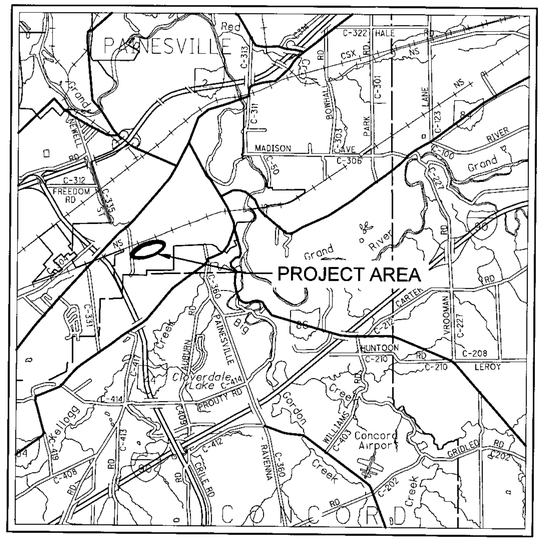


LOCATION MAP

LATITUDE: 41°42'35" N LONGITUDE: 81°15'23" W

SCALE IN MILES

0 1 2 3 4

N

CEDARBROOK DRIVE DETENTION BASIN AND STORMWATER SYSTEM IMPROVEMENT

CITY OF PAINESVILLE
LAKE COUNTY

PROJECT DESCRIPTION

PROJECT INCLUDES EXPANSION OF THE CEDARBROOK DRIVE STORMWATER BASIN AND THE ADDITION OF THREE BASIN INLET CONNECTIONS FROM THE CEDARBROOK DRIVE STORM SYSTEM OTHER IMPROVEMENTS INCLUDE STORM SEWER UPGRADES AT THE INTERSECTIONS OF CEDARBROOK DRIVE AND GLENWOOD DRIVE, HAWKINS DRIVE, SOUTHINGTON BOULEVARD, AND MALVERN DRIVE.

2013 SPECIFICATIONS

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

INDEX OF SHEETS:

TITLE SHEET	1
GENERAL NOTES	2-4
GENERAL SUMMARY	5
DRAINAGE SUBSUMMARY	6
MAINTENANCE OF TRAFFIC NOTES	7
DETOUR PLAN	8-9
PROJECT SITE PLAN	10
EXISTING CONDITIONS	11
CLEARING PLAN	12
BASIN GRADING AND SITE PLAN	13
INTERSECTION PLAN AND PROFILE	14-17
STORM SEWER PROFILES	18-19
STORM SEWER DETAIL	20

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

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:

STATE OF OHIO ERIN MARIE WOODSON E-71666 REGISTERED PROFESSIONAL ENGINEER

SIGNED: _____
DATE: 2/5/2016

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-5.1	7/19/13	MH-1.1	1/18/13					800	10/16/15	
BP-7.1	7/18/14	MH-1.2	1/18/13					832	1/17/14	
CB-1.1	1/18/13	MT-97.10	7/8/14							
CB-1.2	1/18/13	MT-101.60	7/9/13							
CB-2.1	1/18/13	MT-105.10	7/9/13							
		MT-110.10	7/9/13							
DM-1.1	1/18/13									
DM-1.2	1/18/13									
DM-4.3	7/19/13									
DM-4.4	7/20/12									
F-1.1	7/19/13									
HW-2.1	7/17/15									
HW-2.2	7/17/15									

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE ROADWAYS EXCEPT AS NOTED ON SHEETS 8-9, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATE.

CITY OF PAINESVILLE OFFICIALS 2015

APPROVED _____

DATE _____ ANTHONY CARSON, CITY MANAGER

APPROVED _____

DATE _____ LEANNE EXUM, PE
CITY ENGINEER
CITY OF PAINESVILLE, OHIO

FEDERAL PROJECT NO —

