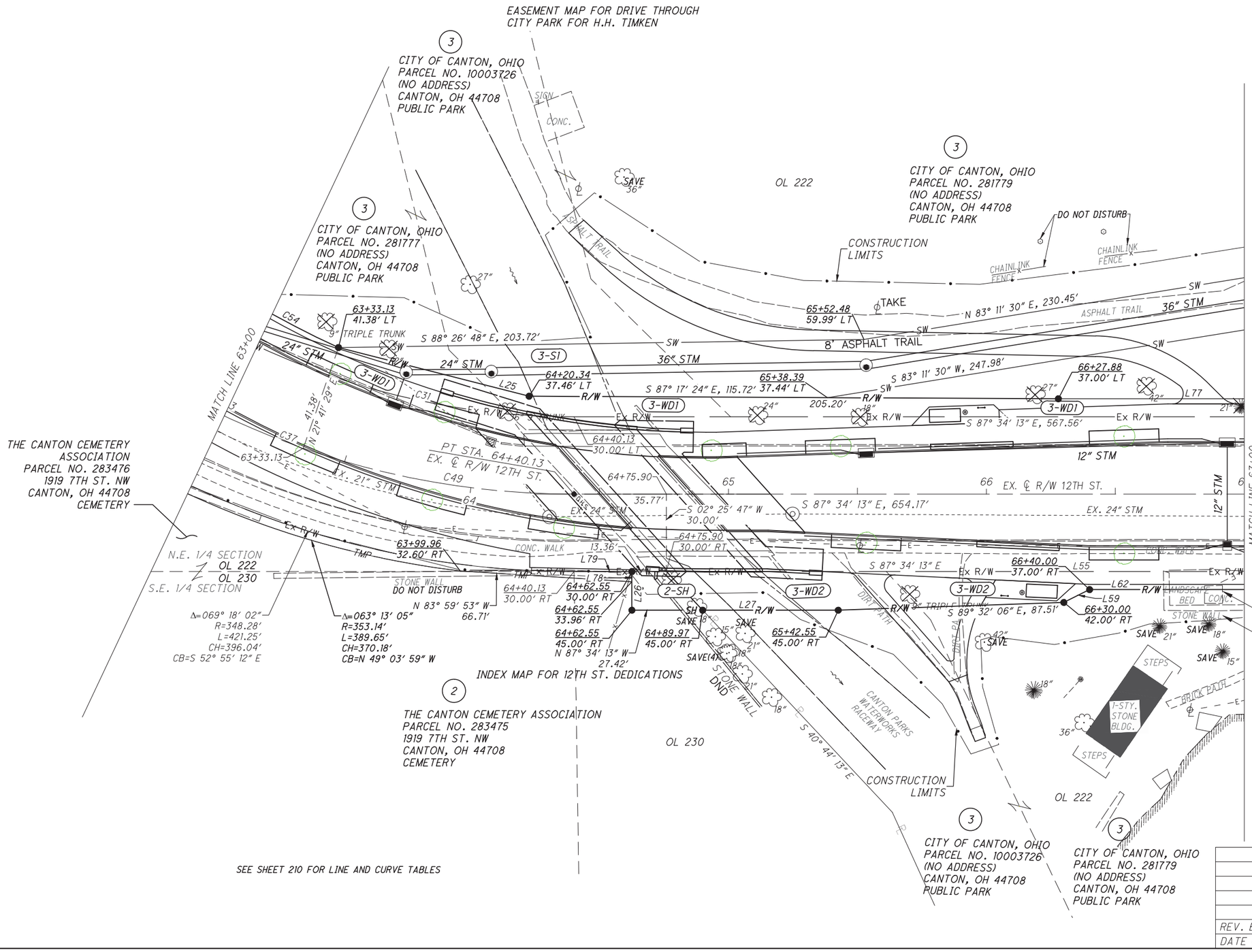
PART OF ORIGINAL CANTON TOWNSHIP NE & SE 1/4 OF SECTION 5, T10, R8

PART OF CITY OF CANTON OUTLOTS 222 & 230

CITY OF CANTON

COUNTY OF STARK, STATE OF OHIO

EASEMENT MAP FOR DRIVE THROUGH
CITY PARK FOR H.H. TIMKEN



SEE SHEET 210 FOR LINE AND CURVE TABLES

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90671

R/W DESIGNER DESIGNED
R/W REVIEWER RGH

RIGHT OF WAY DETAIL SHEET
STA. 63+00 TO STA. 67+00

STA - 12TH STREET IMPROVEMENTS

8 / 12

206
210

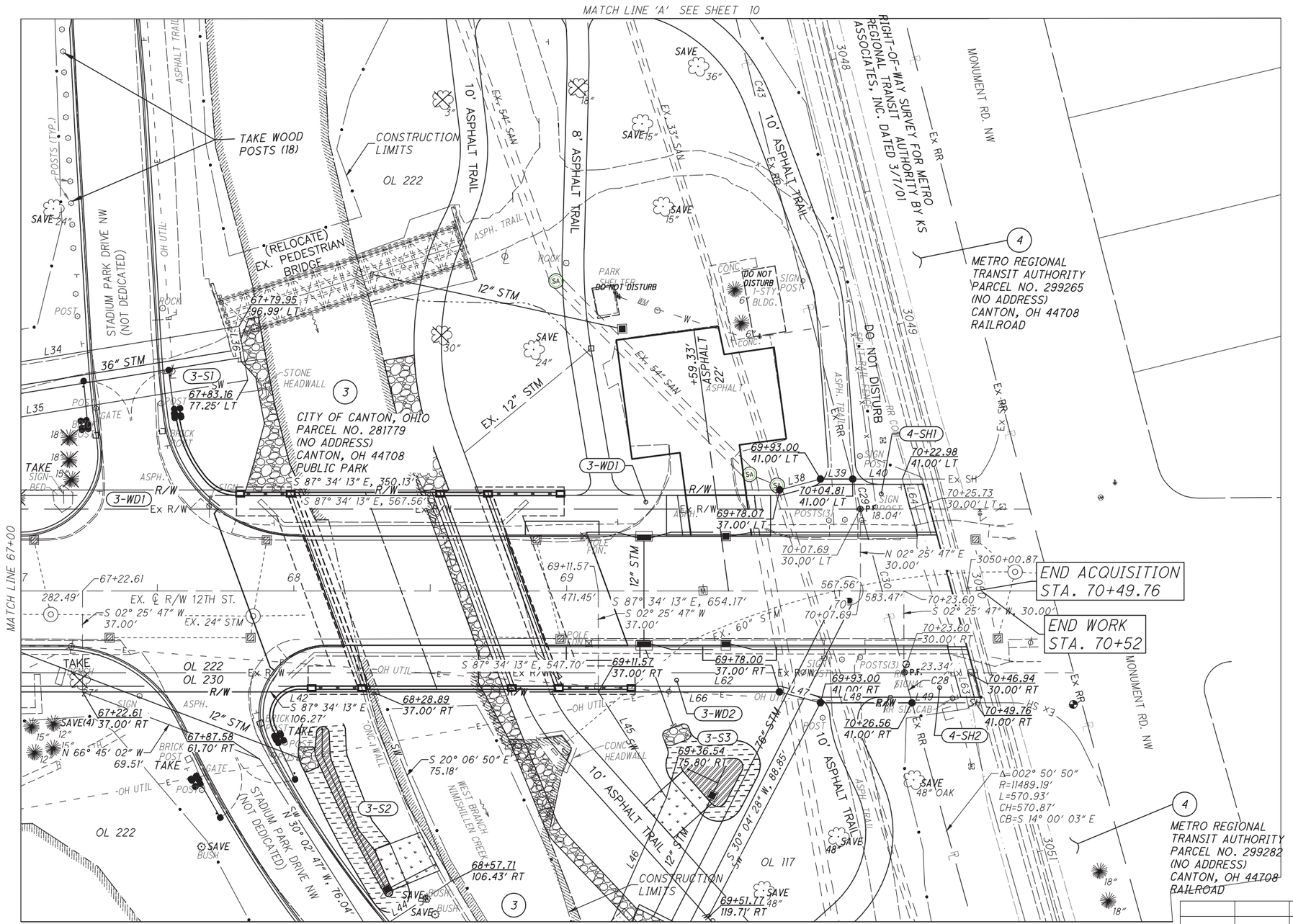
G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RD01.dwg 31-Aug-16 6:02 PM

PART OF ORIGINAL CANTON TOWNSHIP NE & SE 1/4 OF SECTION 5, T10, R8

PART OF CITY OF CANTON OUTLOTS 222, 230

CITY OF CANTON

COUNTY OF STARK, STATE OF OHIO



REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

PID NO. 90671

R/W DESIGNER DESIGNED

R/W REVIEWER RGH

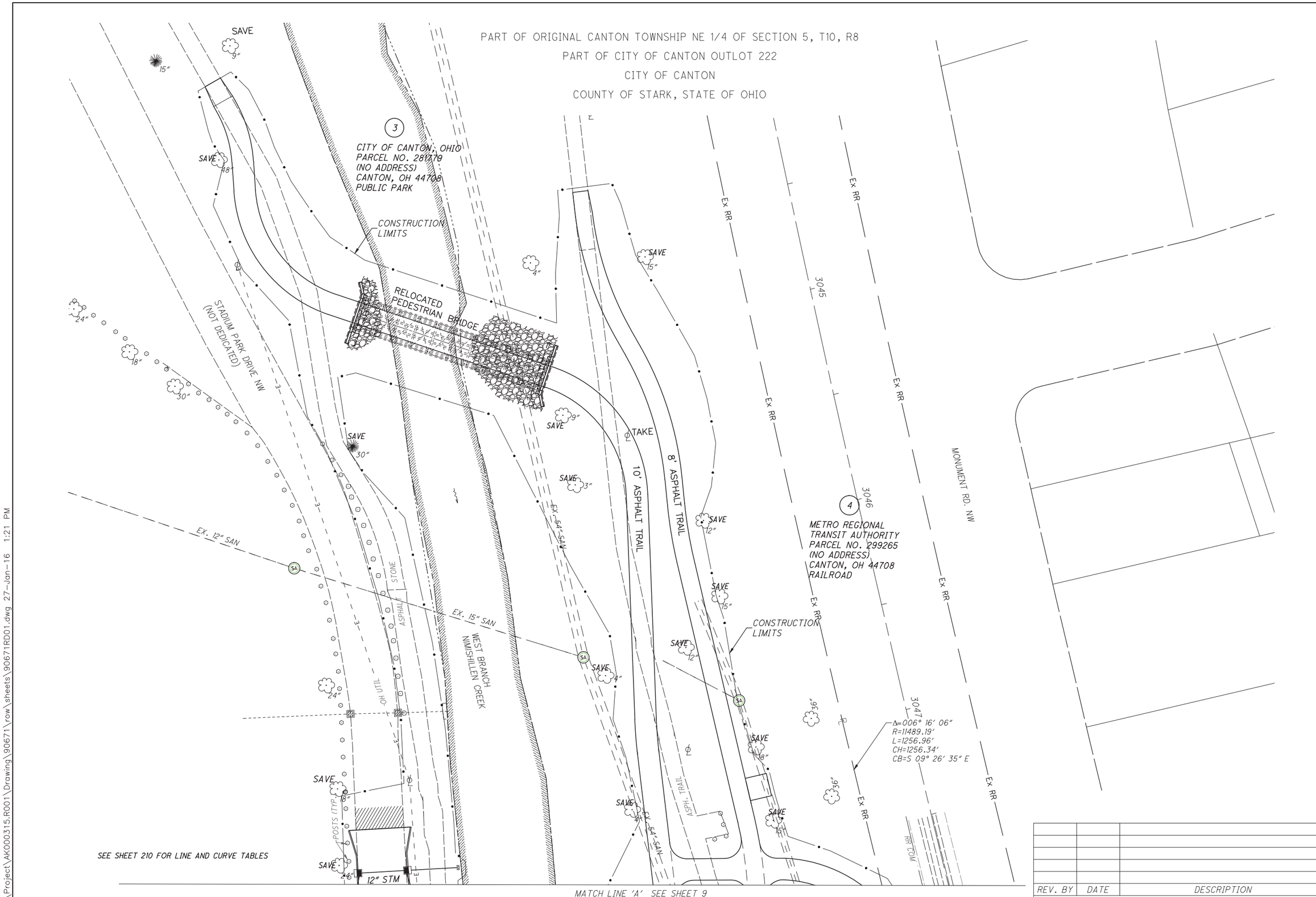
RIGHT OF WAY DETAIL SHEET STA. 67+00 TO 70+00

STA - 12TH STREET IMPROVEMENTS

9 / 12

207 / 210

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RD01.dwg 31-Aug-16 6:02 PM



REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90671

R/W DESIGNER PSB
R/W REVIEWER RGH

RIGHT OF WAY DETAIL SHEET
STADIUM PARK DRIVE (NORTH)

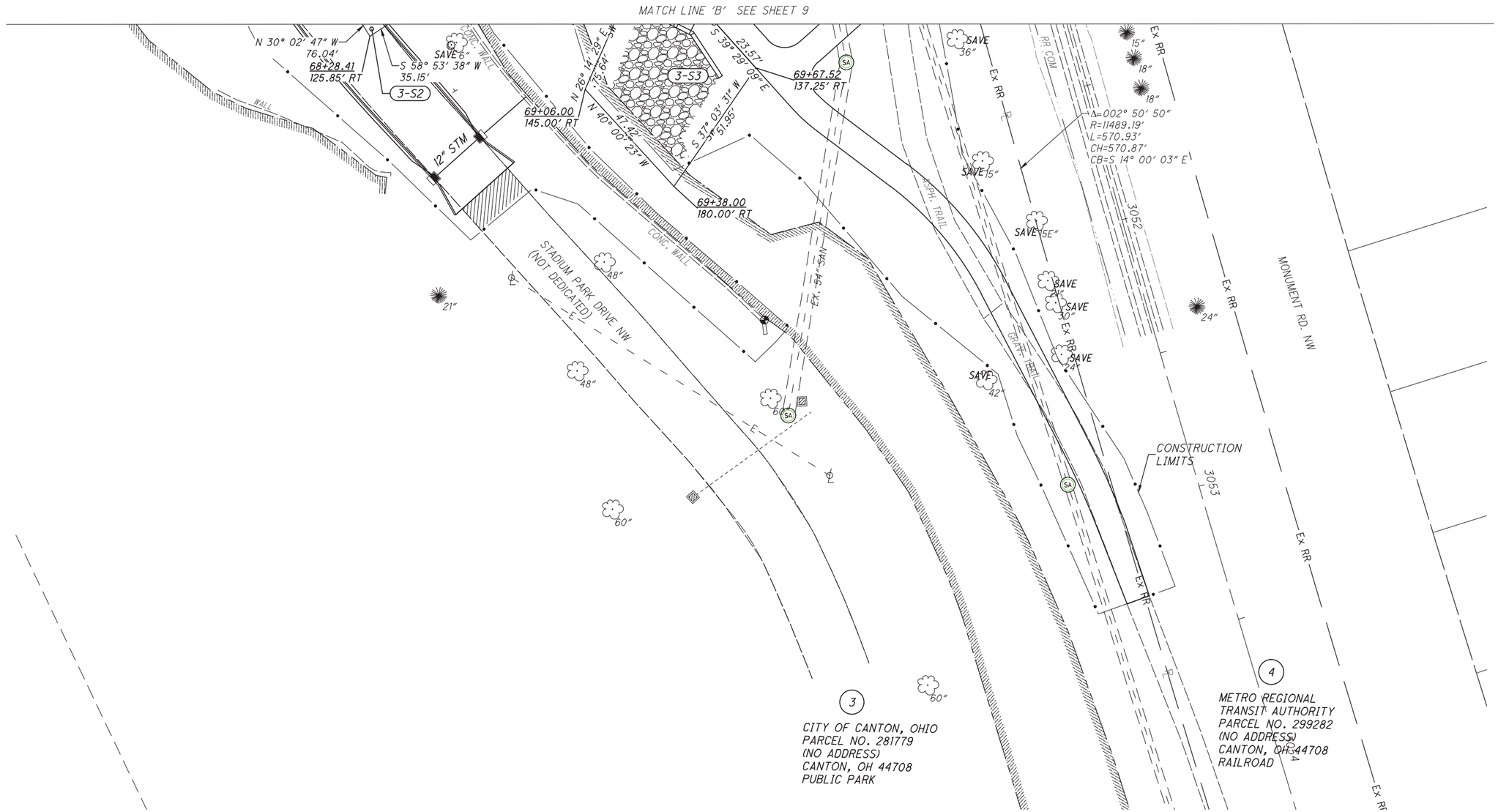
STA - 12TH STREET
BRIDGES REPLACEMENT

10/12

208/210

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RD01.dwg 27-Jan-16 1:21 PM

PART OF ORIGINAL CANTON TOWNSHIP SE 1/4 OF SECTION 5, T10, R8
PART OF CITY OF CANTON OUTLOT 230
CITY OF CANTON
COUNTY OF STARK, STATE OF OHIO



SEE SHEET 210 FOR LINE AND CURVE TABLES

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90671

R/W DESIGNER PSB
R/W REVIEWER RGH

RIGHT OF WAY DETAIL SHEET
STADIUM PARK DRIVE (SOUTH)

STA - 12TH STREET
BRIDGES REPLACEMENT

11 / 12

209
210

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RD01.dwg 27-Jan-16 1:21 PM

Line Table		
Line #	Length	Direction
L2	62.00′	S88° 01′ 30″E
L3	22.00′	N1° 58′ 30″E
L4	172.80′	S82° 22′ 45″E
L6	87.35′	S84° 45′ 01″E
L7	283.70′	S18° 16′ 11″E
L8	249.76′	S88° 01′ 30″E
L9	66.72′	S79° 50′ 22″E
L10	312.53′	S88° 01′ 30″E
L14	23.34′	N79° 58′ 22″W
L15	29.34′	N83° 54′ 30″E
L16	104.95′	S88° 01′ 30″E
L17	169.06′	S88° 01′ 30″E
L18	17.38′	S1° 48′ 33″W
L19	4.65′	S1° 48′ 33″W
L20	2.01′	N6° 05′ 30″W
L21	304.42′	S88° 01′ 30″E
L25	76.27′	S73° 14′ 40″E
L26	15.00′	S2° 25′ 47″W
L27	52.58′	S87° 34′ 13″E
L34	230.45′	N83° 11′ 30″E

Line #	Length	Direction
L35	247.98′	S83° 11′ 30″W
L36	20.00′	N6° 48′ 30″W
L38	15.52′	N77° 29′ 54″E
L39	11.81′	S87° 34′ 13″E
L40	18.17′	S87° 34′ 13″E
L42	338.00′	S87° 34′ 13″E
L44	35.15′	S58° 53′ 38″W
L45	46.14′	N30° 19′ 40″W
L46	75.64′	N26° 14′ 29″E
L47	15.52′	S72° 38′ 20″E
L48	33.56′	S87° 34′ 13″E
L49	23.21′	S87° 34′ 13″E
L55	547.70′	S87° 34′ 13″E
L58	12.73′	S1° 48′ 33″W
L59	11.18′	N65° 51′ 53″E
L60	264.96′	S18° 16′ 11″E
L61	19.68′	S0° 31′ 35″E
L62	338.00′	S87° 34′ 13″E
L63	11.36′	S11° 57′ 28″E
L64	11.34′	N11° 35′ 31″W

Line #	Length	Direction
L66	66.43′	S87° 34′ 13″E
L67	61.95′	S88° 01′ 30″E
L68	171.27′	N87° 16′ 08″E
L69	2.64′	S88° 01′ 30″E
L76	283.70′	S18° 16′ 11″E
L77	350.13′	S87° 34′ 13″E
L78	3.96′	S2° 25′ 47″W
L79	22.42′	S87° 34′ 13″E

Curve Table					
Curve #	Length	Radius	Delta	CHORD	CHORD BEARING
C1	93.81′	60.00′	089° 34′ 41″	84.54′	S43° 14′ 10″E
C2	93.81′	60.00′	089° 34′ 40″	84.54′	S43° 14′ 10″E
C4	149.19′	187.00′	045° 42′ 39″	145.26′	S35° 40′ 40″E
C10	59.63′	48.98′	069° 45′ 19″	56.01′	S53° 08′ 51″E
C13	12.87′	14.33′	051° 28′ 41″	12.45′	N42° 13′ 01″E
C20	25.93′	65.67′	022° 37′ 18″	25.76′	N76° 42′ 54″W
C21	12.28′	64.33′	010° 56′ 18″	12.26′	S70° 52′ 33″E
C23	301.93′	344.00′	050° 17′ 18″	292.33′	S37° 58′ 00″E
C28	11.39′	11489.19′	000° 03′ 24″	11.39′	N12° 36′ 21″W
C29	11.37′	11489.19′	000° 03′ 24″	11.37′	N12° 14′ 22″W
C30	1256.96′	11489.19′	006° 16′ 06″	1256.34′	S09° 26′ 35″E
C31	348.68′	288.28′	069° 18′ 02″	327.81′	S52° 55′ 12″E
C33	5.42′	14.33′	021° 40′ 59″	5.39′	N05° 38′ 11″E
C34	15.58′	14.33′	062° 18′ 42″	14.83′	S37° 14′ 52″E
C35	4.91′	14.33′	019° 37′ 17″	4.88′	S78° 12′ 51″E
C36	43.99′	78.98′	031° 54′ 50″	43.42′	S72° 04′ 05″E
C37	277.96′	318.28′	050° 02′ 19″	269.21′	S43° 17′ 21″E
C38	75.94′	114.97′	037° 50′ 40″	74.57′	N37° 11′ 17″W
C40	96.15′	78.98′	069° 45′ 19″	90.32′	S53° 08′ 51″E
C43	1256.96′	11489.19′	006° 16′ 06″	1256.34′	S09° 26′ 35″E

Curve #	Length	Radius	Delta	CHORD	CHORD BEARING
C49	384.96′	318.28′	069° 18′ 02″	361.92′	S52° 55′ 12″E
C50	384.96′	318.28′	069° 18′ 02″	361.92′	S52° 55′ 12″E
C51	277.96′	318.28′	050° 02′ 19″	269.21′	S43° 17′ 21″E
C54	301.93′	344.00′	050° 17′ 18″	292.33′	S37° 58′ 00″E

REV. BY	DATE	DESCRIPTION

DATE COMPLETED

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90671

R/W DESIGNER PSB
R/W REVIEWER RGH

RIGHT OF WAY LINE AND CURVE TABLES

STA - 12TH STREET BRIDGES REPLACEMENT

12 / 12

210 / 210

G:\Project\AK000315.R001\Drawing\90671\row\sheets\90671RD01.dwg 27-Jan-16 1:21 PM

PROJECT DESCRIPTION
THE 12TH STREET ROADWAY IMPROVEMENT PROJECT INVOLVES THE RECONSTRUCTION AND/OR REHABILITATION OF 12TH STREET NW FROM INTERSTATE 77 TO MONUMENT ROAD NW, THE RECONSTRUCTION OF TWO BRIDGES ALONG 12TH STREET, ONE SPANNING THE PARKS WATERWORKS RACEWAY AND THE OTHER SPANNING NIMISHILLEN CREEK. THE PROPOSED BRIDGE STRUCTURE OVER THE PARKS WATERWORKS WILL CONSIST OF A SINGLE SPAN, REINFORCED CONCRETE DECK ON REINFORCED CONCRETE ABUTMENTS WITH FALSE ARCH FAÇADE WALL. THE PROPOSED BRIDGE STRUCTURE OVER NIMISHILLEN CREEK WILL CONSIST OF A TWO-SPAN, CONTINUOUS CONCRETE SLAB ON ARCH SUPERSTRUCTURE AND WALL TYPE ABUTMENTS. ADDITIONAL WORK WILL INCLUDE THERELOCATION OF THE EXISTING PRE-ENGINEERED TRAIL BRIDGE SPANNING NIMISHILLEN CREEK JUST NORTH OF 12TH STREET, THE RECONSTRUCTION AND/OR REHABILITATION OF THE INTERSECTION OF STADIUM PARK DRIVE AND 12TH STREET NW, AND THE CONSTRUCTION OF A CONCRETE CANTILEVER RETAINING WALL, MEASURING APPROXIMATELY 9 TO 11 FEET IN HEIGHT AND 140 FEET IN TOTAL LENGTH LOCATED ON THE SOUTHEAST CORNER OF THE TRAIL BRIDGE.

HISTORIC RECORDS
THERE ARE A TOTAL OF FOUR (4) HISTORICAL BORINGS AVAILABLE WITHIN THE PROPOSED PROJECT LIMITS. THE TEST BORINGS (B-1 THROUGH B-4) WERE PERFORMED BY PSI FOR CIVIL DESIGN ASSOCIATES, FOR THE PROPOSED STADIUM PARK PEDESTRIAN BRIDGE REPLACEMENT IN 2003 (PSI PROJECT NO. 145-35054).

GEOLOGY
BASED ON A PUBLISHED OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) MAP REFERENCE, THE PROJECT SITE LIES WITHIN THE GLACIATED ALLEGHENY PLATEAU IN NORTHEAST OHIO (OHIO DIVISION OF GEOLOGICAL SURVEY, MAP SG-2). THE SOILS IN THE AREA ARE PREDOMINATELY GLACIAL TILL AND OUTWASH SAND AND GRAVEL WITH VARYING AMOUNTS OF CLAY. THE BEDROCK GROUPS IN THE AREA ARE PENNSYLVANIAN-AGE POTTSVILLE, ALLEGHENY, AND CONEMAUGH GROUPS. MASSIVE TO NON-BEDDED UNITS OF MEDIUM TO COURSE GRAINED RESISTANT SANDSTONE OCCUR. SANDSTONE UNITS ARE INTERBEDDED WITH SHALE, SILTSTONE, COAL, LIMESTONE AND CLAY IN THE UPPER PORTION WITH RAPID LATERAL AND VERTICAL CHANGE.

RECONNAISSANCE
THE PROPOSED BRIDGE STRUCTURES, FOR WHICH THIS SUBSURFACE EXPLORATION WAS COMPLETED, ARE LOCATED ALONG 12TH STREET, ONE SPANNING OVER THE PARKS WATERWORKS RACEWAY AND THE OTHER SPANNING OVER NIMISHILLEN CREEK IN THE CITY OF CANTON, STARK COUNTY, OHIO. THE PROPOSED TRAIL BRIDGE RELOCATION IS LOCATED JUST NORTH OF 12TH STREET AND SPANS OVER NIMISHILLEN CREEK. THE SECTION OF 12TH STREET THAT WILL BE RECONSTRUCTED AND/OR REHABILITATED IS LOCATED BETWEEN INTERSTATE 77 AND MONUMENT ROAD NW.

THE EXISTING BRIDGE STRUCTURES SPAN WEST TO EAST OVER THE PARKS WATERWORKS RACEWAY AND OVER NIMISHILLEN CREEK. THE EXISTING BRIDGE SUPERSTRUCTURES CONSIST OF CONCRETE ARCHES WITH ASPHALT WEARING SURFACE ROAD. THE EXISTING BRIDGE STRUCTURES ARE SUPPORTED ON SHALLOW BEARING SPREAD FOOTING FOUNDATIONS. THE TRAIL BRIDGE THAT WILL BE RELOCATED CONSISTS OF PRE-ENGINEERED STEEL TRUSSES WITH AN ASPHALT SURFACE SPANNING OVER NIMISHILLEN CREEK JUST NORTH OF 12TH STREET. THE SECTION OF 12TH STREET BETWEEN INTERSTATE 77 TO MONUMENT ROAD CONSISTED OF ASPHALT, CONCRETE, AND BRICK PAVERS WITH ASPHALT WEARING COURSE.

SUBSURFACE EXPLORATION
A TOTAL OF THIRTEEN (13) TEST BORINGS, INCLUDING FIVE (5) PAVEMENT BORINGS (TYPE A) FOR THE PROPOSED ROADWAY EXPLORATION, TWO (2) TEST BORINGS FOR THE PROPOSED RETAINING WALL, AND SIX (6) TEST BORINGS FOR THE PROPOSED BRIDGE STRUCTURE REPLACEMENTS (TYPE E), WERE DRILLED. PRIOR TO THE SOIL SAMPLING AT THE BORING LOCATIONS, THE EXISTING PAVEMENT STRUCTURES WERE CORED UTILIZING PORTABLE CORING EQUIPMENT. THE BORINGS WERE THEN ADVANCED INTO THE GROUND USING HOLLOW STEM AUGERS MOUNTED ON A TRUCK-MOUNTED DRILL RIG. THE SPLIT SPOON SAMPLING PROCEDURES USED DURING THIS EXPLORATION ARE IN BASIC ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR SUBSURFACE EXPLORATION SECTION 303.3 (TYPE A) AND SECTION 303.7 (TYPE E).
THE SPLIT SPOON SAMPLER WAS FIRST SEATED 6 INCHES TO PENETRATE ANY LOOSE CUTTINGS AND THEN DRIVEN AN ADDITIONAL 1.5 FEET WITH BLOWS OF A 140 POUND HAMMER FALLING 30 INCHES. THE NUMBER OF HAMMER BLOWS REQUIRED TO DRIVE THE SAMPLER EACH 6-INCH INCREMENT WAS RECORDED. THE PENETRATION RESISTANCE "N VALUE" IS DESIGNATED AS THE NUMBER OF HAMMER BLOWS REQUIRED TO DRIVE THE SAMPLER THE FINAL FOOT AND AN INDEX TO COHESION FOR CLAYS AND RELATIVE DENSITY FOR SANDS. THE ROCK CORE SAMPLES WERE TAKEN AT EACH STRUCTURAL BORINGS. ROCK CORE IS PERFORMED IN HOLLOW STEM BORED HOLES USING WATER AS DRILLING FLUID.

EXPLORATION FINDINGS
THE COMPOSITION AND APPROXIMATE THICKNESS OF THE EXISTING SURFACE MATERIALS VARIED AT EACH BORING LOCATION AND CONSIST OF EITHER ON OR A COMBINATION OF TOPSOIL, ASPHALT, CONCRETE, AND/OR BRICK.THE THICKNESS OF THE SURFACE MATERIALS SHOULD BE EXPECTED TO VARY THROUGHOUT THE SITE.
THE NATURAL SOILS CONSISTED OF GRAVEL AND ROCK FRAGMENTS (A-1-a, A-1-b, A-2-4, AND A-2-6), SILT (A-4a AND A-4b) WITH VARYING DEGREES OF SAND, SILT AND CLAY (A-5 AND A-6A), COARSE AND FINE SAND (A-3 AND A-3a), AND CLAY (A-7-6) WITH VARYING DEGREES OF ROCK FRAGMENTS. THE NATURAL SOILS EXHIBITED MOISTURE CONTENTS RANGING FROM ABOUT 7 TO 77 PERCENT, AND A VERY SOFT TO VERY STIFF CONSISTENCY FOR COHESIVE SOILS AND VERY LOOSE TO VERY DENSE RELATIVE DENSITY FOR GRANULAR SOILS, BASED ON THE STANDARD PENETRATION TESTS.
THE AREA'S BOTTOMMOST FORMATION CONSISTED OF WEAK TO VERY STRONG, GRAY, MODERATELY WEATHERED TO HIGHLY WEATHERED, INTERBEDDED LAYERS OF SHALE, SILTSTONE, AND SANDSTONE WITH SMALL SEAMS OF COAL.
FREE WATER WAS OBSERVED, AND WAS MEASURED DURING DRILLING OPERATIONS AT A DEPTHS RANGING FROM 3.5 FEET TO 13.5 FEET AT SIX OF THE TEST BORING LOCATIONS

SPECIFICATIONS
THIS GEOTECHNICAL EXPLORATION WAS PERFORMED IN ACCORDANCE WITH THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, OFFICE OF GEOTECHNICAL ENGINEERING, SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS, DATED AUGUST 2013.

AVAILABLE INFORMATION
ALL AVAILABLE SOIL AND BEDROCK INFORMATION THAT CAN BE CONVENIENTLY SHOWN ON THE GEOTECHNICAL EXPLORATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL EXPLORATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE OR THE OFFICE OF GEOTECHNICAL ENGINEERING AT 1980 WEST BROAD STREET, COLUMBUS, OHIO.

LEGEND

DESCRIPTION	ODOT CLASS	CLASSIFIED MECH.	CLASSIFIED VISUAL
GRAVEL AND/OR STONE FRAGMENTS	A-1-a(0)	0	1
GRAVEL AND/OR STONE FRAGMENTS WITH SAND	A-1-b(0)	4	5
FINE SAND	A-3(0)	0	26
COARSE AND FINE SAND	A-3a(0)	0	15
GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT	A-2-4(0)	3	6
GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT AND CLAY	A-2-6(0)	0	2
SANDY SILT	A-4a(4)	7	10
SILT	A-4b(8)	4	4
ELASTIC SILT AND CLAY	A-5(7)	1	0
SILT AND CLAY	A-6a(11)	2	3
ELASTIC CLAY	A-7-5(13)	1	0
CLAY	A-7-6(13)	1	1
	TOTAL	23	73
COAL	VISUAL		
SANDSTONE	VISUAL		
SHALE	VISUAL		
SILTSTONE	VISUAL		
SOD AND TOPSOIL = X = APPROXIMATE THICKNESS	VISUAL		
PAVEMENT OR BASE = X = APPROXIMATE THICKNESS	VISUAL		

BORING LOCATION - PLAN VIEW.

DRIVE SAMPLE AND/OR ROCK CORE BORING PLOTTED TO VERTICAL SCALE ONLY. HORIZONTAL BAR INDICATES A CHANGE IN STRATIGRAPHY.

WC INDICATES WATER CONTENT IN PERCENT.

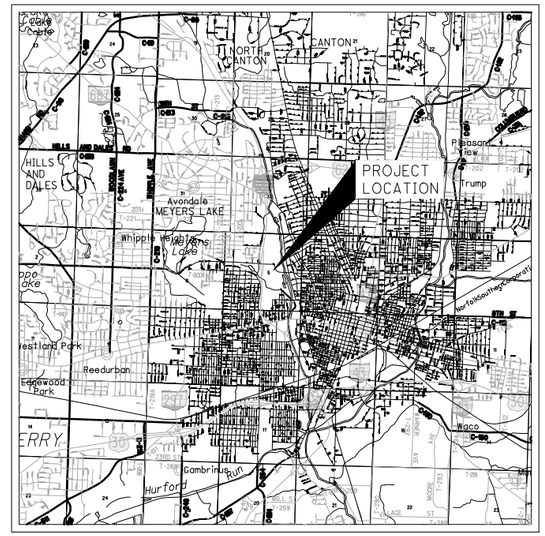
N_{60} INDICATES STANDARD PENETRATION RESISTANCE NORMALIZED TO 60% DRILL ROD ENERGY RATIO.

W— INDICATES FREE WATER ELEVATION.

INDICATES STATIC WATER LEVEL.

INDICATES A NON-PLASTIC MATERIAL WITH A MOISTURE CONTENT GREATER THAN 25 % OR GREATER THAN 19 % WITH A WET APPEARANCE.

NP INDICATES A NON-PLASTIC SAMPLE.



LOCATION MAP

LATITUDE: _38°55'43" LONGITUDE: _83°30'08"

SCALE IN MILES
0 1 2 3 4

N

PARTICLE SIZE DEFINITIONS

12"	3"	2.0 mm	0.42 mm	0.074 mm	0.005 mm
BOULDERS	COBBLES	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY
		No. 10 SIEVE	No. 40 SIEVE	No. 200 SIEVE		

INDEX OF SHEETS

LOCATION FROM STA.	TO STA.	PLAN VIEW SHEET	PROFILE SHEET
12TH STREET			
149+00.00	153+50.00	3	3
153+50.00	158+00.00	4	4
158+00.00	163+00.00	5	5
163+00.00	167+00.00	6	6
167+00.00	170+37.70	7	7
STADIUM PARK DRIVE			
1+50.00	7+50.00	8	8
MULTI-PURPOSE TRAIL			
0+00.00	5+70.00	9	9
5+70.00	11+60.00	10	10
BRIDGE DESIGNATION			
STA-12NW-1300 OVER CANTON PARKS WATERWORKS RACEWAY		6	6
STA-M12TH CA-05-15 OVER WEST BRANCH OF NIMSHILLEN CREEK		7	7
PEDESTRIAN BRIDGE OVER WEST BRANCH OF NIMSHILLEN CREEK		10	10

RECON. - E.O. 12/8/14
DRILLING - T.S. 12/15/14 - 1/6/15
DRAWN - H.J. 9/20/15 - 10/1/15
REVIEWED - A.V. 5/28/15 (FINAL GEOTECH REPORT)

DESIGN AGENCY
PROFESSIONAL SERVICE INDUSTRIES, INC.
4579 NAVARRE ROAD SW
CANTON, OHIO 44706

PID NO. 90671

SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
12TH STREET / MULTI PURPOSE TRAIL
12TH STREET IMPROVEMENTS

SUMMARY OF SOIL TEST DATA

12TH STREET IMPROVEMENTS

EXPLOR. ID	STATION	,	OFFSET	LAT/NORTH	LONG/EAST	FROM	–	TO	SAMPLE ID	N60	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)
B–001–15	152+06	,	0 RT	418982.709 N	2273999.822 E	0.8	–	1.1	SS–1	–	100	–	–	–	–	–	–	–	–	13	A–1–b (VISUAL)
B–001–15	152+06	,	0 RT	418982.709 N	2273999.822 E	1.5	–	3	SS–2	23	56	–	–	–	–	–	–	–	–	16	A–1–b (VISUAL)
B–001–15	152+06	,	0 RT	418982.709 N	2273999.822 E	3	–	4.5	SS–3	18	56	41	33	8	18		NP	NP	NP	10	A–1–b (0)
B–001–15	152+06	,	0 RT	418982.709 N	2273999.822 E	4.5	–	6	SS–4	15	33	–	–	–	–	–	–	–	–	9	A–4a (VISUAL)
B–001–15	152+06	,	0 RT	418982.709 N	2273999.822 E	6	–	7.5	SS–5	16	89	46	9	3	42		NP	NP	NP	9	A–4a (1)
B–002–15	155+95	,	25 RT	418944.748 N	2274387.339 E	1.5	–	3	SS–1	29	44	–	–	–	–	–	–	–	–	9	A–4a (VISUAL)
B–002–15	155+95	,	25 RT	418944.748 N	2274387.339 E	3	–	4.5	SS–2	18	56	44	11	3	42		NP	NP	NP	8	A–4a (1)
B–002–15	155+95	,	25 RT	418944.748 N	2274387.339 E	4.5	–	6	SS–3	25	44	–	–	–	–	–	–	–	–	5	A–2–4 (VISUAL)
B–002–15	155+95	,	25 RT	418944.748 N	2274387.339 E	6	–	7.5	SS–4	34	89	42	24	5	29		NP	NP	NP	6	A–2–4 (0)
B–002–15	155+95	,	25 RT	418944.748 N	2274387.339 E	7.5	–	9	SS–5	41	89	–	–	–	–	–	–	–	–	5	A–2–4 (VISUAL)
B–003–15	160+17	,	11 LT	418690.363 N	2274635.962 E	0.7	–	2.1	SS–1	–	47	–	–	–	–	–	–	–	–	10	A–4a (VISUAL)
B–003–15	160+17	,	11 LT	418690.363 N	2274635.962 E	2.1	–	3.6	SS–2	11	33	–	–	–	–	–	–	–	–	9	A–4a (VISUAL)
B–003–15	160+17	,	11 LT	418690.363 N	2274635.962 E	3.6	–	5.1	SS–3	13	50	43	15	4	38		NP	NP	NP	8	A–4a (1)
B–003–15	160+17	,	11 LT	418690.363 N	2274635.962 E	5.1	–	6.6	SS–4	11	33	–	–	–	–	–	–	–	–	8	A–4a (VISUAL)
B–003–15	160+17	,	11 LT	418690.363 N	2274635.962 E	7.5	–	9	SS–5	7	39	42	5	1	52		NP	NP	NP	15	A–4 (3)
B–004–15	167+76	,	68 RT	418331.494 N	2275252.821 E	1	–	2.5	SS–1	97	78	–	–	–	–	–	–	–	–	6	A–3a (VISUAL)
B–004–15	167+76	,	68 RT	418331.494 N	2275252.821 E	2.5	–	4	SS–2	28	100	–	–	–	–	–	–	–	–	9	A–3a (VISUAL)
B–004–15	167+76	,	68 RT	418331.494 N	2275252.821 E	4	–	5.5	SS–3	10	100	–	–	–	–	–	–	–	–	12	A–3a (VISUAL)
B–004–15	167+76	,	68 RT	418331.494 N	2275252.821 E	5.5	–	7	SS–4	8	100	15	4	4	35	42	32	21	11	14	A–6a (8)
B–004–15	167+76	,	68 RT	418331.494 N	2275252.821 E	7.5	–	9	SS–5	15	67	8	12	10	38	32	52	33	19	32	A–7–5 (13)
B–005–15	167+31	,	89 LT	418490.153 N	2275214.608 E	0.44	–	1.94	SS–1	23	56	–	–	–	–	–	–	–	–	5	A–1–b (VISUAL)
B–005–15	167+31	,	89 LT	418490.153 N	2275214.608 E	1.94	–	3.44	SS–2	13	28	–	–	–	–	–	–	–	–	13	A–4a (VISUAL)
B–005–15	167+31	,	89 LT	418490.153 N	2275214.608 E	3.44	–	4.94	SS–3	10	28	22	12	4	40	22	29	19	10	16	A–4a (5)
B–005–15	167+31	,	89 LT	418490.153 N	2275214.608 E	4.94	–	5.63	SS–4	–	25	–	–	–	–	–	–	–	–	18	A–1–b (VISUAL)
B–005–15	167+31	,	89 LT	418490.153 N	2275214.608 E	6.44	–	7.3	SS–5	7	67	1	9	8	42	40	44	24	20	34	A–7–6 (13)
B–005–15	167+31	,	89 LT	418490.153 N	2275214.608 E	7.3	–	7.94	SS–5			–	–	–	–	–	–	–	–	77	A–7–6 (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	1	–	1.33	SS–1	–	100	–	–	–	–	–	–	–	–	8	A–3a (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	1.4	–	2.9	SS–2	46	56	–	–	–	–	–	–	–	–	6	A–3 (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	2.9	–	3.6	SS–3	26	17	–	–	–	–	–	–	–	–	9	A–3 (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	3.6	–	4.4	SS–3			–	–	–	–	–	–	–	–	12	A–3 (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	4.4	–	5.9	SS–4	11	28	–	–	–	–	–	–	–	–	15	A–3 (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	5.9	–	7.4	SS–5	13	89	23	10	2	46	19	25	20	5	18	A–4a (6)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	7.5	–	9	SS–6	10	67	–	–	–	–	–	–	–	–	12	A–4a (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	9	–	10.5	SS–7	8	33	–	–	–	–	–	–	–	–	18	A–4a (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	10.5	–	12	SS–8	7	6	–	–	–	–	–	–	–	–	18	A–4a (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	12	–	13.5	SS–9	7	17	–	–	–	–	–	–	–	–	21	A–4a (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	13.5	–	15	SS–10	8	67	–	–	–	–	–	–	–	–	19	A–3a (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	16	–	17.5	SS–11	13	56	–	–	–	–	–	–	–	–	16	A–3a (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	18.5	–	20	SS–12	10	100	–	–	–	–	–	–	–	–	14	A–3a (VISUAL)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	21	–	22.5	SS–13	18	100	4	3	1	58	34	28	23	5	26	A–4b (8)
B–006–15	164+30	,	8 RT	418410.055 N	2274908.717 E	23.5	–	23.6	SS–14	–	100	–	–	–	–	–	–	–	–	5	Rock (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	1.5	–	2	SS–1	15	100	–	–	–	–	–	–	–	–	12	A–3 (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	2	–	3	SS–1			–	–	–	–	–	–	–	–	12	A–3 (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	3.5	–	4	SS–2	15	78	–	–	–	–	–	–	–	–	12	A–3a (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	4	–	5	SS–2			–	–	–	–	–	–	–	–	12	A–3a (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	6	–	7.5	SS–3	4	44	–	–	–	–	–	–	–	–	8	A–3a (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	8.5	–	9	SS–4	6	89	16	12	2	41	29	29	18	11	18	A–6a (7)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	9	–	10	SS–4			–	–	–	–	–	–	–	–	18	A–6a (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	11	–	12.5	SS–5	18	83	–	–	–	–	–	–	–	–	31	A–4b (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	13.5	–	14	SS–6	8	100	10	4	1	51	34	35	27	8	26	A–4b (8)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	14	–	15	SS–6			–	–	–	–	–	–	–	–	21	A–3 (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	16	–	16.8	SS–7	–	100	–	–	–	–	–	–	–	–	25	A–3 (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	16.8	–	17.3	SS–7			–	–	–	–	–	–	–	–	18	A–3 (VISUAL)
B–007–15	164+84	,	10 LT	418421.758 N	2274964.693 E	18.5	–	18.6	SS–8	–	100	–	–	–	–	–	–	–	–	–	A–1–a (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	2	–	3.5	SS–1	10	78	–	–	–	–	–	–	–	–	11	A–3a (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	3.5	–	5	SS–2	6	67	–	–	–	–	–	–	–	–	17	A–4b (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	5	–	6.5	SS–3	6	72	2	5	2	58	33	30	20	10	22	A–4b (8)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	6.5	–	8	SS–4	6	89	–	–	–	–	–	–	–	–	15	A–4b (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	8	–	9.5	SS–5	11	100	–	–	–	–	–	–	–	–	27	A–4b (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	9.5	–	11	SS–6	13	100	–	–	–	–	–	–	–	–	17	A–2–4 (VISUAL)

SUMMARY OF SOIL TEST DATA

12TH STREET IMPROVEMENTS

EXPLOR. ID	STATION	,	OFFSET	LAT/NORTH	LONG/EAST	FROM	–	TO	SAMPLE ID	N60	% REC	% GR	% CS	% FS	% SILT	% CLAY	LL	PL	PI	% WC	ODOT CLASS (GI)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	11	–	12.5	SS–7	10	33	41	26	4	29		NP	NP	NP	10	A–2–4 (0)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	12.5	–	14	SS–8	4	17	–	–	–	–	–	–	–	–	15	A–2–4 (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	14	–	15.5	SS–9	4	33	–	–	–	–	–	–	–	–	23	A–2–4 (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	15.5	–	17	SS–10	4	67	–	–	–	–	–	–	–	–	15	A–3 (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	17	–	18.5	SS–11	6	100	–	–	–	–	–	–	–	–	22	A–3 (VISUAL)
B–008–15	167+89	,	13 RT	418385.248 N	2275267.966 E	18.5	–	20	SS–12	11	100	–	–	–	–	–	–	–	–	23	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	1.5	–	2	SS–1	10	83	–	–	–	–	–	–	–	–	12	A–3a (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	2	–	3	SS–1			–	–	–	–	–	–	–	–	20	A–3a (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	3	–	4.2	SS–2	7	67	–	–	–	–	–	–	–	–	13	A–1–b (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	4.2	–	4.5	SS–2			–	–	–	–	–	–	–	–	7	A–3a (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	4.5	–	6	SS–3	3	11	–	–	–	–	–	–	–	–	9	A–3a (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	6	–	7.5	SS–4	7	56	–	–	–	–	–	–	–	–	14	A–2–6 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	7.5	–	8.5	SS–5	8	78	5	23	6	51	15	34	30	4	30	A–4b (6)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	8.5	–	9	SS–5			–	–	–	–	–	–	–	–	6	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	9	–	10.5	SS–6	17	78	9	13	10	52	16	41	38	3	44	A–5 (7)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	10.5	–	12	SS–7	10	67	–	–	–	–	–	–	–	–	9	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	12	–	13.5	SS–8	13	78	–	–	–	–	–	–	–	–	23	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	13.5	–	15	SS–9	18	6	–	–	–	–	–	–	–	–	26	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	15	–	16.5	SS–10	14	100	–	–	–	–	–	–	–	–	24	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	16.5	–	18	SS–11	14	100	–	–	–	–	–	–	–	–	27	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	18	–	19.5	SS–12	38	100	–	–	–	–	–	–	–	–	19	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	19.5	–	20	SS–13	–	100	–	–	–	–	–	–	–	–	18	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	20	–	20.65	SS–13			–	–	–	–	–	–	–	–	8	A–3 (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	21	–	21.4	SS–14	–	100	–	–	–	–	–	–	–	–	9	Rock (VISUAL)
B–009–15	168+90	,	6 LT	418400.617 N	2275369.330 E	23.5	–	23.8	SS–15	–	100	–	–	–	–	–	–	–	–	10	Rock (VISUAL)
B–010–15	167+17	,	491 LT	418891.729 N	2275217.415 E	0	–	1.5	SS–1	8	78	–	–	–	–	–	–	–	–	33	Topsoil (VISUAL)
B–010–15	167+17	,	491 LT	418891.729 N	2275217.415 E	1.5	–	3	SS–2	43	78	43	34	5	18		NP	NP	NP	9	A–1–b (0)
B–010–15	167+17	,	491 LT	418891.729 N	2275217.415 E	3	–	4.5	SS–3	27	100	–	–	–	–	–	–	–	–	13	Rock (VISUAL)
B–010–15	167+17	,	491 LT	418891.729 N	2275217.415 E	4.5	–	6	SS–4	21	17	–	–	–	–	–	–	–	–	9	Rock (VISUAL)
B–010–15	167+17	,	491 LT	418891.729 N	2275217.415 E	6	–	7.5	SS–5	43	100	–	–	–	–	–	–	–	–	7	Rock (VISUAL)
B–010–15	167+17	,	491 LT	418891.729 N	2275217.415 E	7.5	–	7.7	SS–6	–	1	–	–	–	–	–	–	–	–	3	Rock (VISUAL)
B–011–15	167+77	,	475 LT	418873.559 N	2275276.523 E	0	–	1.5	SS–1	8	17	–	–	–	–	–	–	–	–	12	A–2–6 (VISUAL)
B–011–15	167+77	,	475 LT	418873.559 N	2275276.523 E	1.5	–	3	SS–2	53	67	43	12	3	42		NP	NP	NP	13	A–4a (1)
B–011–15	167+77	,	475 LT	418873.559 N	2275276.523 E	3	–	4.5	SS–3	38	100	40	43	6	11		NP	NP	NP	8	A–1–b (0)
B–011–15	167+77	,	475 LT	418873.559 N	2275276.523 E	4.5	–	6	SS–4	6	11	–	–	–	–	–	–	–	–	15	Rock (VISUAL)
B–011–15	167+77	,	475 LT	418873.559 N	2275276.523 E	6	–	7.5	SS–5	8	78	–	–	–	–	–	–	–	–	16	Rock (VISUAL)
B–011–15	167+77	,	475 LT	418873.559 N	2275276.523 E	7.5	–	9	SS–6	17	100	–	–	–	–	–	–	–	–	21	Rock (VISUAL)
B–011–15	167+77	,	475 LT	418873.559 N	2275276.523 E	9	–	9.5	SS–7	–	100	–	–	–	–	–	–	–	–	30	Rock (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	0	–	1.5	SS–1	4	78	–	–	–	–	–		–	–	27	Topsoil (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	1.5	–	3	SS–2	10	67	–	–	–	–	–	–	–	–	10	A–2–4 (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	3	–	4.5	SS–3	7	100	43	21	7	29		NP	NP	NP	14	A–2–4 (0)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	4.5	–	6	SS–4	6	100	–	–	–	–	–	–	–	–	25	A–3 (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	6	–	7.5	SS–5	3	100	31	66	2	1		NP	NP	NP	26	A–1–b (0)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	7.5	–	9	SS–6	6	100	–	–	–	–	–	–	–	–	26	A–3 (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	9	–	10.5	SS–7	20	100	–	–	–	–	–	–	–	–	25	A–3 (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	10.5	–	12	SS–8	10	100	–	–	–	–	–	–	–	–	20	A–3 (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	12	–	13.2	SS–9	60	100	–	–	–	–	–	–	–	–	22	A–3 (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	13.2	–	13.5	SS–9			–	–	–	–	–	–	–	–	7	Rock (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	13.5	–	13.83	SS–10	–	100	–	–	–	–	–	–	–	–	8	Rock (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	16	–	16.3	SS–11	–	100	–	–	–	–	–	–	–	–	4	Rock (VISUAL)
B–012–15	168+45	,	57 LT	418453.384 N	2275326.915 E	18.5	–	18.6	SS–12	–	100	–	–	–	–	–	–	–	–	4	Rock (VISUAL)
B–013–15	169+46	,	113 RT	418279.385 N	2275420.492 E	1	–	2.5	SS–1	7	0	–	–	–	–	–	33	21	12	15	A–6a (VISUAL)
B–013–15	169+46	,	113 RT	418279.385 N	2275420.492 E	3.5	–	5	SS–2	4	78	–	–	–	–	–	45	31	14	36	A–6a (VISUAL)
B–013–15	169+46	,	113 RT	418279.385 N	2275420.492 E	6	–	7	SS–3	34	100	–	–	–	–	–	–	–	–	16	Rock (VISUAL)
B–013–15	169+46	,	113 RT	418279.385 N	2275420.492 E	7	–	7.5	SS–3			–	–	–	–	–	–	–	–	10	Rock (VISUAL)
B–013–15	169+46	,	113 RT	418279.385 N	2275420.492 E	8.5	–	10	SS–4	38	78	–	–	–	–	–	–	–	–	7	Rock (VISUAL)
B–013–15	169+46	,	113 RT	418279.385 N	2275420.492 E	11	–	12.5	SS–5	100	100	–	–	–	–	–	–	–	–	3	Rock (VISUAL)
B–013–15	169+46	,	113 RT	418279.385 N	2275420.492 E	13.5	–	14.3	SS–6	–	100	–	–	–	–	–	–	–	–	10	Rock (VISUAL)

DESIGN AGENCY
PROFESSIONAL SERVICE INDUSTRIES, INC.
4579 NAVARRE ROAD, SW
CANTON, OHIO 44706

PID NO. **90671**

SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
12TH STREET / MULTI PURPOSE TRAIL

12TH STREET IMPROVEMENTS

DRAWN HRJ
CHECKED

HORIZONTAL SCALE IN FEET
0 5 10 20 40

SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
12TH STREET PLAN AND PROFILE - STA. 149+00 TO 153+50

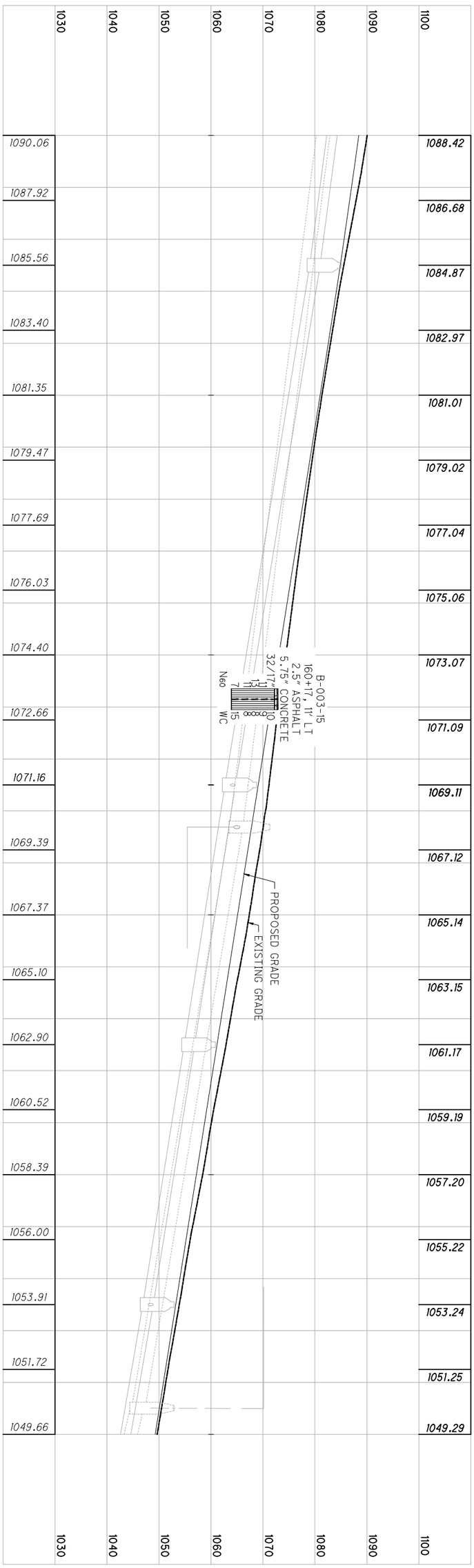
12TH STREET IMPROVEMENTS

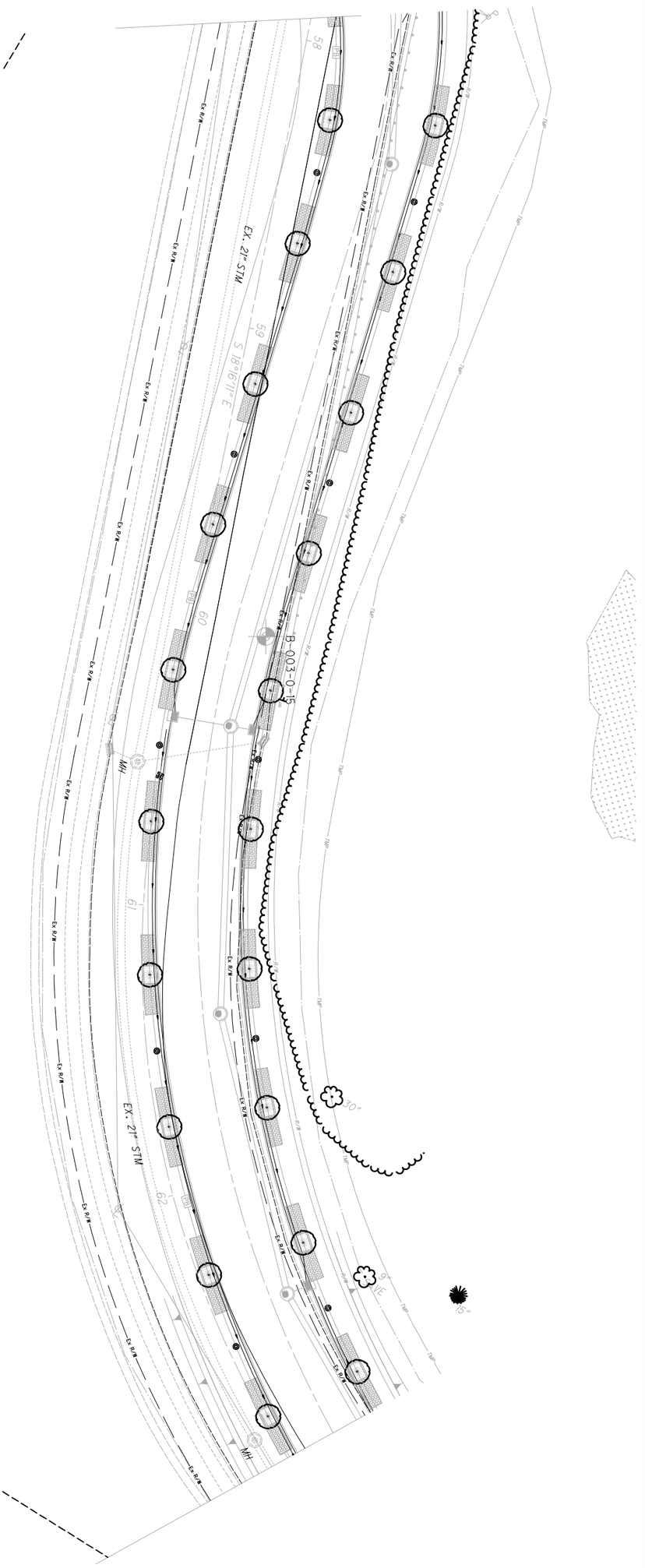
HORIZONTAL SCALE IN FEET
0 5 10 20 40

DRAWN HRJ
CHECKED

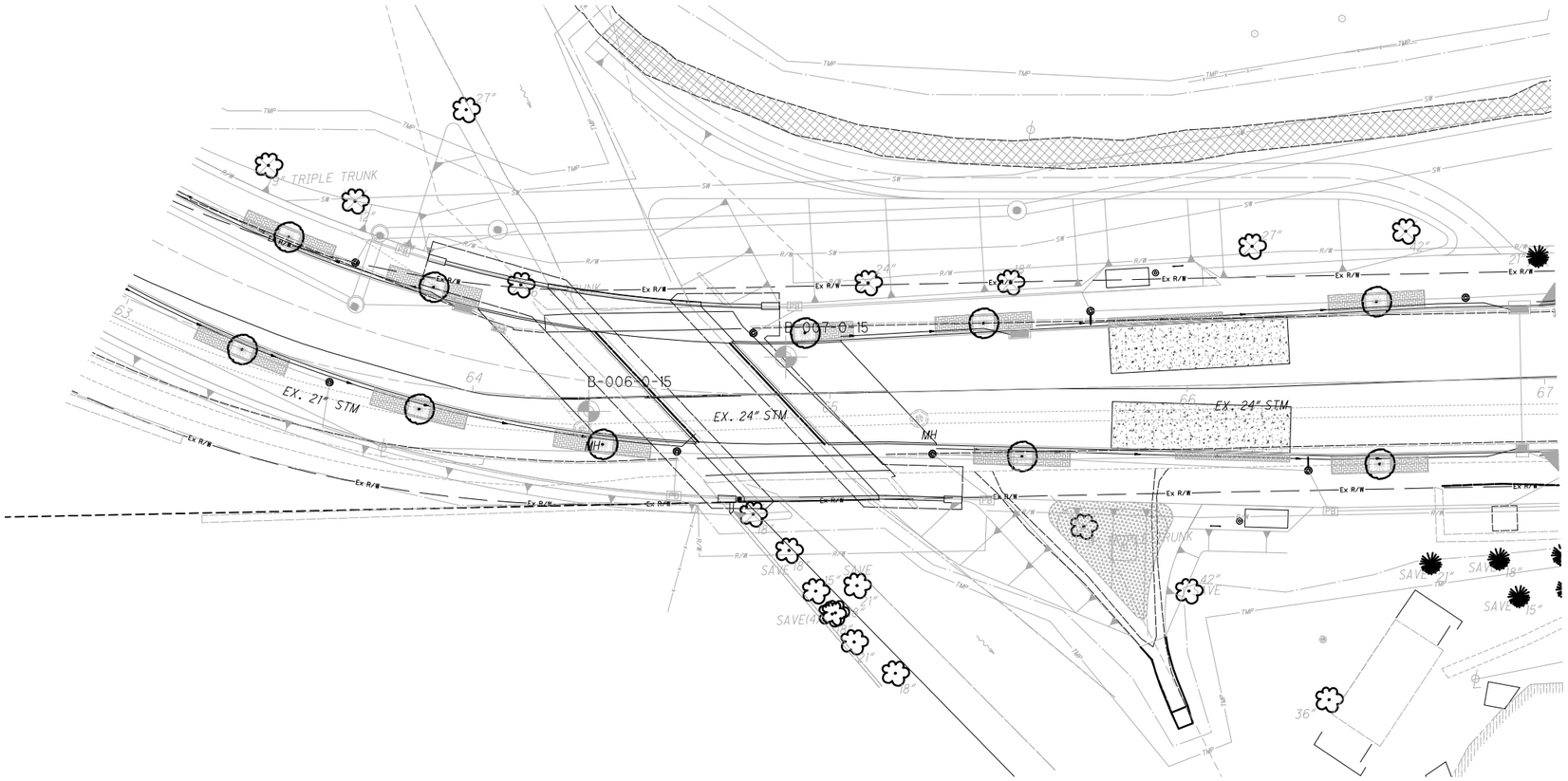
SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
12TH STREET PLAN AND PROFILE - STA. 153+50 TO STA. 158+00

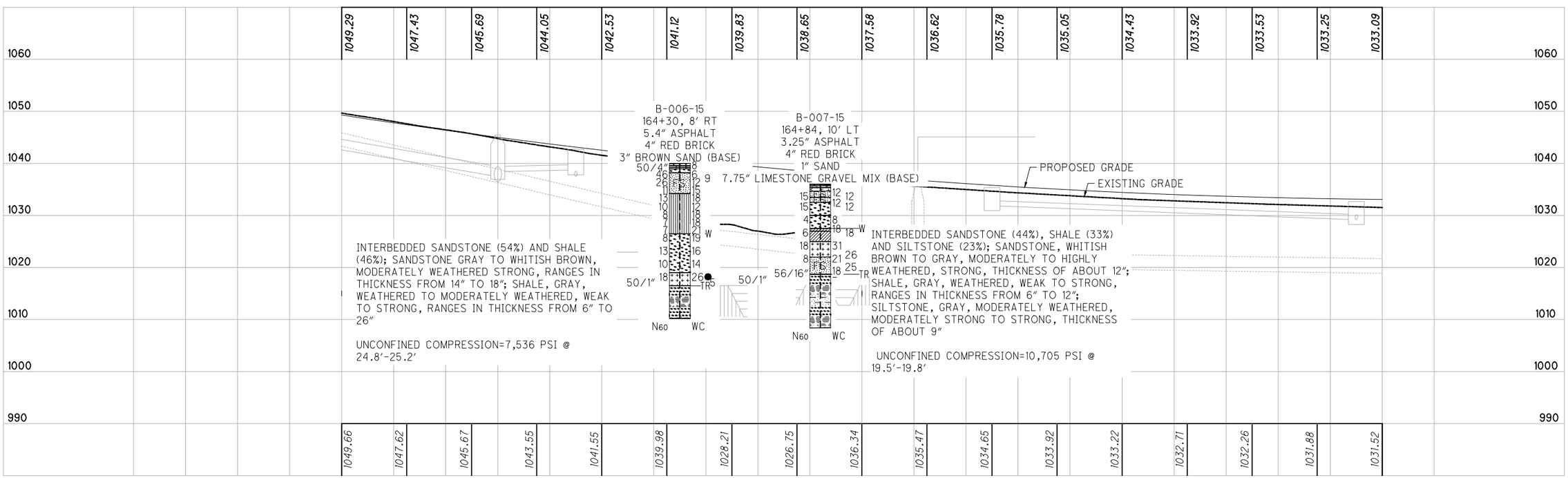
12TH STREET IMPROVEMENTS





5 / 20	**12TH STREET IMPROVEMENTS**	**SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION** **12 STREET PLAN AND PROFILE - STA. 158+00 TO STA. 163+00**	DRAWN HRJ CHECKED	0 10 20 40 5 HORIZONTAL SCALE IN FEET





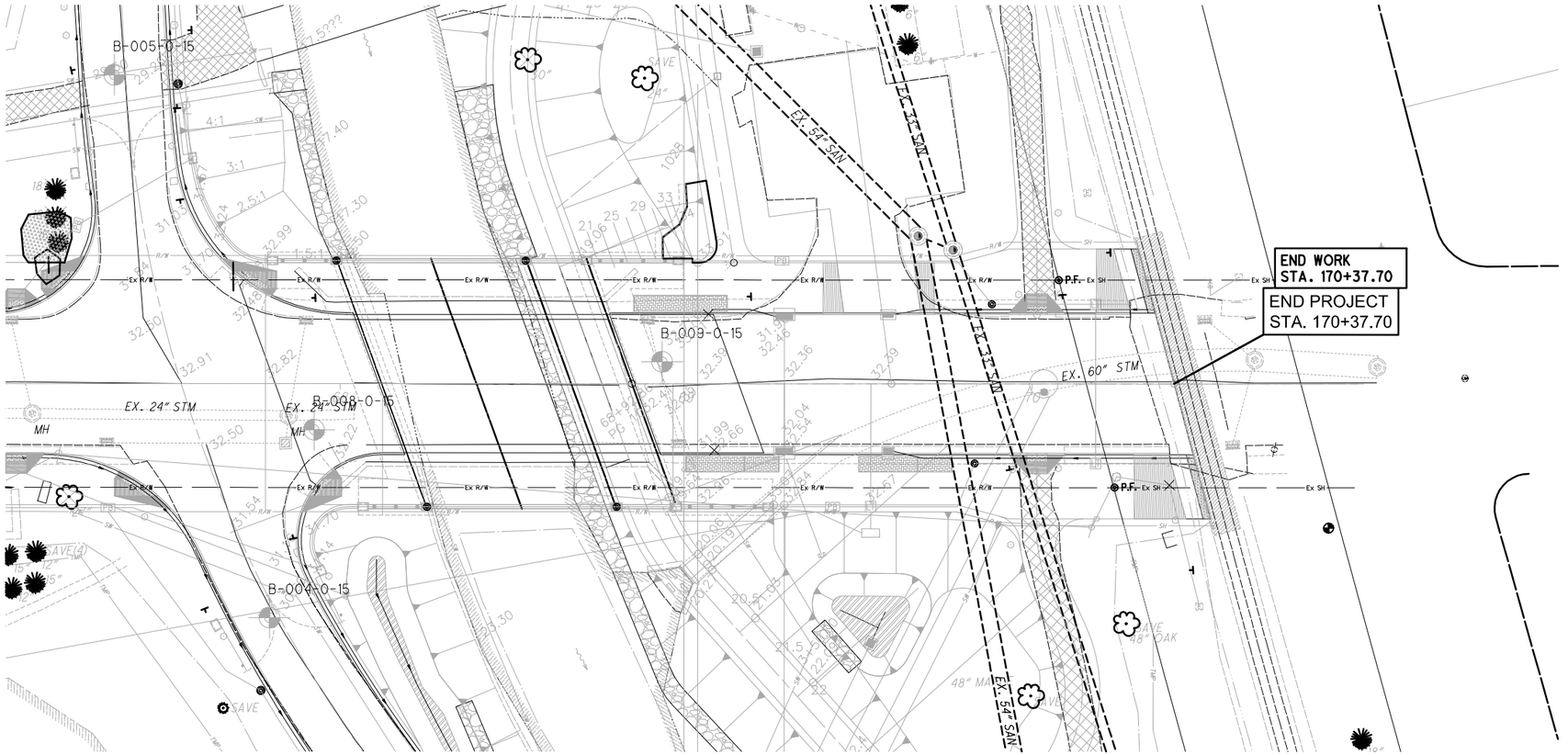
N

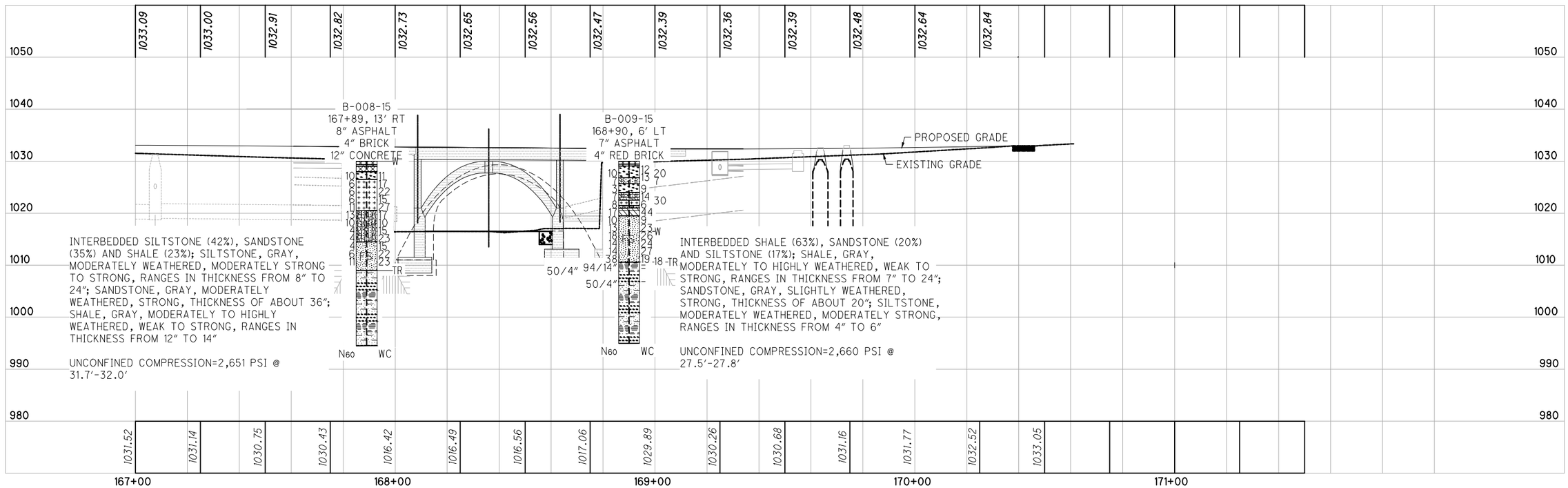
0 5 10 20 40
HORIZONTAL SCALE IN FEET

DRAWN HRJ | CHECKED

SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
12 STREET PLAN AND PROFILE - STA. 163+00 TO STA. 167+00

12TH STREET IMPROVEMENTS



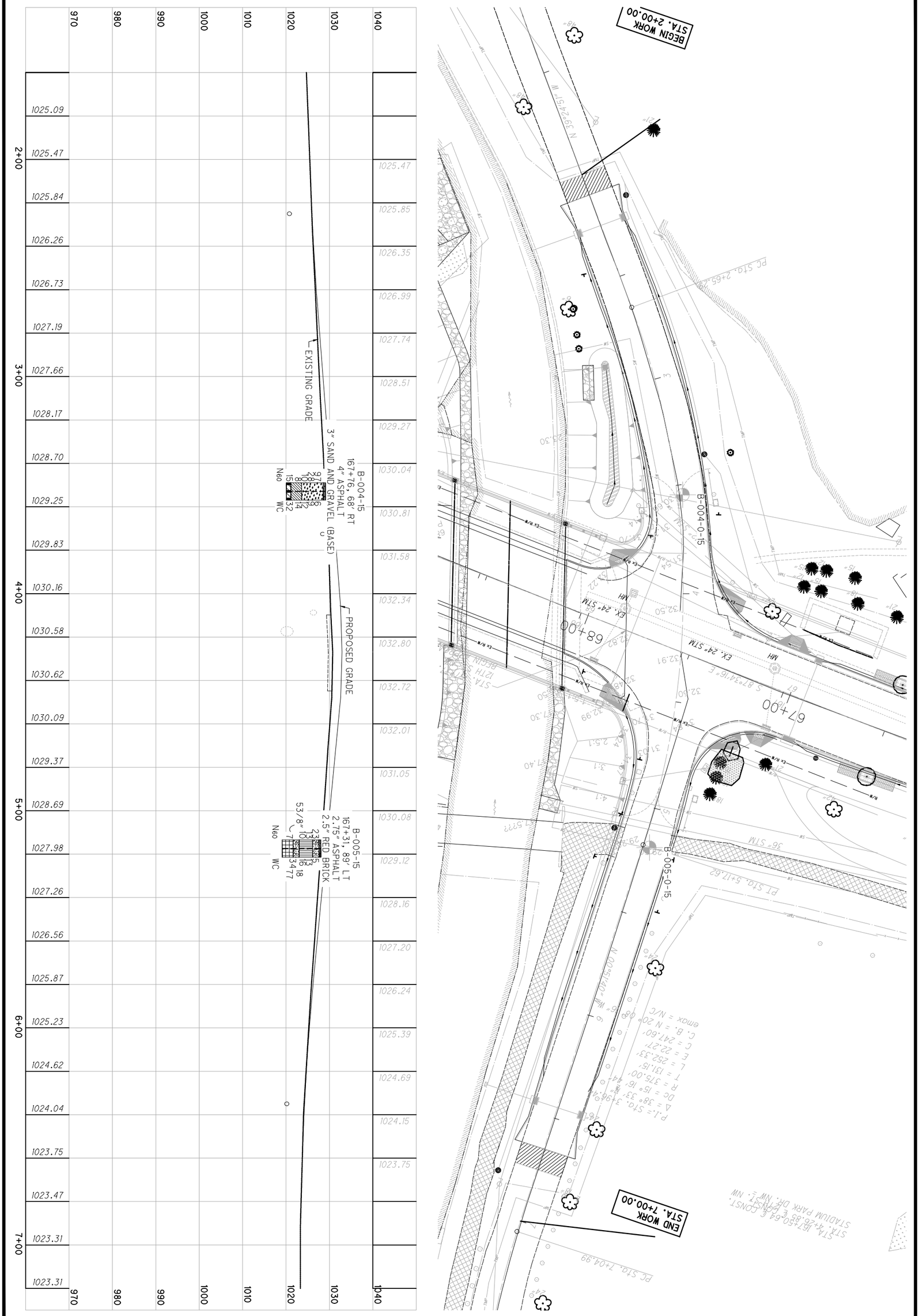


HORIZONTAL SCALE IN FEET
0 5 10 20 40

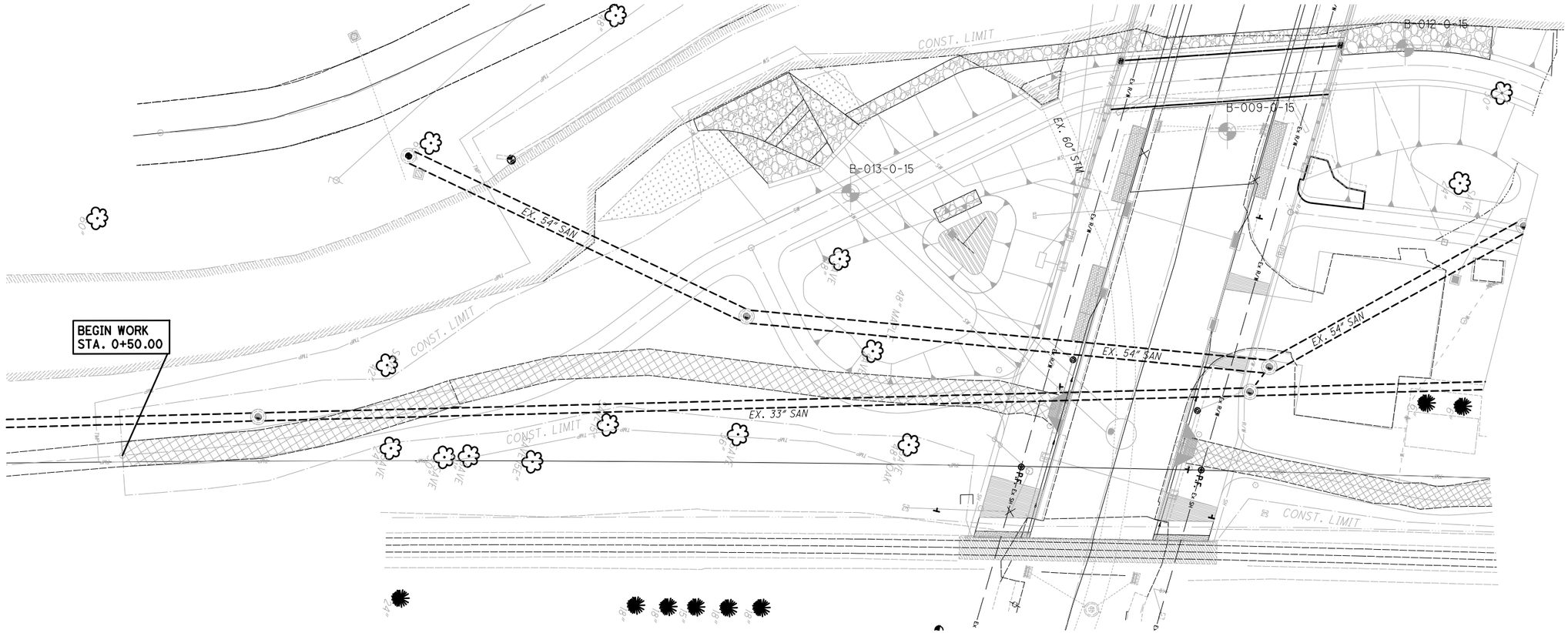
DRAWN HRJ
CHECKED

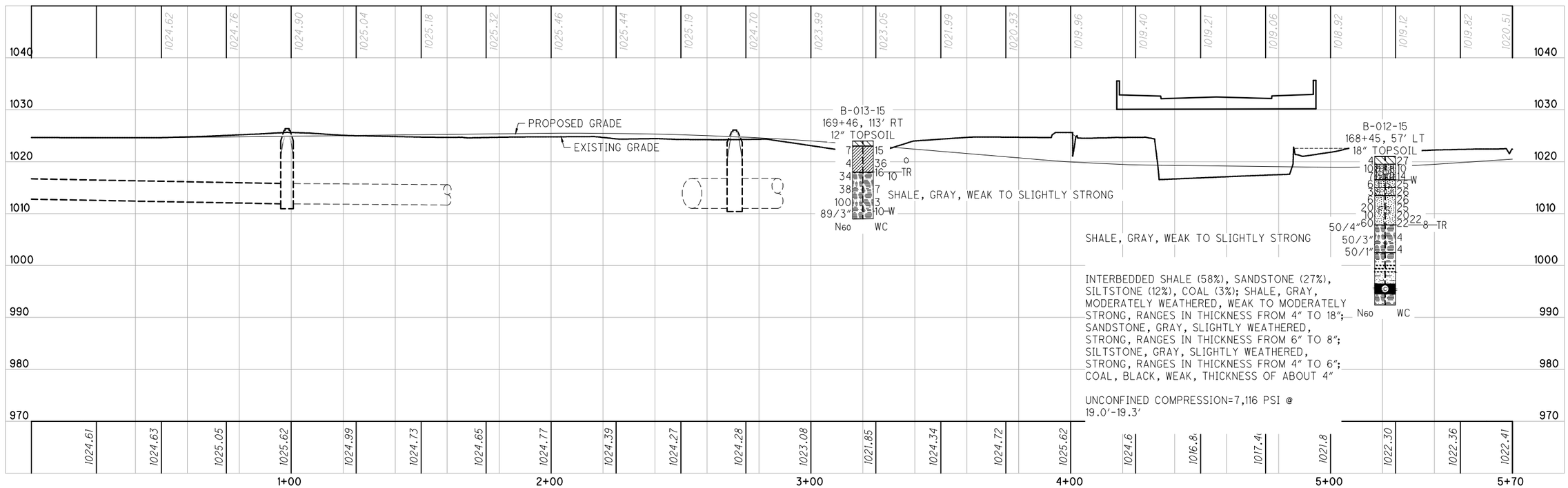
SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
12 STREET PLAN AND PROFILE - STA. 167+00.00 TO STA. 170+37.70

12TH STREET IMPROVEMENTS



	8 / 20	**12TH STREET IMPROVEMENTS**	**SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION** **STADIUM PARK DRIVE PLAN AND PROFILE - STA. 1+50.00 TO 7+50.00**	DRAWN HRJ CHECKED	0 10 20 40 5 HORIZONTAL SCALE IN FEET





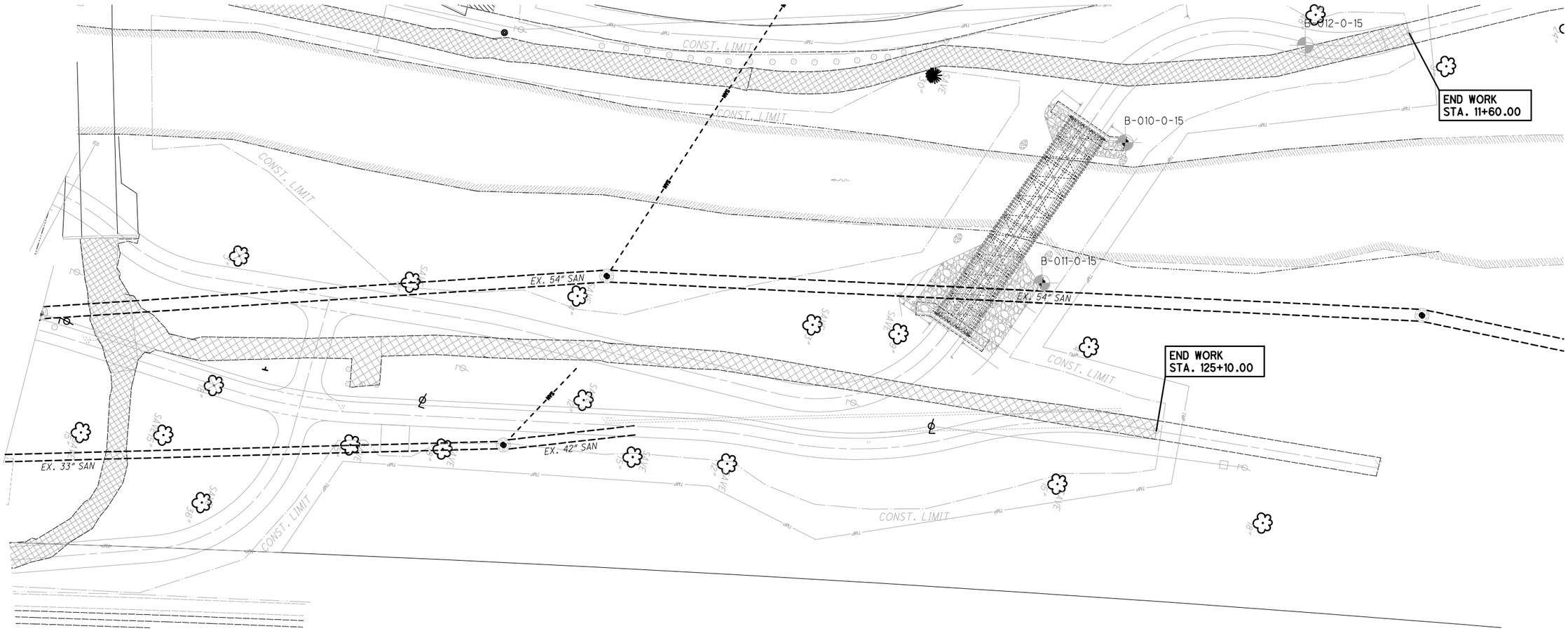
N

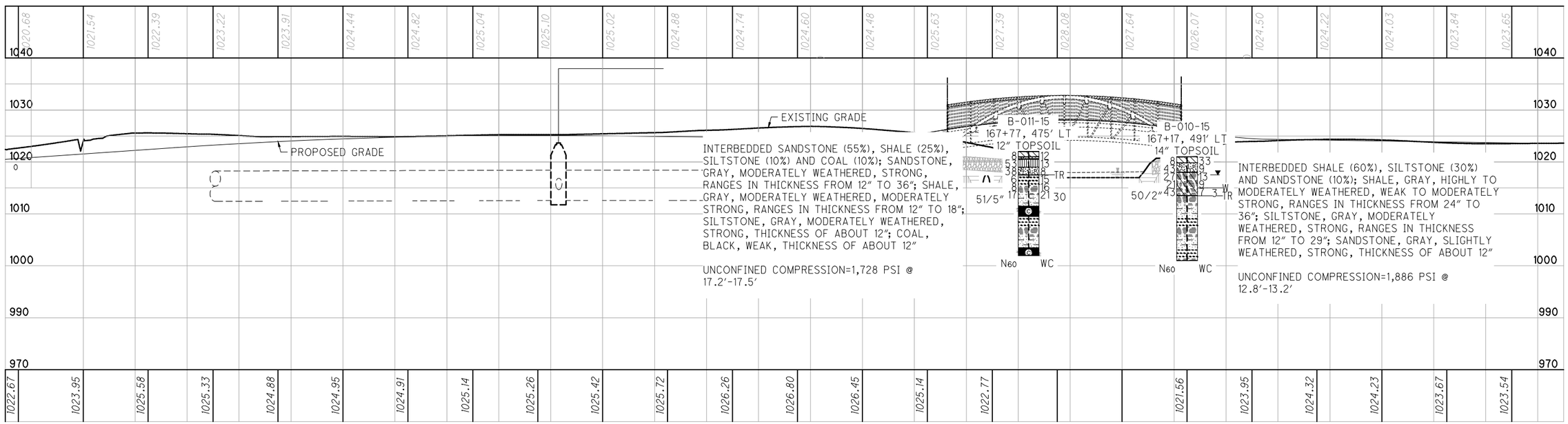
HORIZONTAL SCALE IN FEET
0 5 10 20 40

DRAWN HRJ
CHECKED

SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
MULTI-PURPOSE TRAIL PLAN AND PROFILE - STA. 0+00.00 TO STA. 5+70.00

12TH STREET IMPROVEMENTS





HORIZONTAL SCALE IN FEET
0 5 10 20 40

DRAWN HRJ
CHECKED

SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
MULTI-PURPOSE TRAIL PLAN AND PROFILE - STA. 5+70.00 TO STA. 11+60.00

12TH STREET IMPROVEMENTS

PROJECT: 12TH STREET IMPR. | DRILLING FIRM / OPERATOR: PSI / J.W. | DRILL RIG: D-50 NEW (2013) | STATION / OFFSET: 152+06, 0 RT | EXPLORATION ID B-001-15
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: PSI / E. OLSON | HAMMER: SAFETY HAMMER | ALIGNMENT: CL | PAGE 1 OF 1
PID: 90671 BR ID: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 7/10/13 | ELEVATION: 1110.1 (MSL) EOB: 9.0 ft.
START: 12/22/14 END: 12/22/14 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 98.3 | COORD: 418982.709 N, 2273999.822 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1110.1	DEPTHS	SPT/RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ASPHALT 3"	1109.9																	
1/2" VOID	1109.8																	
4" RED BRICKS	1109.5																	
BROWN 2 1/2" SAND	1109.3																	
VERY DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, (BASE), MOIST	1108.6	1	50/3"	–	100	SS-1	–	–	–	–	–	–	–	–	–	13	A-1-b (V)	
MEDIUM DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, TRACE SILT AND CLAY, MOIST		2	4 6 8	23	56	SS-2	–	–	–	–	–	–	–	–	–	16	A-1-b (V)	
		3																
		4	7 6 5	18	56	SS-3	–	41	33	8	– 18 –		NP	NP	NP	10	A-1-b (0)	
	1105.6																	
STIFF TO VERY STIFF, BROWN, SANDY SILT, WITH GRAVEL, MOIST		5	6 5 4	15	33	SS-4	–	–	–	–	–	–	–	–	–	9	A-4a (V)	
		6																
		7	5 6 4	16	89	SS-5	–	46	9	3	– 42 –		NP	NP	NP	9	A-4a (1)	
		8																
	1101.1	EOB 9																

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR. | DRILLING FIRM / OPERATOR: PSI / J.W. | DRILL RIG: D-50 NEW (2013) | STATION / OFFSET: 155+95, 25 RT | EXPLORATION ID B-002-15
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: PSI / E. OLSON | HAMMER: SAFETY HAMMER | ALIGNMENT: CL | PAGE 1 OF 1
PID: 90671 BR ID: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 7/10/13 | ELEVATION: 1099.7 (MSL) EOB: 9.0 ft.
START: 12/22/14 END: 12/22/14 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 98.3 | COORD: 418944.748 N, 2274387.339 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1099.7	DEPTHS	SPT/RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
3.5" ASPHALT	1099.4																	
4" RED BRICK	1099.1																	
7" SAND (BASE)	1098.4	1																
VERY STIFF, BROWN, SANDY SILT, WITH GRAVEL AND ROCK FRAGMENTS, MOIST		2	9 10 8	29	44	SS-1	–	–	–	–	–	–	–	–	–	9	A-4a (V)	
		3																
		4	6 5 6	18	56	SS-2	–	44	11	3	– 42 –		NP	NP	NP	8	A-4a (1)	
	1095.2																	
MEDIUM DENSE TO DENSE, BROWN, GRAVEL AND/OR STONE FRAGMENTS WITH SAND AND SILT, MOIST		5	10 9 6	25	44	SS-3	–	–	–	–	–	–	–	–	–	5	A-2-4 (V)	
		6																
		7	1 10 11	34	89	SS-4	–	42	24	5	– 29 –		NP	NP	NP	6	A-2-4 (0)	
		8	20 13 12	41	89	SS-5	–	–	–	–	–	–	–	–	–	5	A-2-4 (V)	
	1090.7	EOB 9																

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR. | DRILLING FIRM / OPERATOR: PSI / J.W. | DRILL RIG: D-50 NEW (2013) | STATION / OFFSET: 160+17, 11 LT | EXPLORATION ID B-003-15
TYPE: ROADWAY | SAMPLING FIRM / LOGGER: PSI / E. OLSON | HAMMER: SAFETY HAMMER | ALIGNMENT: CL | PAGE 1 OF 1
PID: 90671 BR ID: | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 7/10/13 | ELEVATION: 1072.9 (MSL) EOB: 9.0 ft.
START: 12/19/15 END: 12/19/15 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 98.3 | COORD: 418690.363 N, 2274635.962 E

MATERIAL DESCRIPTION AND NOTES	ELEV. 1072.9	DEPTHS	SPT/RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
2.5" ASPHALT	1072.7																	
5.75" CONCRETE	1072.2																	
MEDIUM STIFF TO STIFF, DARK BROWN, SANDY SILT, SOME TO WITH ROCK FRAGMENTS AND GRAVEL, MOIST		1	8 11 13/5"	–	47	SS-1	–	–	–	–	–	–	–	–	–	10	A-4a (V)	
		2																
		3	7 4 3	11	33	SS-2	–	–	–	–	–	–	–	–	–	9	A-4a (V)	
		4																
		5	6 3 5	13	50	SS-3	–	43	15	4	– 38 –		NP	NP	NP	8	A-4a (1)	
		6																
		7	5 3 4	11	33	SS-4	–	–	–	–	–	–	–	–	–	8	A-4a (V)	
		8																
	1063.9	EOB 9	2 2 2	7	39	SS-5	–	42	5	1	– 52 –		NP	NP	NP	15	A-4 (3)	

NOTES: NONE
ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / T.S.	DRILL RIG: CME-55 ATV (2013)	STATION / OFFSET: 167+76, 68 RT	EXPLORATION ID B-004-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: CME AUTOMATIC	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 7/10/13	ELEVATION: 1029.1 (MSL) EOB: 9.0 ft.	PAGE 1 OF 1
START: 1/12/15 END: 1/12/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.1	COORD: 418331.494 N, 2275252.821 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1029.1	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
ASPHALT 4"	1028.8																	
3" SAND AND GRAVEL (BASE)	1028.5																	
LOOSE TO MEDIUM DENSE, BROWN AND BLACK, COARSE AND FINE SAND, LITTLE TO SOME GRAVEL, TRACE SILT AND CLAY, MOIST		1	38 44 25	97	78	SS-1	-	-	-	-	-	-	-	-	-	6	A-3a (V)	
		2																
		3	11 9 11	28	100	SS-2	-	-	-	-	-	-	-	-	-	9	A-3a (V)	
		4																
	1023.6	5	5 4 3	10	100	SS-3	-	-	-	-	-	-	-	-	-	12	A-3a (V)	
MEDIUM STIFF, BROWN, SILT AND CLAY, LITTLE TO SOME SAND AND GRAVEL, MOIST		6	2 3 3	8	100	SS-4	-	15	4	4	35	42	32	21	11	14	A-6a (8)	
	1021.1	7																
STIFF, BLACK, ELASTIC CLAY, TRACE GRAVEL, SOME SAND, MOIST		8	5 6 5	15	67	SS-5	-	8	12	10	38	32	52	33	19	32	A-7-5 (13)	
	1020.1	EOB 9																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / J.W.	DRILL RIG: D-50 NEW (2013)	STATION / OFFSET: 167+31, 89 LT	EXPLORATION ID B-005-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: SAFETY HAMMER	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 7/10/13	ELEVATION: 1028.0 (MSL) EOB: 8.9 ft.	PAGE 1 OF 1
START: 12/22/15 END: 12/22/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 98.3	COORD: 418490.153 N, 2275214.608 E	

MATERIAL DESCRIPTION AND NOTES	ELEV. 1028.0	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
2.75" ASPHALT	1027.8																	
2.5" RED BRICK	1027.5																	
MEDIUM DENSE, LIGHT GRAY, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, MOIST	1026.1	1	56 8 6	23	56	SS-1	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
STIFF, BROWN, SANDY SILT, LITTLE TO SOME GRAVEL, MOIST		2	7 4 4	13	28	SS-2	-	-	-	-	-	-	-	-	-	13	A-4a (V)	
		3																
		4	4 3 3	10	28	SS-3	-	22	12	4	40	22	29	19	10	16	A-4a (5)	
	1023.0	5																
VERY DENSE, LIGHT GRAY, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, MOIST	1021.6	6	3 50/2"	-	25	SS-4	-	-	-	-	-	-	-	-	-	18	A-1-b (V)	
MEDIUM STIFF, DARK BROWN TO BLACK, CLAY, TRACE TO LITTLE SAND AND GRAVEL, MOIST TO WET		7	2 1 3	7	67	SS-5	-	1	9	8	42	40	44	24	20	34	A-7-6 (13)	
							-	-	-	-	-	-	-	-	-	77	A-7-6 (V)	
	1019.1	EOB 8																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / J.W.	DRILL RIG: D-50 NEW (2013)	STATION / OFFSET: 164+30, 8 RT	EXPLORATION ID B-006-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: SAFETY HAMMER	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 7/10/13	ELEVATION: 1040.0 (MSL) EOB: 29.8 ft.	PAGE 1 OF 1
START: 12/23/14 END: 12/23/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 98.3	COORD: 418410.055 N, 2274908.717 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
5 3/8" ASPHALT	1039.6						–	–	–	–	–	–	–	–	–	–		
4" RED BRICK	1039.2																	
3" BROWN SAND BASE	1039.0		50/4"	–	100	SS-1	–	–	–	–	–	–	–	–	–	8	A-3a (V)	
VERY DENSE, BROWN, COARSE AND FINE SAND, SOME GRAVEL AND ROCK FRAGMENTS, TRACE SILT, MOIST	1038.2		34 18 10	46	56	SS-2	– –	– –	– –	– –	– –	– –	– –	– –	– –	– 6	A-3 (V)	
MEDIUM DENSE, BROWN, FINE SAND, LITTLE TO SOME GRAVEL, TRACE TO LITTLE SILT, MOIST			9 6 10	26	17	SS-3	– –	– –	– –	– –	– –	– –	– –	– –	– –	9 –	A-3 (V)	
FS							–	–	–	–	–	–	–	–	–	12	A-3 (V)	
	1034.2		9 3 4	11	28	SS-4	– –	– –	– –	– –	– –	– –	– –	– –	– –	– 15	A-3 (V)	
MEDIUM STIFF TO STIFF, BROWN, SANDY SILT, LITTLE TO SOME GRAVEL, MOIST			8 4 4	13	89	SS-5	– –	– 23	– 10	– 2	– 46	– 19	– 25	– 20	– 5	– 18	A-4a (6)	
			3 3 3	10	67	SS-6	–	–	–	–	–	–	–	–	–	12	A-4a (V)	
			3 3 2	8	33	SS-7	–	–	–	–	–	–	–	–	–	18	A-4a (V)	
			3 2 2	7	6	SS-8	–	–	–	–	–	–	–	–	–	18	A-4a (V)	
	1026.5	W	3 2 2	7	17	SS-9	–	–	–	–	–	–	–	–	–	21	A-4a (V)	
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND, WITH GRAVEL, MOIST TO WET			4 3 2	8	67	SS-10	–	–	–	–	–	–	–	–	–	19	A-3a (V)	
			2 4 4	13	56	SS-11	–	–	–	–	–	–	–	–	–	16	A-3a (V)	
			3 3 3	10	100	SS-12	–	–	–	–	–	–	–	–	–	14	A-3a (V)	
	1019.0																	
VERY STIFF, BROWN, SILT, LITTLE CLAY, TRACE SAND AND GRAVEL, MOIST			3 3 8	18	100	SS-13	–	4	3	1	58	34	28	23	5	26	A-4b (8)	
	1016.5	TR																
INTERBEDDED SANDSTONE (54%) AND SHALE (46%); SANDSTONE GRAY TO WHITISH BROWN, MODERATELY WEATHERED STRONG, RANGES IN THICKNESS FROM 14 INCHES TO 18 INCHES; SHALE, GRAY, WEATHERED TO MODERATELY WEATHERED, WEAK TO STRONG, RANGES IN THICKNESS FROM 6 INCHES TO 26 INCHES			50/1"	–	100	SS-14	–	–	–	–	–	–	–	–	–	5	Rock (V)	
			55		100	NX-15											CORE	
UNCONFINED COMPRESSION = 7,536 PSI @ 24.8' – 25.2'			33		91	NX-16											CORE	
	1010.2	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / T.S.	DRILL RIG: CME-55 ATV (2013)	STATION / OFFSET: 164+84, 10 LT	EXPLORATION ID B-007-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: CME AUTOMATIC	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 7/10/13	ELEVATION: 1036.0 (MSL) EOB: 27.6 ft.	PAGE 1 OF 1
START: 12/30/15 END: 12/31/14	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.1	COORD: 418421.758 N, 2274964.693 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
3 1/4" ASPHALT	1036.0																	
4" RED BRICK	1035.8																	
1" SAND	1035.4																	
7 3/4" LIMESTONE GRAVEL MIX (BASE)	1035.3																	
MEDIUM DENSE, BROWN, FINE SAND, LITTLE TO SOME SILT AND CLAY, TRACE TO LITTLE GRAVEL, MOIST	1034.5	1	5 5 6	15	100	SS-1	–	–	–	–	–	–	–	–	–	12	A-3 (V)	
							–	–	–	–	–	–	–	–	–	12	A-3 (V)	
MEDIUM DENSE, DARK GRAY, FINE SAND, LITTLE TO SOME SILT AND CLAY, TRACE TO LITTLE GRAVEL, MOIST	1033.5	2					–	–	–	–	–	–	–	–	–	12	A-3a (V)	
MEDIUM DENSE, REDDISH BROWN, COARSE AND FINE SAND, LITTLE TO SOME GRAVEL AND ROCK FRAGMENTS, TRACE SILT AND CLAY, MOIST	1032.5	3	6 7 4	15	78	SS-2	–	–	–	–	–	–	–	–	–	12	A-3a (V)	
		4																
		5																
	1030.0	6																
VERY LOOSE, BROWN, COARSE AND FINE SAND, TRACE GRAVEL, MOIST			1 2 1	4	44	SS-3	–	–	–	–	–	–	–	–	–	8	A-3a (V)	
	1027.5	7																
		8																
VERY SOFT, BROWN, SILT AND CLAY, TRACE TO LITTLE SAND AND GRAVEL, MOIST	1027.0	W					–	16	12	2	41	29	29	18	11	18	A-6a (7)	
MEDIUM STIFF, GRAY, SILT AND CLAY, TRACE SAND AND GRAVEL, TRACE ORGANICS, MOIST		9	0 2 2	6	89	SS-4	–	–	–	–	–	–	–	–	–	18	A-6a (V)	
	1025.0	10																
VERY STIFF, GRAY, SILT, TRACE SAND AND GRAVEL, MOIST		11																
		12	0 12 1	18	83	SS-5	–	–	–	–	–	–	–	–	–	31	A-4b (V)	
	1022.0	13																
LOOSE TO MEDIUM DENSE, BROWNISH GRAY TO BLACK, FINE SAND, TRACE GRAVEL, MOIST TO WET		14					–	10	4	1	51	34	35	27	8	26	A-4b (8)	
			0 3 3	8	100	SS-6	–	–	–	–	–	–	–	–	–	21	A-3 (V)	
		15																
		16																
		17	2 4 50/4"	–	100	SS-7	–	–	–	–	–	–	–	–	–	25	A-3 (V)	
	1018.7	TR					–	–	–	–	–	–	–	–	–	18	A-3 (V)	
		18																
		19	50/1"	–	100	SS-8	–	–	–	–	–	–	–	–	–	–	A-1-a (V)	
UNCONFINED COMPRESSION = 10,705 PSI @ 19.5' – 19.8'		20																
INTERBEDDED SANDSTONE (44%), SHALE (33%), AND SILTSTONE (23%); SANDSTONE, WHITISH BROWN TO GRAY, MODERATELY TO HIGHLY WEATHERED, STRONG, THICKNESS OF ABOUT 12 INCHES; SHALE, GRAY, WEATHERED, WEAK TO STRONG, RANGES IN THICKNESS FROM 6 INCHES TO 12 INCHES; SILTSTONE, GRAY, MODERATELY WEATHERED, MODERATELY STRONG TO STRONG, THICKNESS OF ABOUT 9 INCHES		21															
		22																
		23	19		48	NX-9											CORE	
		24																
		25																
		26																
	1008.4	27 EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / T.S.	DRILL RIG: CME-55 ATV (2013)	STATION / OFFSET: 167+89, 13 RT	EXPLORATION ID B-008-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: CME AUTOMATIC	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 7/10/13	ELEVATION: 1030.0 (MSL) EOB: 35.5 ft.	PAGE 1 OF 1
START: 1/9/15 END: 1/9/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.1	COORD: 418385.248 N, 2275267.966 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
8" ASPHALT	1030.0																	
	1029.3																	
4" BRICK	1029.0																	
12" CONCRETE	1028.0																	
LOOSE, BROWN, COARSE AND FINE SAND, WITH GRAVEL, MOIST	1026.5		6 4 3	10	78	SS-1	–	–	–	–	–	–	–	–	–	11	A-3a (V)	
MEDIUM STIFF, BROWN TRACE GRAY, SILT, TRACE TO LITTLE SAND AND GRAVEL, MOIST	1020.5		2 2 2	6	67	SS-2	–	–	–	–	–	–	–	–	–	17	A-4b (V)	
			2 1 3	6	72	SS-3	–	2	5	2	58	33	30	20	10	22	A-4b (8)	
			3 2 2	6	89	SS-4	–	–	–	–	–	–	–	–	–	15	A-4b (V)	
			3 3 5	11	100	SS-5	–	–	–	–	–	–	–	–	–	27	A-4b (V)	
LOOSE TO MEDIUM DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT, MOIST TO WET	1014.5		3 5 4	13	100	SS-6	–	–	–	–	–	–	–	–	–	17	A-2-4 (V)	
			3 4 3	10	33	SS-7	–	41	26	4	29	–	NP	NP	NP	10	A-2-4 (0)	
			2 2 1	4	17	SS-8	–	–	–	–	–	–	–	–	–	15	A-2-4 (V)	
			0 1 2	4	33	SS-9	–	–	–	–	–	–	–	–	–	23	A-2-4 (V)	
VERY LOOSE TO LOOSE, BROWN, FINE SAND, TRACE GRAVEL, MOIST TO WET	1009.0	TR	1 1 2	4	67	SS-10	–	–	–	–	–	–	–	–	–	15	A-3 (V)	
			3 2 2	6	100	SS-11	–	–	–	–	–	–	–	–	–	22	A-3 (V)	
			2 4 4	11	100	SS-12	–	–	–	–	–	–	–	–	–	23	A-3 (V)	
INTERBEDDED SILTSTONE (42%), SANDSTONE (35%), AND SHALE (23%); SILTSTONE, GRAY, MODERATELY WEATHERED, MODERATELY STRONG TO STRONG, RANGES IN THICKNESS FROM 8 INCHES TO 24 INCHES; SANDSTONE, GRAY, MODERATELY WEATHERED, STRONG, THICKNESS OF ABOUT 36 INCHES; SHALE, GRAY, MODERATELY TO HIGHLY WEATHERED, WEAK TO STRONG, RANGES IN THICKNESS FROM 12 TO 14 INCHES.			10		25	NX-13											CORE	
UNCONFINED COMPRESSION = 2,651 PSI @ 31.7' – 32.0'			61		90	NX-14											CORE	
	994.5	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: IN. ASPHALT PATCH; BACKFILLED WITH SOIL CUTTINGS

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / J.W.	DRILL RIG: CME-55 ATV (2013)	STATION / OFFSET: 168+90, 6 LT	EXPLORATION ID B-009-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: CME AUTOMATIC	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 7/10/13	ELEVATION: 1030.0 (MSL) EOB: 35.0 ft.	PAGE 1 OF 1
START: 1/2/15 END: 1/2/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.1	COORD: 418400.617 N, 2275369.330 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
7" ASPHALT	1030.0																	
4" RED BRICK	1029.4																	
LOOSE, BROWN, COARSE AND FINE SAND, LITTLE TO SOME GRAVEL, LITTLE SILT AND CLAY, MOIST	1029.1		5	10	83	SS-1	–	–	–	–	–	–	–	–	–	12	A-3a (V)	
			3 4				–	–	–	–	–	–	–	–	–	20	A-3a (V)	
	1026.8																	
LOOSE, LIGHT BROWN, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, MOIST	1025.7		2 2 3	7	67	SS-2	–	–	–	–	–	–	–	–	–	13	A-1-b (V)	
							–	–	–	–	–	–	–	–	–	7	A-3a (V)	
VERY LOOSE, BROWN, COARSE AND FINE SAND, TRACE RED BRICK, MOIST	1024.0		2 1 1	3	11	SS-3	–	–	–	–	–	–	–	–	–	9	A-3a (V)	
LOOSE, LIGHT BROWN WITH BLACK AND BROWN, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY, MOIST	1022.5		4 3 2	7	56	SS-4	–	–	–	–	–	–	–	–	–	14	A-2-6 (V)	
MEDIUM STIFF, DARK GRAY, SILT, TRACE SAND AND GRAVEL, MOIST	1021.5		0 2 4	8	78	SS-5	–	5	23	6	51	15	34	30	4	30	A-4b (6)	
LOOSE, BROWN, FINE SAND, SOME GRAVEL, MOIST	1021.0						–	–	–	–	–	–	–	–	–	6	A-3 (V)	
STIFF, BROWN, ELASTIC SILT AND CLAY, TRACE TO LITTLE SILT, MOIST	1019.5		2 3 9	17	78	SS-6	–	9	13	10	52	16	41	38	3	44	A-5 (7)	
LOOSE TO MEDIUM DENSE, ORANGISH BROWN TO BROWN, FINE SAND, TRACE TO LITTLE GRAVEL, MOIST TO WET			2 3 4	10	67	SS-7	–	–	–	–	–	–	–	–	–	9	A-3 (V)	
			3 3 6	13	78	SS-8	–	–	–	–	–	–	–	–	–	23	A-3 (V)	
		W																
			5 6 7	18	6	SS-9	–	–	–	–	–	–	–	–	–	26	A-3 (V)	
			3 4 6	14	100	SS-10	–	–	–	–	–	–	–	–	–	24	A-3 (V)	
			3 3 7	14	100	SS-11	–	–	–	–	–	–	–	–	–	27	A-3 (V)	
			5 7 20	38	100	SS-12	–	–	–	–	–	–	–	–	–	19	A-3 (V)	
	1010.6	TR																
INTERBEDDED SHALE (63%), SANDSTONE (20%), SILTSTONE (17%); SHALE, GRAY, MODERATELY TO HIGHLY WEATHERED, WEAK TO STRONG, RANGES IN THICKNESS FROM 7 INCHES TO 24 INCHES; SANDSTONE, GRAY, SLIGHTLY WEATHERED, STRONG, THICKNESS OF ABOUT 20 INCHES; SILTSTONE, MODERATELY TO WEATHERED, MODERATELY TO STRONG, RANGES IN THICKNESS FROM 4 INCHES TO 6 INCHES.			9 35 50/2"	–	100	SS-13	–	–	–	–	–	–	–	–	–	18	A-3 (V)	
							–	–	–	–	–	–	–	–	–	8	A-3 (V)	
			50/4"	–	100	SS-14	–	–	–	–	–	–	–	–	–	9	Rock (V)	
			50/4"	–	100	SS-15	–	–	–	–	–	–	–	–	–	10	Rock (V)	
UNCONFINED COMPRESSION = 2,660 PSI @ 27.5' – 27.8'			23		58	NX-16											CORE	
	995.0	EOB																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / T.S.	DRILL RIG: CME-55 ATV (2013)	STATION / OFFSET: 167+17, 491 LT	EXPLORATION ID B-010-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: CME AUTOMATIC	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 7/10/13	ELEVATION: 1021.0 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 1/12/15 END: 1/12/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.1	COORD: 418891.729 N, 2275217.415 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
TOPSOIL 14" TOPSOIL	1021.0		0 1 5	8	78	SS-1	–	–	–	–	–	–	–	–	–	33		
	1019.8	1																
DENSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, TRACE TO LITTLE SILT AND CLAY, MOIST		2	6 18 13	43	78	SS-2	–	43	34	5	–	18 –	NP	NP	NP	9	A-1-b (0)	
	1018.0	3																
SHALE, GRAY, HIGHLY WEATHERED, VERY WEAK.		▼ 4	6 14 5	27	100	SS-3	–	–	–	–	–	–	–	–	–	13	Rock (V)	
		5	6 7 8	21	17	SS-4	–	–	–	–	–	–	–	–	–	9	Rock (V)	
		W 6	9 16 15	43	100	SS-5	–	–	–	–	–	–	–	–	–	7	Rock (V)	
	1013.5	7																
INTERBEDDED SHALE (60%), SILTSTONE (30%), SANDSTONE (10%); SHALE, GRAY, HIGHLY TO MODERATELY WEATHERED, WEAK TO MODERATELY STRONG, RANGES IN THICKNESS FROM 24 INCHES TO 36 INCHES; SILTSTONE, GRAY, MODERATELY WEATHERED, STRONG, RANGES IN THICKNESS FROM 12 INCHES TO 29 INCHES; SANDSTONE, GRAY, SLIGHTLY WEATHERED, STRONG, THICKNESS OF ABOUT 12 INCHES.		TR 8	50/2"	–	1	SS-6	–	–	–	–	–	–	–	–	–	3	Rock (V)	
		9	0		38	NX-7											CORE	
		10																
		11																
		12																
UNCONFINED COMPRESSION = 1,886 PSI @ 12.8' – 13.2'		13																
		14																
		15	21		72	NX-8											CORE	
		16																
		17																
		18																
		19																
	1001.0	EOB 20																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

12TH STREET IMPROVEMENTS

SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
12TH STREET BORINGS
BORING LOG B-010-15

DRAWN HRJ
CHECKED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / T.S.	DRILL RIG: CME-55 ATV (2013)	STATION / OFFSET: 167+77, 475 LT	EXPLORATION ID B-011-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: CME AUTOMATIC	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 7/10/13	ELEVATION: 1022.0 (MSL) EOB: 20.0 ft.	PAGE 1 OF 1
START: 1/6/15 END: 1/6/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.1	COORD: 418873.559 N, 2275276.523 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
12" TOPSOIL	1022.0																	
	1021.0		0 2 4	8	17	SS-1	–	–	–	–	–	–	–	–	–	12	A-2-6 (V)	
LOOSE, GRAY, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, SILT, AND CLAY (POSSIBLE FILL)	1020.5	1																
HARD, GRAY, SANDY SILT, WITH GRAVEL, MOIST		2	3 19 19	53	67	SS-2	–	43	12	3	42	–	NP	NP	NP	13	A-4a (1)	
	1019.0	3																
DENSE, GRAVEL AND/OR STONE FRAGMENTS WITH SAND, MOIST			23 21 6	38	100	SS-3	–	40	43	6	11	–	NP	NP	NP	8	A-1-b (0)	
	1017.5	4																
INTERBEDDED SANDSTONE (55%), SHALE (25%), SILTSTONE (10%) AND COAL (10%); SANDSTONE, GRAY, MODERATELY WEATHERED, STRONG, RANGES IN THICKNESS FROM 12 INCHES TO 36 INCHES; SHALE, GRAY, MODERATELY WEATHERED, MODERATELY STRONG, RANGES IN THICKNESS FROM 12 INCHES TO 18 INCHES; SILTSTONE, GRAY, MODERATELY WEATHERED, STRONG, THICKNESS OF ABOUT 12 INCHES; COAL, BLACK, WEAK, THICKNESS OF ABOUT 12 INCHES.		TR 5	2 2 2	6	11	SS-4	–	–	–	–	–	–	–	–	15	Rock (V)	
		6	2 3 3	8	78	SS-5	–	–	–	–	–	–	–	–	–	16	Rock (V)	
		7	3 5 7	17	100	SS-6	–	–	–	–	–	–	–	–	–	21	Rock (V)	
		8																
		9	51/5"	–	100	SS-7	–	–	–	–	–	–	–	–	–	30	Rock (V)	
		10																
		11																
		12																
		13																
		14																
		15	48		88	NX-8											CORE	
		16																
UNCONFINED COMPRESSION = 1,728 PSI @ 17.2' – 17.5'		17																
		18																
		19																
	1002.0	EOB 20																

NOTES: NONE

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

12TH STREET IMPROVEMENTS

SOIL PROFILE / STRUCTURE FOUNDATION EXPLORATION
12TH STREET BORINGS
BORING LOG B-011-15

DRAWN HRJ
CHECKED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / T.S.	DRILL RIG: CME-55 ATV (2013)	STATION / OFFSET: 168+45, 57 LT	EXPLORATION ID B-012-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: CME AUTOMATIC	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 7/10/13	ELEVATION: 1021.0 (MSL) EOB: 28.6 ft.	PAGE 1 OF 1
START: 1/6/15 END: 1/6/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.1	COORD: 418453.384 N, 2275326.915 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
TOPSOIL 18"	1021.0		0 1 2	4	78	SS-1	–	–	–	–	–	–	–	–	–	27		
	1019.5	1																
LOOSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND AND SILT, MOIST		2	3 4 3	10	67	SS-2	–	–	–	–	–	–	–	–	–	10	A-2-4 (V)	
		3	3 2 3	7	100	SS-3	–	43	21	7	– 29 –		NP	NP	NP	14	A-2-4 (0)	
	1016.5	4 W																
LOOSE, BROWN, FINE SAND, TRACE GRAVEL, WET		5	0 2 2	6	100	SS-4	–	–	–	–	–	–	–	–	–	25	A-3 (V)	
	1015.0	6																
VERY LOOSE, BROWN, GRAVEL AND STONE FRAGMENTS WITH SAND, TRACE SILT, MOIST		7	1 1 1	3	100	SS-5	–	31	66	2	– 1 –		NP	NP	NP	26	A-1-b (0)	
	1013.5	8																
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND, TRACE SILT, MOIST		9	1 1 3	6	100	SS-6	–	–	–	–	–	–	–	–	–	26	A-3 (V)	
		10	4 6 8	20	100	SS-7	–	–	–	–	–	–	–	–	–	25	A-3 (V)	
		11	1 3 4	10	100	SS-8	–	–	–	–	–	–	–	–	–	20	A-3 (V)	
		12	3 3 40	60	100	SS-9	–	–	–	–	–	–	–	–	–	22	A-3 (V)	
	1007.8	13 TR																
SHALE, GRAY, WEAK TO SLIGHTLY STRONG.		14	50/4"	–	100	SS-10	–	–	–	–	–	–	–	–	–	8	Rock (V)	
		15	50/3"	–	100	SS-11	–	–	–	–	–	–	–	–	–	4	Rock (V)	
	1002.5	16																
INTERBEDDED SHALE (58%), SANDSTONE (27%), SILTSTONE (12%), COAL (3%); SHALE, GRAY, MODERATELY WEATHERED, WEAK TO MODERATELY STRONG, MODERATELY WEATHERED, RANGES IN THICKNESS FROM 4 INCHES TO 18 INCHES; SANDSTONE, GRAY, SLIGHTLY WEATHERED, STRONG, RANGES IN THICKNESS FROM 6 INCHES TO 8 INCHES; SILTSTONE, GRAY, SLIGHTLY WEATHERED, STRONG, RANGES IN THICKNESS FROM 4 INCHES TO 6 INCHES; COAL, BLACK, WEAK, THICKNESS OF ABOUT 4 INCHES.		17	50/1"	–	100	SS-12	–	–	–	–	–	–	–	–	4	Rock (V)	
UNCONFINED COMPRESSION = 7,116 PSI @ 19.0' – 19.3'		18																
		19																
		20																
		21																
		22	15		83	NX-13											CORE	
		23																
		24																
		25																
		26																
		27																
	992.4	28 EOB																

NOTES: NONE

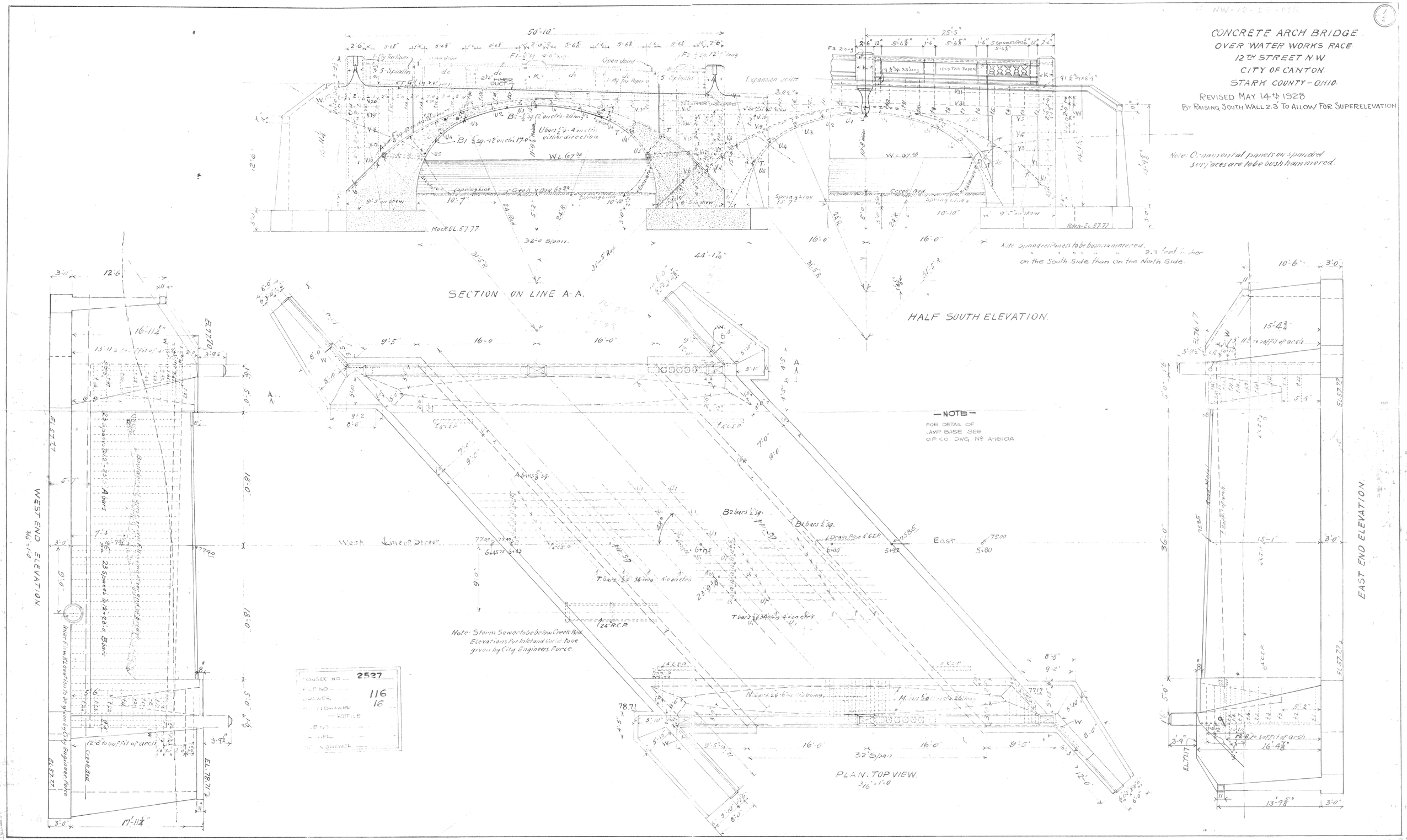
ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

PROJECT: 12TH STREET IMPR.	DRILLING FIRM / OPERATOR: PSI / T.S.	DRILL RIG: CME-55 ATV (2013)	STATION / OFFSET: 169+46, 113 RT	EXPLORATION ID B-013-15
TYPE: ROADWAY	SAMPLING FIRM / LOGGER: PSI / E. OLSON	HAMMER: CME AUTOMATIC	ALIGNMENT: CL	
PID: 90671 BR ID:	DRILLING METHOD: 3.25" HSA / NX	CALIBRATION DATE: 7/10/13	ELEVATION: 1024.0 (MSL) EOB: 15.0 ft.	PAGE 1 OF 1
START: 1/5/15 END: 1/5/15	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.1	COORD: 418279.385 N, 2275420.492 E	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N60	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%) GR	CS	FS	SI	CL	ATTERBERG LL	PL	PI	WC	ODOT CLASS (GI)	BACK FILL
TOPSOIL 12"	1024.0																	
	1023.0																	
SOFT TO MEDIUM STIFF, BROWN, SILT AND CLAY, TRACE TO LITTLE SAND AND GRAVEL, MOIST		1	2 3 2	7	0	SS-1	–	–	–	–	–	–	33	21	12	15	A-6a (V)	
		2																
		3																
		4	3 1 2	4	78	SS-2	–	–	–	–	–	–	45	31	14	36	A-6a (V)	
		5																
	1018.0	TR 6																
SHALE, GRAY, WEAK TO SLIGHTLY STRONG.			5 8 16	34	100	SS-3	–	–	–	–	–	–	–	–	–	16	Rock (V)	
		7					–	–	–	–	–	–	–	–	–	10	Rock (V)	
		8																
		9	11 12 15	38	78	SS-4	–	–	–	–	–	–	–	–	–	7	Rock (V)	
		10																
		11																
		12	14 29 42	100	100	SS-5	–	–	–	–	–	–	–	–	–	3	Rock (V)	
		13																
		W 14	39 50/3"	–	100	SS-6	–	–	–	–	–	–	–	–	–	10	Rock (V)	
	1009.0	EOB 15																

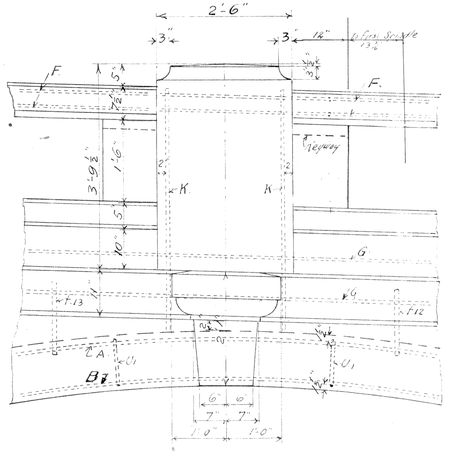
NOTES: NONE

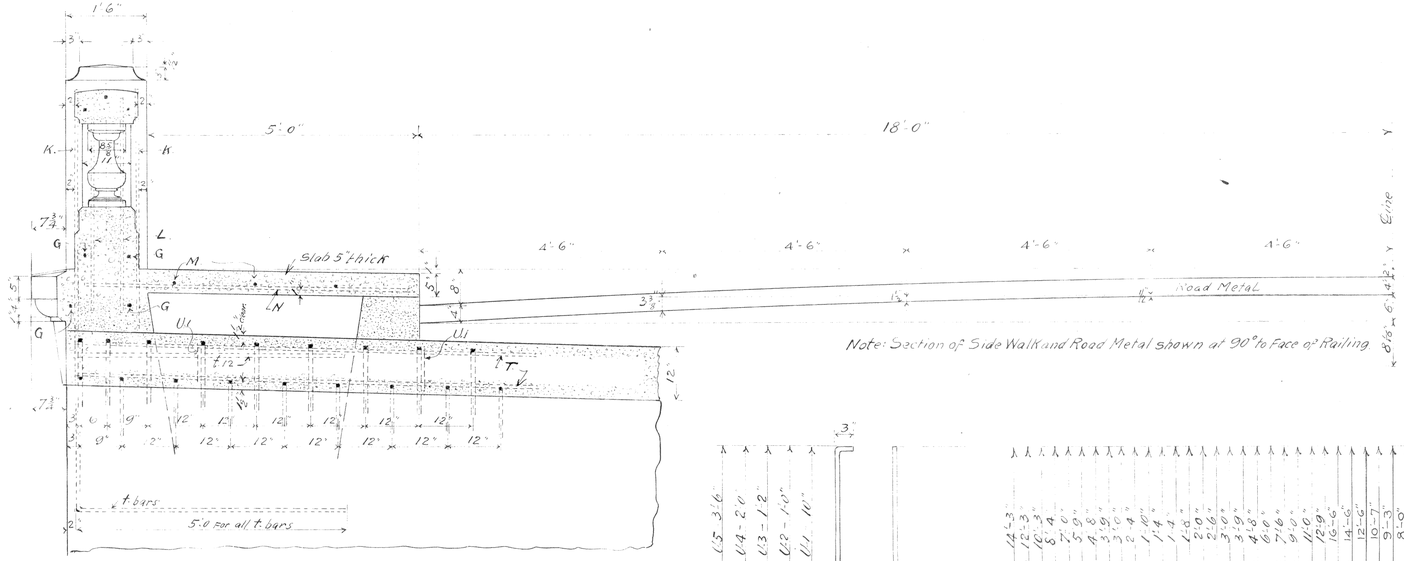
ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED


CONCRETE ARCH BRIDGE
OVER WATER WORKS RACE
12TH STREET N.W.
CITY OF CANTON.
STARK COUNTY - OHIO.
REVISED MAY 14th 1928
BY RAISING SOUTH WALL 2.3' TO ALLOW FOR SUPERELEVATION
Note: Ornamental panels on spandrel surfaces are to be bush hammered.
Note: Spandrel Panels to be bush hammered.
" " " " " 2.3 feet higher on the South Side than on the North Side.
SECTION ON LINE A-A.
HALF SOUTH ELEVATION.
WEST END ELEVATION
EAST END ELEVATION
PLAN. TOP VIEW.
—NOTE—
FOR DETAIL OF LAMP BASE SEE O.P. CO. DWG. No A-1610A
Note: Storm Sewer to be below Creek Bed Elevations for Inlet and Outlet to be given by City Engineers Force.
West ℄ Line of Street
East
32' Span
CONSEC NO 2527
FILE NO 116
DRAWER 16
NO IN DRAWER
REFILE

CONCRETE ARCH BRIDGE.
OVER WATER WORKS RACE.
12TH STREET N.W.
CITY OF CANTON.
STARK COUNTY - OHIO.

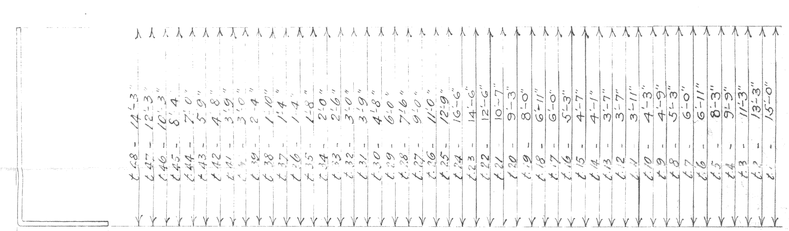
REVISED MAY 14th 1928
BY RAISING SOUTH WALL TO ALLOW FOR SUPERELEVATION



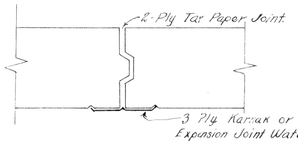


Note: Section of Side Walk and Road Metal shown at 90° to Face of Railing.

U-BARS



SPANDRAL BARS.



DETAIL OF EXPANSION JOINT
THRU SPANDREL WALL

Note:-
Waterproof all Expansion and Construction joints with 3 plies of Karnak or equal. Waterproof all concrete surfaces in contact with filling with 2 plys of Karnak or equal.

Forms:-
All Arch or Girder forms to be supported by falsework piling. Use of wires and pipe spreaders that remain concrete not permitted.

ESTIMATED QUANTITIES		
Dry Excavation & Backfill unclassified	445	CU YDS
Wet " " " "	896	" "
Concrete 1-6½ and 1-3½ mix	894	" "
" Railing 1-3½ mix	102	LIN FT
Reinforcing Steel	11001	LBS
Cast Iron Drain Pipe	36	LIN FT
~~R.C. Pipe 24" Diam.~~	~~72~~	~~" "~~
Boulder & gravel Fill for Weep Holes in Conc Arch	3	CU YDS
Surface Finish	115	~~SQ FT~~ SQ YDS
Sidewalk Finish	57	" "
Waterproofing	396	" "
~~Name Plates~~	~~2~~	

Proportions:
All Concrete in footers 1-6½ mix
All concrete to be 1-3½ Mix, except Railing and footers
Railing to be 1-3½ mix
5% Hydrated Lime mixed with all concrete

Note: All smooth surfaces exposed directly to view are to be rubbed with carborundum brick or Bush Hammer.
No Paving of Bridge Floor to be included in this contract.

CONCRETE ARCH BARS.						
Mark	No Reqd	Size	Bent or Straight	Total Length		Weight
A	133	⅝ Sq.	Bent	20'0"		4070
B1	100	½ Sq.	"	17'0"		1445
B2	50	"	"	20'0"		850
T	40	½ ϕ	Straight	34'0"		911
U1	36	"	Bent	1'4"		32
U2	36	"	"	1'6"		36
U3	36	"	"	1'8"		40
U4	36	"	"	2'6"		60
U5	36	"	"	4'0"		96
				Total		7540

SPANDRAL BARS AND WING BARS											
Mark	No Reqd	Size	Bent or Straight	Total Length		Weight	Mark	No Reqd	Size	Bent or Straight	Total Length	Weight
L 12-13 26-37	2	⅝ Sq.	Bent	8'-7"	33		V1.11	2	½ Sq.	Straight	2'3"	3
L 14 35	1	"	"	8'-11"	17		V2.12	2	"	"	4'-3"	7
L 15 38	1	"	"	8'-8"	13		V3.13	2	"	"	6'9	11
L 16 34	1	"	"	9'-1"	17		~~V4.14~~	~~2~~	"	"	~~10'7~~	~~17~~
L 10 39	1	"	"	6'-10"	13		~~V5.15~~	~~2~~	"	"	~~14'0~~	~~22~~
L 15 33	1	"	"	9'-7"	18		V6.16	2	"	"	3'6"	6
L 9 33	1	"	"	7'-4"	14		V 7	1	"	"	5'0"	4
L 8-16 L32-40	2	"	"	9'-5"	19		V 8	1	"	"	8'0	7
L 7-17 L31-41	2	"	"	7'-5"	14		~~V 9~~	~~1~~	"	"	~~11'8~~	~~10~~
L 6-18 L30-42	2	"	"	10'-3"	40		~~V10~~	~~1~~	"	"	~~15'8~~	~~14~~
L 19 L 43	1	"	"	8'-0"	30		V17	1	"	"	6'0"	5
L 5 L 29	1	"	"	11'-0"	42		V18	1	"	"	9'0"	8
L 20 L 44	1	"	"	8'-9"	34		~~V19~~	~~1~~	"	"	~~12'8~~	~~11~~
L 4 L 28	1	"	"	11'-11"	46		~~V20~~	~~1~~	"	"	~~18'8~~	~~16~~
L 21 L 45	1	"	"	9'-8"	36		W	16	½ Sq	Bent	9'0"	276
L 3 L 27	1	"	"	13'-0"	25						Total	339
L 22 L 46	1	"	"	10'-5"	21							
L 2 L 26	1	"	"	11'-0"	21		V.A.1A	2	½ Sq	Straight	8'9"	15
L 23 L 47	1	"	"	14'-3"	27		V.B.1B	2	"	"	8'9	15
L 1 L 25	1	"	"	12'-6"	24		V.2B3B	2	"	"	3'6"	4
L 24 L 48	1	"	"	15'-7"	30		V.1A	1	"	"	8'6"	7
				13'-4"	26		V.2A	1	"	"	8'6"	7
				16'-3"	31		V.2B	1	"	"	3'6"	3
				14'-0"	27		V.3A	1	"	"	9'0"	8
				17'-6"	34		V.1B	1	"	"	12'6"	10
				15'-3"	29		V.3B	1	"	"	12'0"	10
				18'-3"	35		V.2A	1	"	"	2'0"	2
				16'-0"	31		V.4	1	"	"	12'6"	10
				19'-6"	37		V.1A	1	"	"	12'0"	10
				17'-3"	33		V.2A	1	"	"	4'6"	4
				20'-0"	38		V.3A	1	"	"	4'0"	4
				17'-9"	34							
				21'-6"	41							
				19'-3"	37							
				Total	1098					Total		505

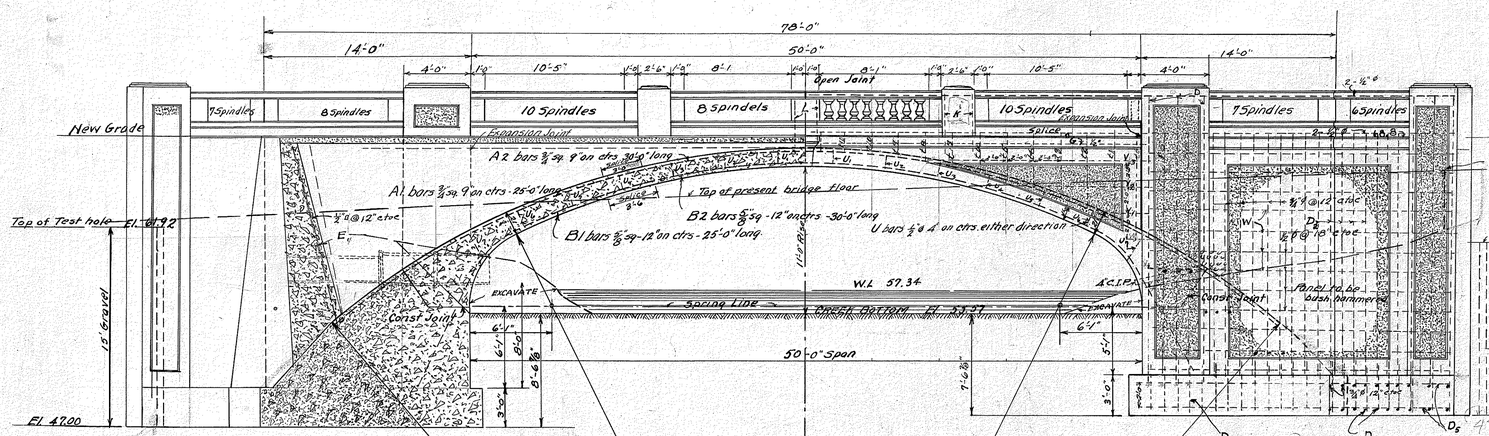
CURB AND RAILING BARS					
Mark	No Reqd	Size	Bent or Straight	Total Length	Weight
G	16	½ Sq	Straight	26'0"	354
F1	6	"	"	23'9"	121
F2	12	"	"	12'9"	130
K	24	"	"	4'6"	92
L	16	"	"	4'0"	54
				Total	751

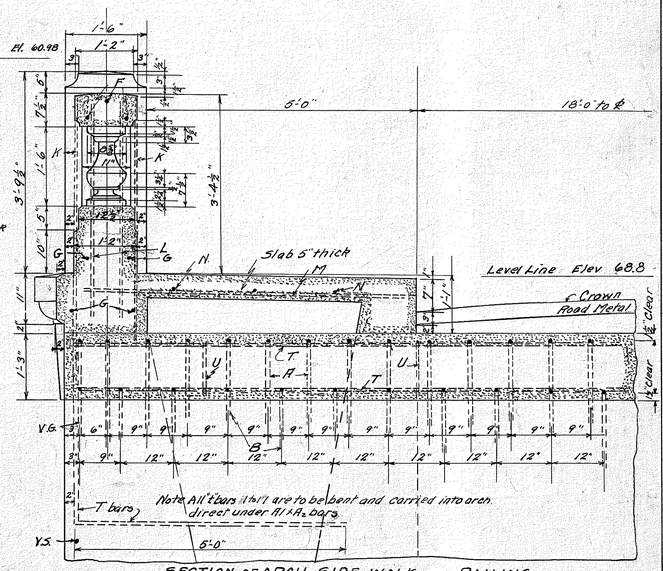
SIDE WALK BARS					
N	200	½ ϕ	"	6'0"	804
M	12	"	"	26'0"	265
				Total	1069

CURB AND RAILING BARS					
Mark	No Reqd	Size	Bent or Straight	Total Length	Weight
G	8	½ Sq	Straight	33'0"	279
G1	16	"	"	8'9"	149
F1	12	"	"	14'0"	168
F1A	12	"	"	7'0"	84
F3	12	"	"	2'0"	24
L	64	"	"	2'0"	128
N	64	"	"	4'6"	288
				TOTAL	1184

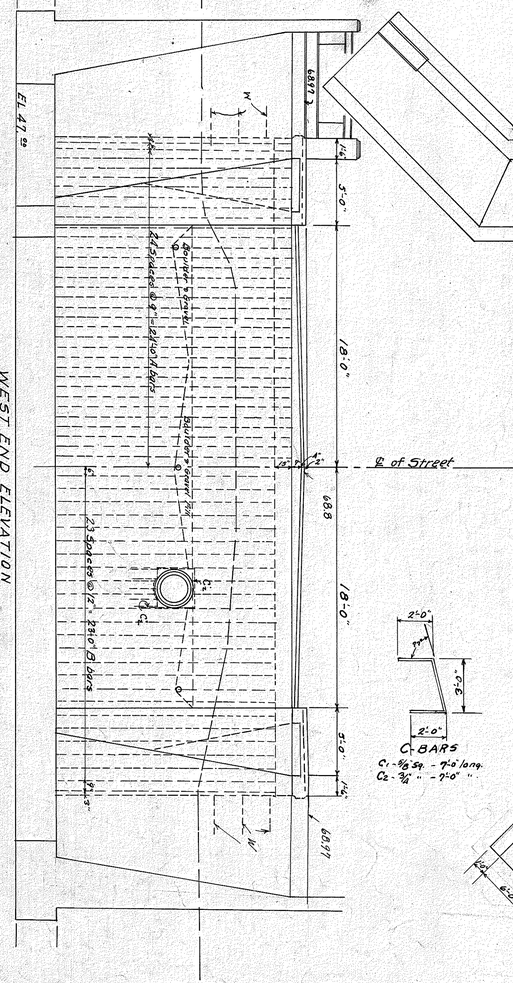
CONSC NO 2527
FILE NO
DRAWER 116
NO. IN DRAWER 16
— REFILE —
FILE NO
DRAWER
NO. IN DRAWER

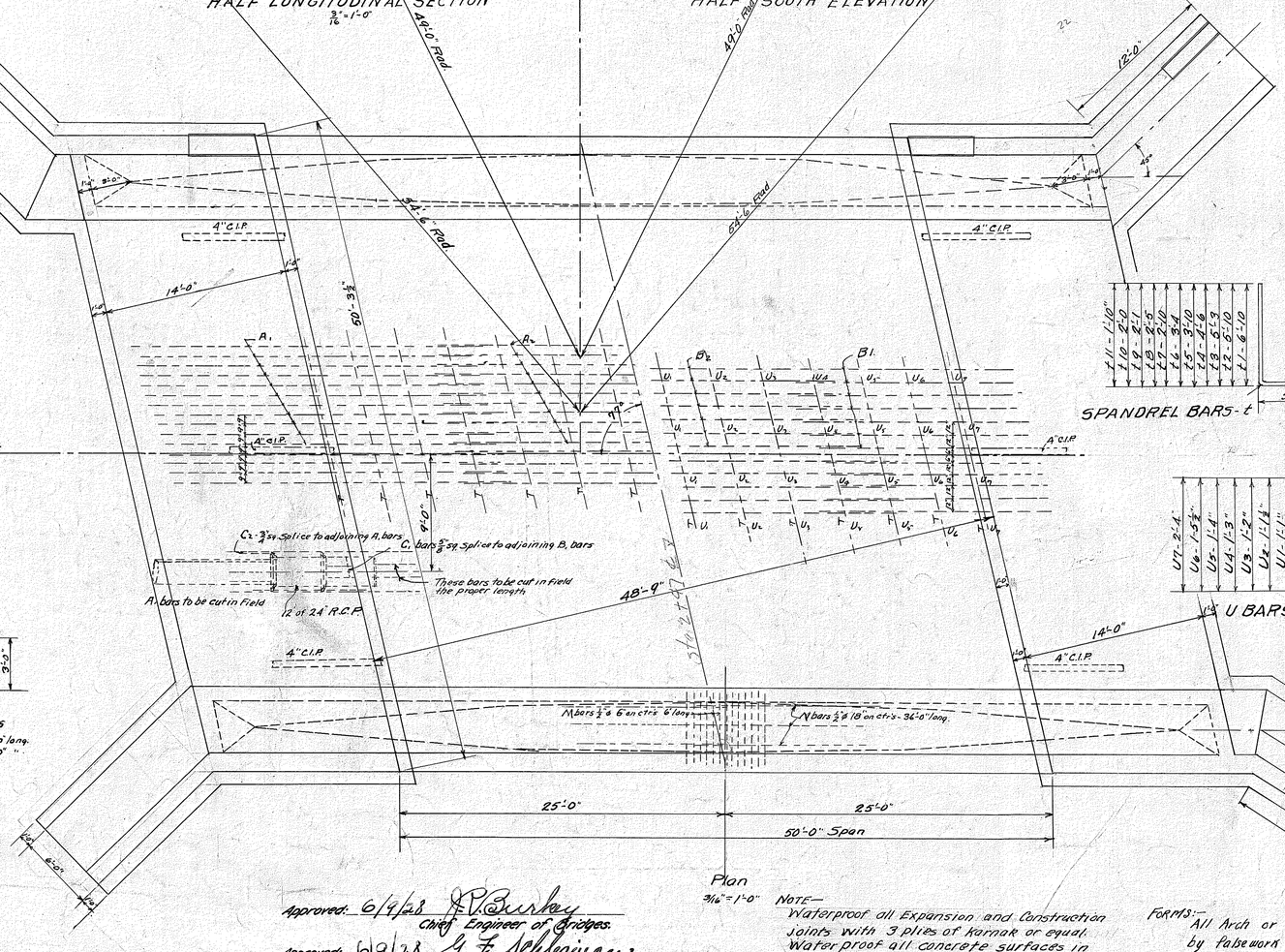
CONCRETE ARCH BRIDGE
OVER WEST BRANCH OF NIMISHILLEN CREEK
12TH STREET N.W.
CITY OF CANTON
STARK CO. - OHIO
50' SPAN. -- 36' ROADWAY

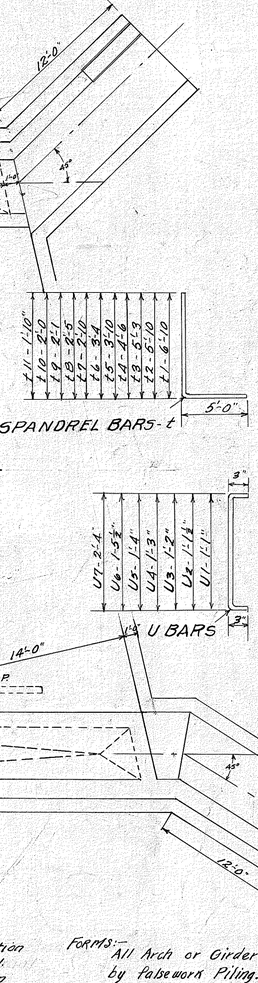




SECTION OF ARCH - SIDE WALK AND RAILING
3/4"=1'-0"







ESTIMATED QUANTITIES	
Sidewalk Finish	81 Sq Yds
Surface Finish	379 " "
Dry Excavation	450 Cu Yds
Wet " including Rock Exc.	960 " "
Concrete 1-6½ and 1-5½ 1-3½ Mix.	1090 " "
" Railing 1-3½ mix	191 Lin Ft.
Reinforcing Steel	26,128 Lbs.
Cast Iron Drain Pipe	36 Lin Ft.
R.C. Pipe 24" Diam	8 " "
Boulder & Gravel Fill for Weep holes in Arch	2 Cu Yds
Waterproofing	113 Sq Yds
Removing present old bridge Material	Lump Sum
Bronze Name Plates	2

PROPORTIONS —
All Concrete in footers 1-6½ mix.
All Concrete except Rail and Footers 1-5½ mix.
All Concrete in Rail and Belt 1-3½ mix.
5% Hydrated Lime mixed with all Concrete.
Note All smooth surfaces exposed direct to view are to be rubbed with carborundum brick.
No paving of bridge floor to be included in this contract.

Present Bridge to be moved North by Contractor to be used as temporary bridge.

SIDE WALK BARS				
Mark	No Reqd	Size	Total Length	Weight
N	12	½" ø	40'-0	320
M	3/16	½" ø	6'-0	1267
CURB & RAILING BARS				
G	32	½" Sq	28'-0	762
F	24	½" "	28'-0	571
K	16	½" "	4'-6	61
L	64	½" "	2'-0	109
TOTAL WEIGHT 3090				

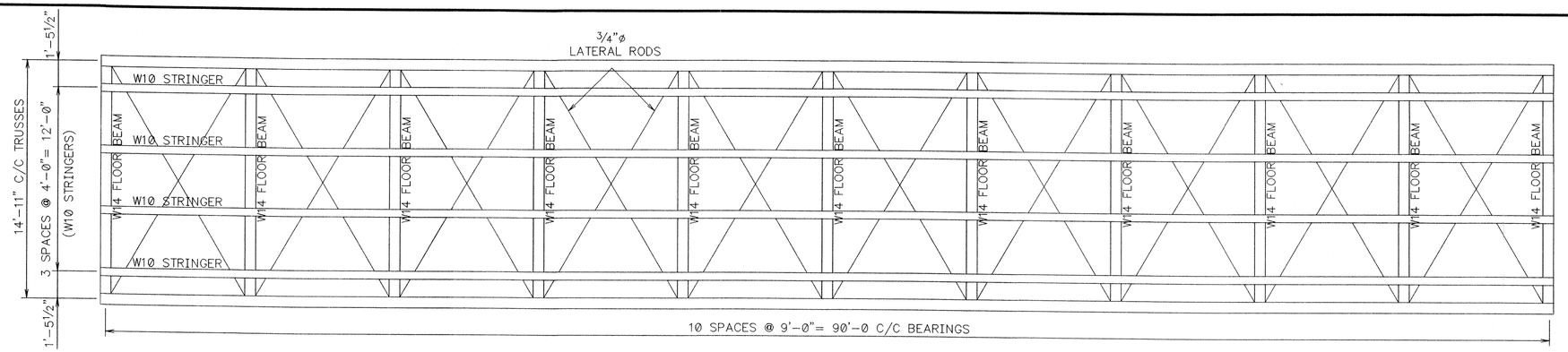
CONCRETE ARCH BARS					
Mark	No Reqd	Size	Bent or Straight	Total Length	Weight
B1	100	7/8" Sq	Bent	25'-0	3325
B2	50	"	"	30'-0	1865
A1	134	7/8" Sq	"	25'-0	6398
A2	67	"	"	30'-0	3832
C1	2	7/8" Sq	"	7'-0	17
C2	2	3/4" Sq	"	7'-0	27
U1	24	½" ø	"	1'-7	25
U2	24	"	"	1'-7½	26
U3	24	"	"	1'-8"	27
U4	24	"	"	1'-9	28
U5	24	"	"	1'-10	29
U6	24	"	"	1'-11½	32
U7	24	"	"	2'-10	46
Total Weight					15817
SPANDRAL & WING BARS					
t1	4	9/16" Sq	Bent	11'-10	90
t2	4	"	"	10'-10	83
t3	4	"	"	10'-3	78
t4	4	"	"	9'-6	73
t5	4	"	"	8'-10	68
t6	4	"	"	8'-4	64
t7	4	"	"	7'-10	60
t8	4	"	"	7'-5	57
t9	4	"	"	7'-1	54
t10	4	"	"	7'-0	53
t11	4	"	"	6'-10	52
V-1	4	½" Sq	"	2'-9	10
V-2	4	"	"	8'-0	27
V-3	4	"	"	15'-0	51
W	48	½" ø	"	28'-0	890
D1	24	7/8" ø	Str	20'-6	739
D2	80	½" ø	"	17'-6	2103
Total Weight 4560					
FOUNDATION BARS					
D3	96	7/8" ø	Str	5'-0	720
D4	96	7/8" ø	"	7'-6	1081
D5	28	7/8" ø	"	12'-0"	504
TOTAL WEIGHT 2305					
SIDEWALK WALL BARS					
E-1	20	½" Sq	Str	13'-0	220
CONCRETE ARCH BARS					
T	56	½" ø	Str	25'-6	956

Approved: 6/4/28 F. V. Burley Chief Engineer of Bridges.

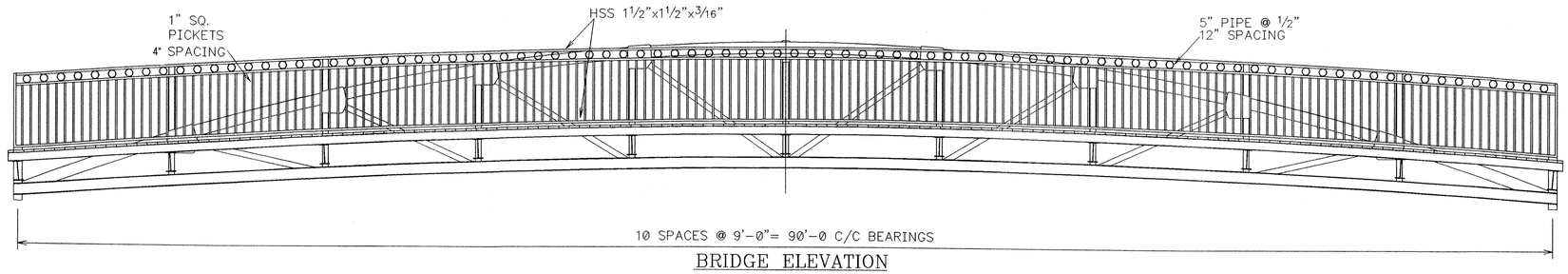
Approved: 6/9/28 G. F. Schleicher State Highway Director.

NOTE—
Waterproof all Expansion and Construction joints with 3 plies of Karnak or equal. Water proof all concrete surfaces in contact with filling with 2 plies of Karnak or equal.

FORMS:—
All Arch or Girder forms to be supported by falsework Piling. Use of wires and pipe spreaders that remain in Concrete not permitted.

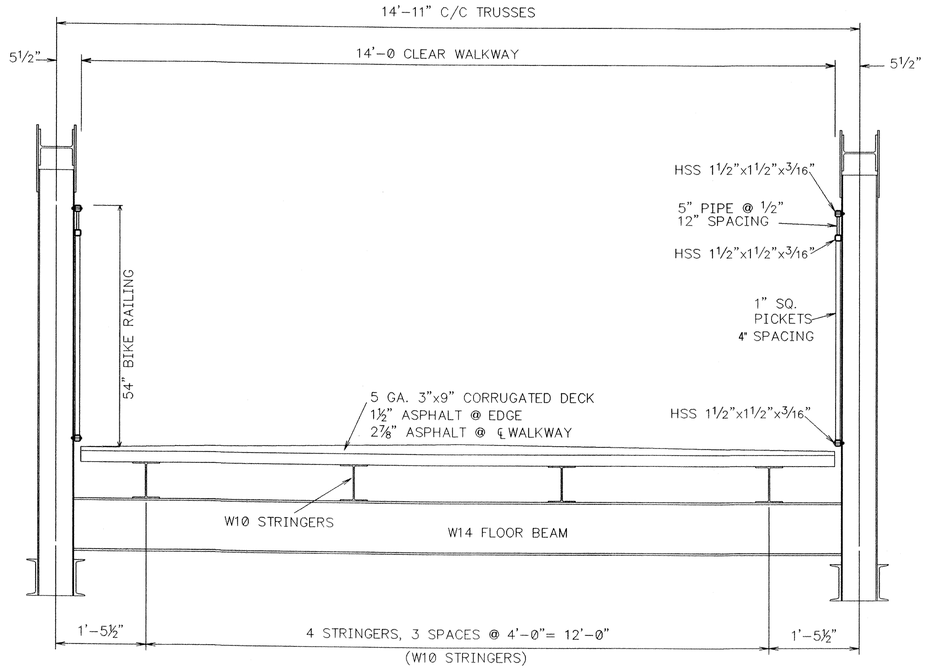


FRAMING PLAN



BRIDGE ELEVATION

FINAL BRIDGE CAMBER= 22"

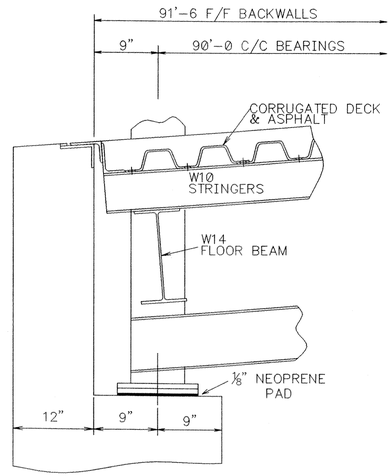


TYPICAL WALKWAY SECTION

DESIGN DEAD LOADS

STEEL DECK	15 PSF
ASPHALT SURFACING	40 PSF
SNOW LOAD	25 PSF

NOTE: DRAWINGS RELATIVE (DO NOT SCALE)



ABUTMENT DETAIL

TRUSS SHOE REACTION

DEAD LOAD	34.4 K
LIVE LOAD (H-15)	26.3 K
IMPACT	6.1 K
PEDESTRIAN LIVE LOAD (85 PSF)	26.8 K

GENERAL NOTES

ALL WELDED PEDESTRIAN TRUSS BRIDGE

BRIDGE DESIGNED IN COMPLIANCE WITH AASHTO H-15-44 TRUCK LOADING OR 85 PSF PEDESTRIAN LIVE LOAD, WHICHEVER PRODUCES GREATER STRESSES.

ALL SUPERSTRUCTURE STRUCTURAL STEEL ASTM A572 GR 50 PAINTED AFTER FAB

FINAL BRIDGE COLOR
SHERWIN WILLIAMS - SW4016 - CORRUGATE BROWN

FINAL COLORS:
BRIDGE - SHERWIN WILLIAMS - SW4016 - CORRUGATE BROWN
RAILS - BLACK

ALL WELDING PERFORMED IN COMPLIANCE WITH AMERICAN WELDING SOCIETY SPECIFICATIONS.

5 GA 3"x9" GALVANIZED CORRUGATED
ASTM A-570 STEEL PLATE FLOOR
WITH EDGE DAMS SECTION MODULUS 3.288 IN³/FT

ABUTMENT CONCRETE TO BE ODOT CLASS C TYPE.

Scott A. Flaten 15 August 2007

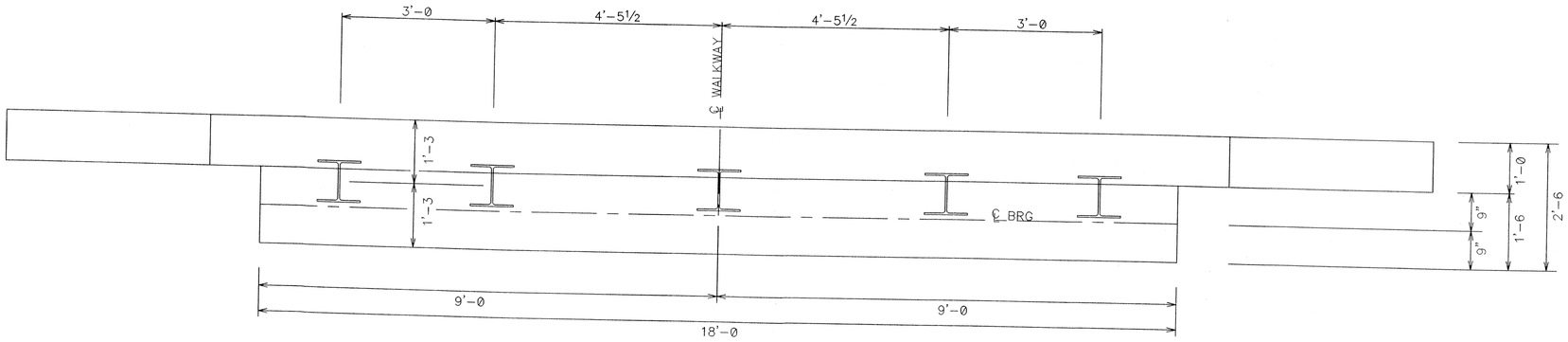
STATE OF OHIO
SCOTT
A.
FLATEN
E-61254
REGISTERED
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY

90' PEDESTRIAN TRUSS 14' WALKWAY

STARK COUNTY, OHIO

DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	SAF	DEC. 4, 2006	70003 CANTON	1 OF 2
CHECK/DATE	FABRICATOR			

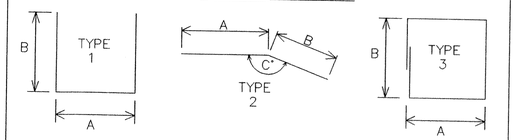


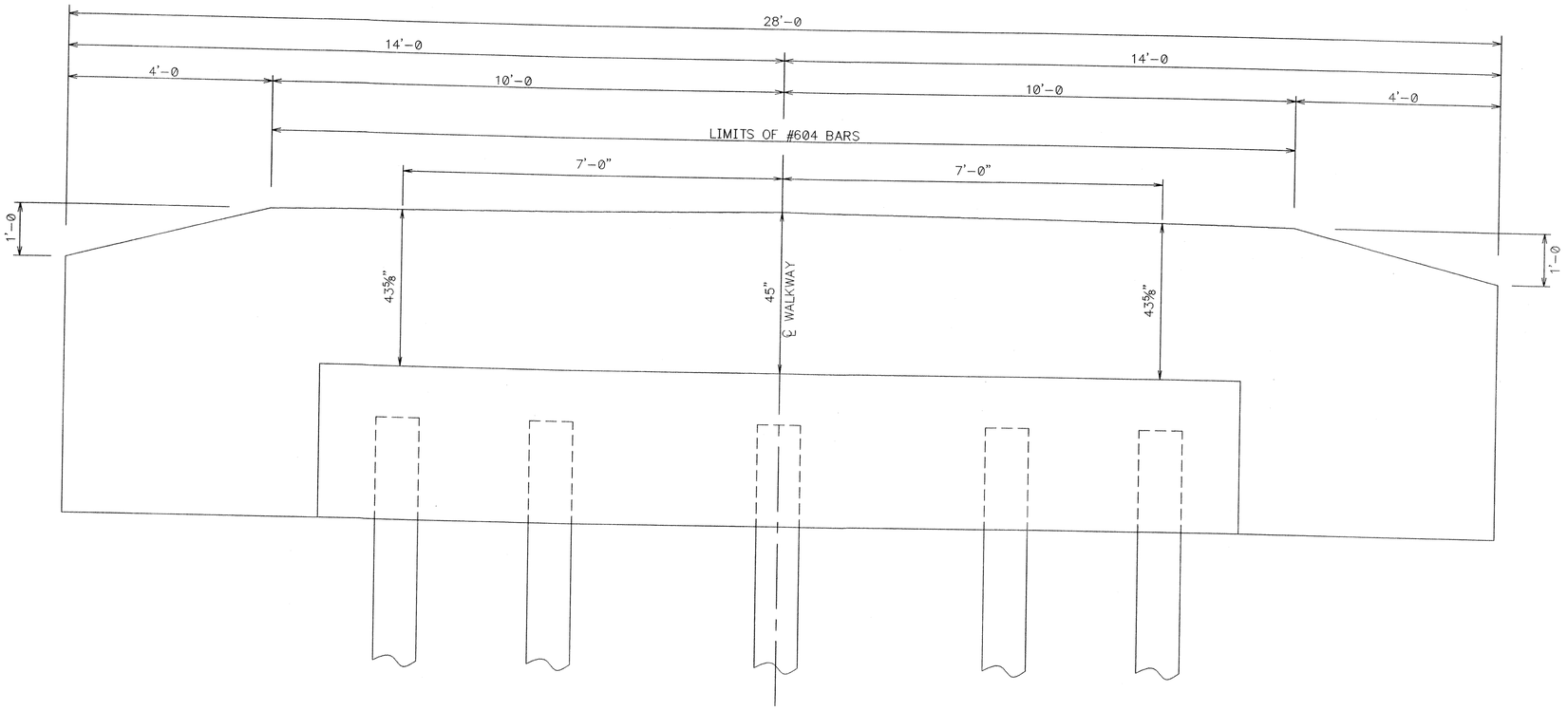
ABUTMENT PLAN VIEW

REINFORCING SCHEDULE

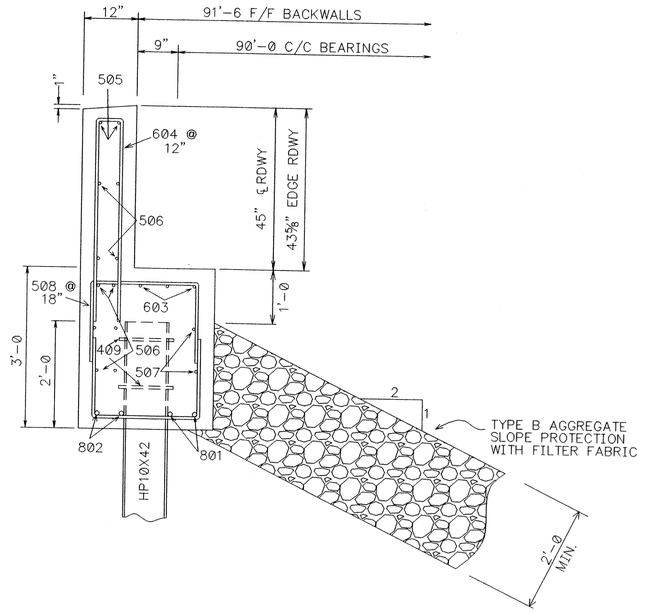
MARK	SIZE	NO. REQ'D	LENGTH	TYPE	BENDING A	B	C	D
801	8	4	19'-6	STR				
802A	8	4	20'-0	STR				
802B	8	4	10'-0	STR				
603	6	6	19'-6	STR				
604	6	42	8'-6	1	6"	4-0		
505	5	4	15'-6	2	12-0	3-6	165	
506A	5	20	20'-0	STR				
506B	5	20	10'-0	STR				
507	5	4	19'-6	STR				
508	5	56	5'-6	1	2-0	1-9		
409	5	20	5'-2	3	1-2	1-2		

BENDING DIAGRAMS





ABUTMENT ELEVATION VIEW



ABUTMENT SECTION VIEW

NOTE – DRIVE HP10X42 BEARING PILE TO 20 TON BEARING

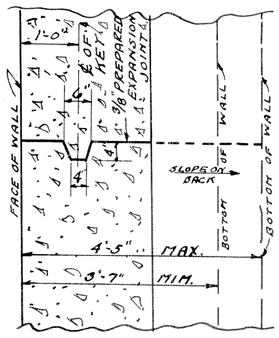
NOTE: DRAWINGS RELATIVE (DO NOT SCALE)

NO.	DATE	REVISIONS	BY

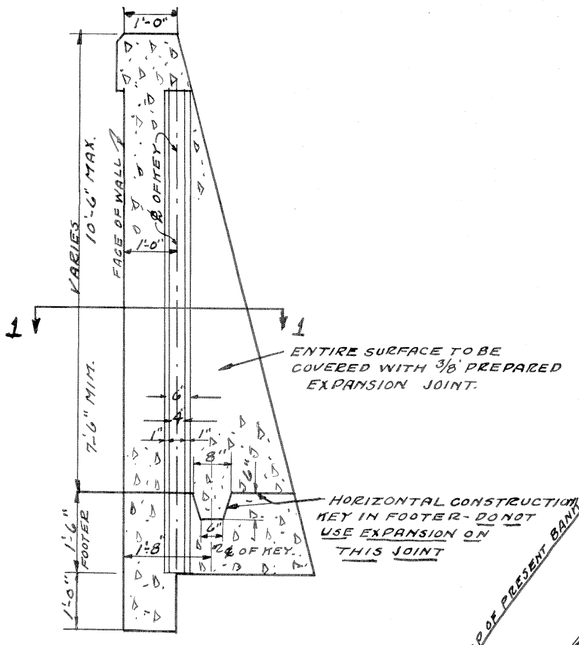
90' PEDESTRIAN TRUSS 14' WALKWAY

STARK COUNTY, OHIO

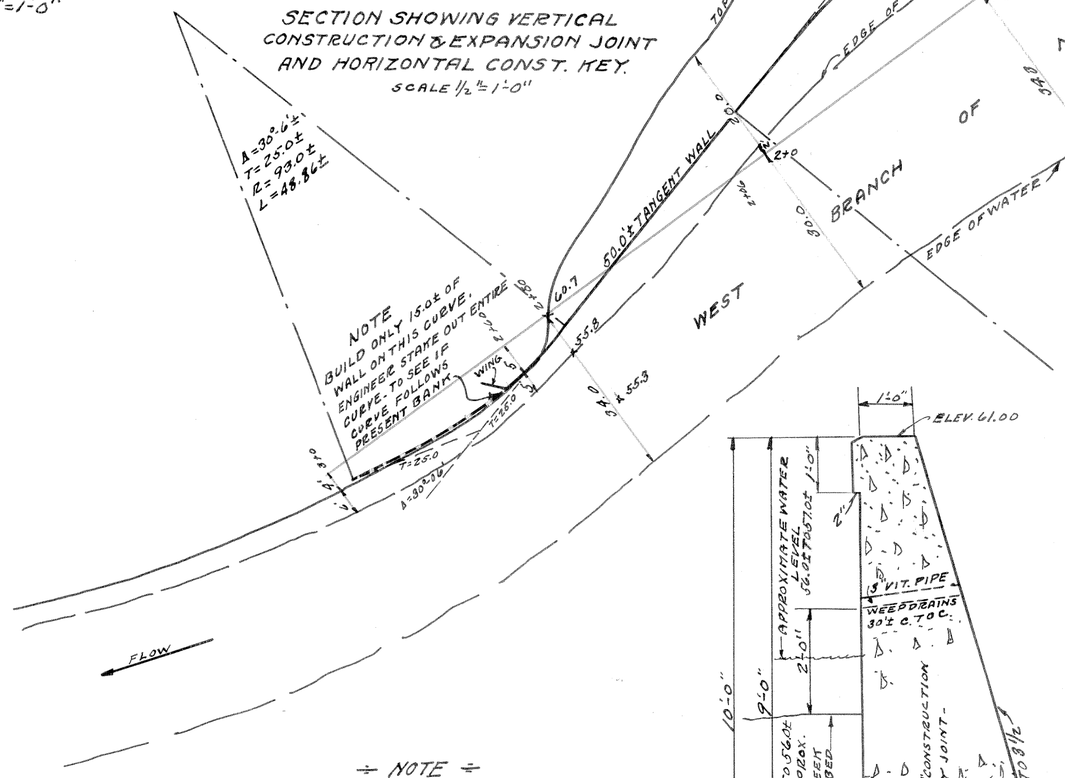
DESIGN	DRAWN	DATE	DRAWING NO.	SHEET
SAF	SAF	JAN. 22, 2007	70003 CANTON	
CHECK/DATE	FABRICATOR			



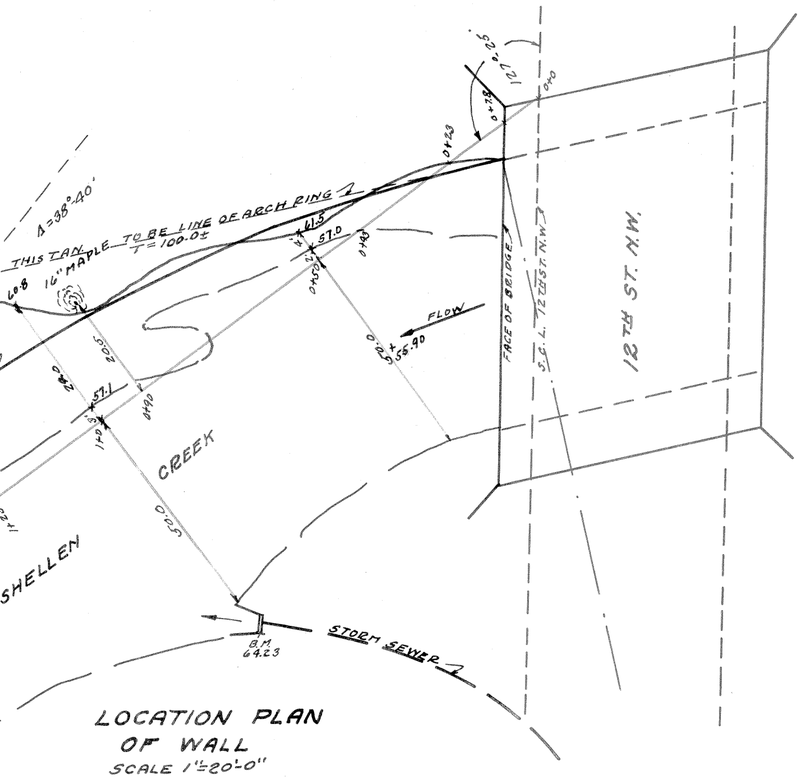
HORIZONTAL SECTION - I-I
SHOWING - VERTICAL - CONSTRUCTION
AND EXPANSION JOINTS
SCALE 1/2"=1'-0"



SECTION SHOWING VERTICAL
CONSTRUCTION & EXPANSION JOINT
AND HORIZONTAL CONST. KEY.
SCALE 1/2"=1'-0"

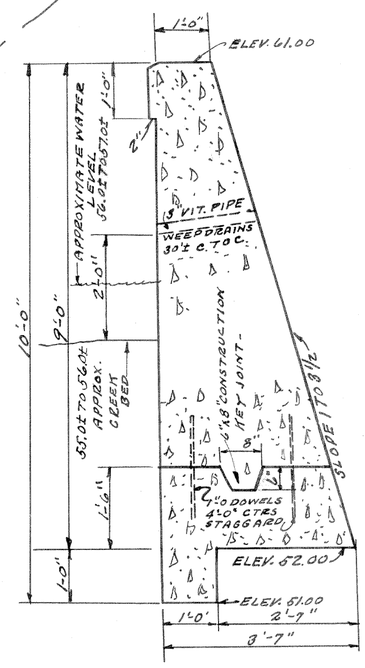


LOCATION PLAN
OF WALL
SCALE 1"=20'-0"

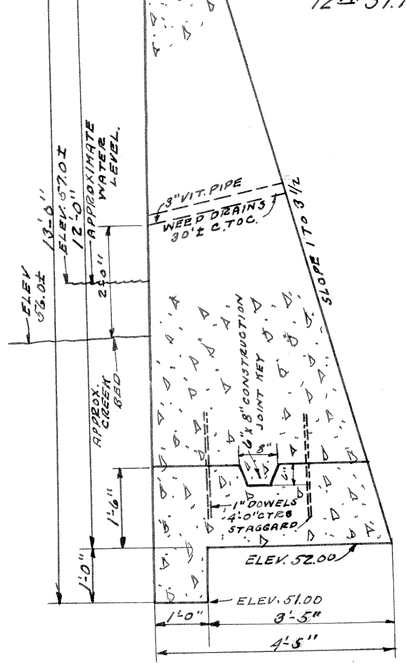


BENCH MARK
S.E. CORNER CONCRETE HEADWALL OF
12TH ST. N.W. STORM S SEWER OUTLET
ELEV. - 64.23

÷ NOTE ÷
BUILD WING SAME SECTION AS
WALL BUT SLOPE TOP AS SHOWN
ON PROFILE.

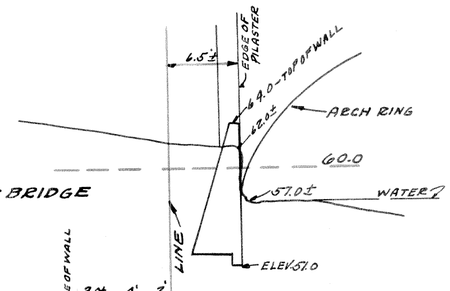


TYPICAL WALL SECTION
FROM - 100.0 SOUTH OF BRIDGE
SOUTH - 157.34'± TO END OF WALL.
SCALE 1/2"=1'-0"

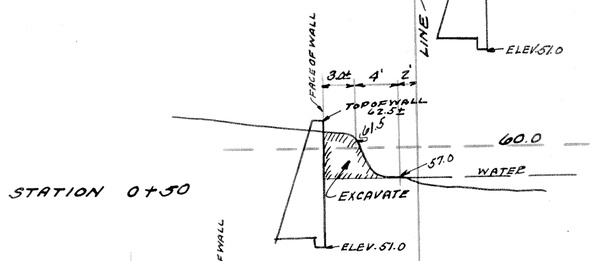


MAXIMUM WALL SECTION
AT FACE OF BRIDGE
WALL SLOPES TO TYPICAL
WALL SECTION - 100.0 SOUTH
SCALE 1/2"=1'-0"

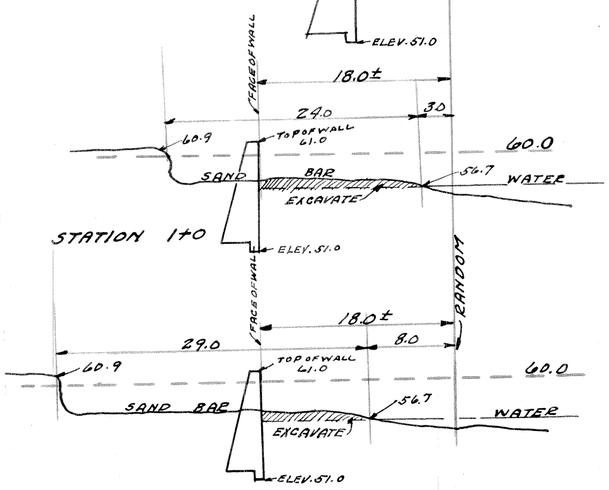
Δ = 38°-40'±
T = 100.0'±
R = 285.0'±
L = 192.34'±



STATION AT BRIDGE

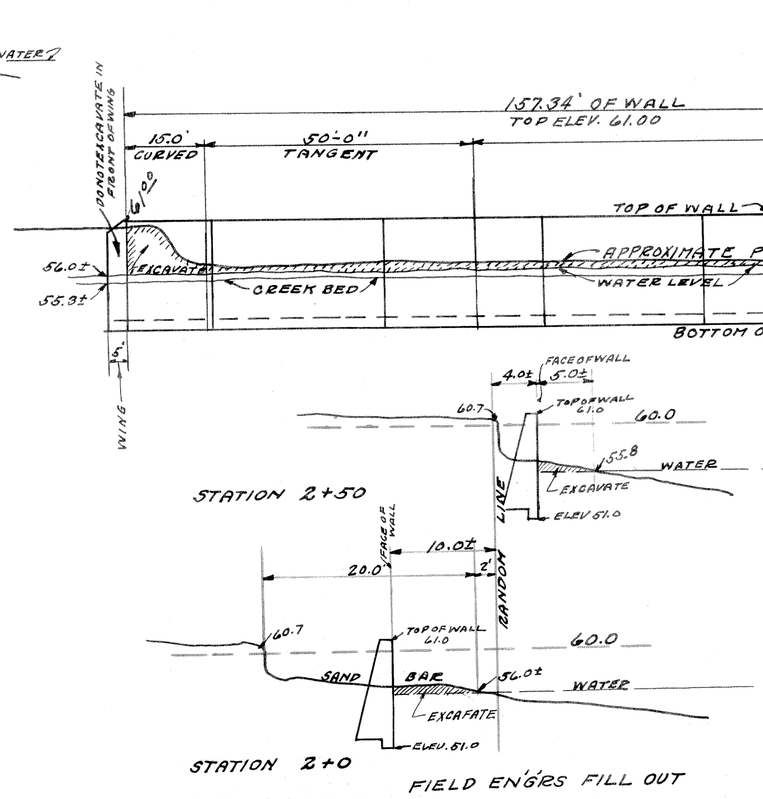


STATION 0+50



STATION 1+0

STATION 1+50



PROFILE OF WALL
SCALES { HORZ. 1"=20'-0"
VERT. 1"=10'-0"

STATION 2+50

STATION 2+0

CROSS SECTIONS
SCALE { HORZ. 1"=10'-0"
VERT. 1"=10'-0"

FIELD ENG'RS FILL OUT
DATE _____ BY _____

BOOK	PAGE	ITEM
		LOCATION
340	45	GRADE
331	2	FINAL - MEAS.

WEST BRANCH NIMISHILLEN CREEK RETAINING WALL SOUTH OF 12TH S.T. N.W. BRIDGE.

WEST BANK OF CREEK
OFFICE OF CITY CIVIL ENGINEER.
CANTON OHIO
SEPT. 9 - 1929
SCALES AS SHOWN.

REPORTED SEPT. 9TH 1929
FIELD BOOK # 340 - PAGE # 16

CONSEC. NO	2873
FILE NO	
DRWG. NO	116
NO IN DRWG.	13

116
13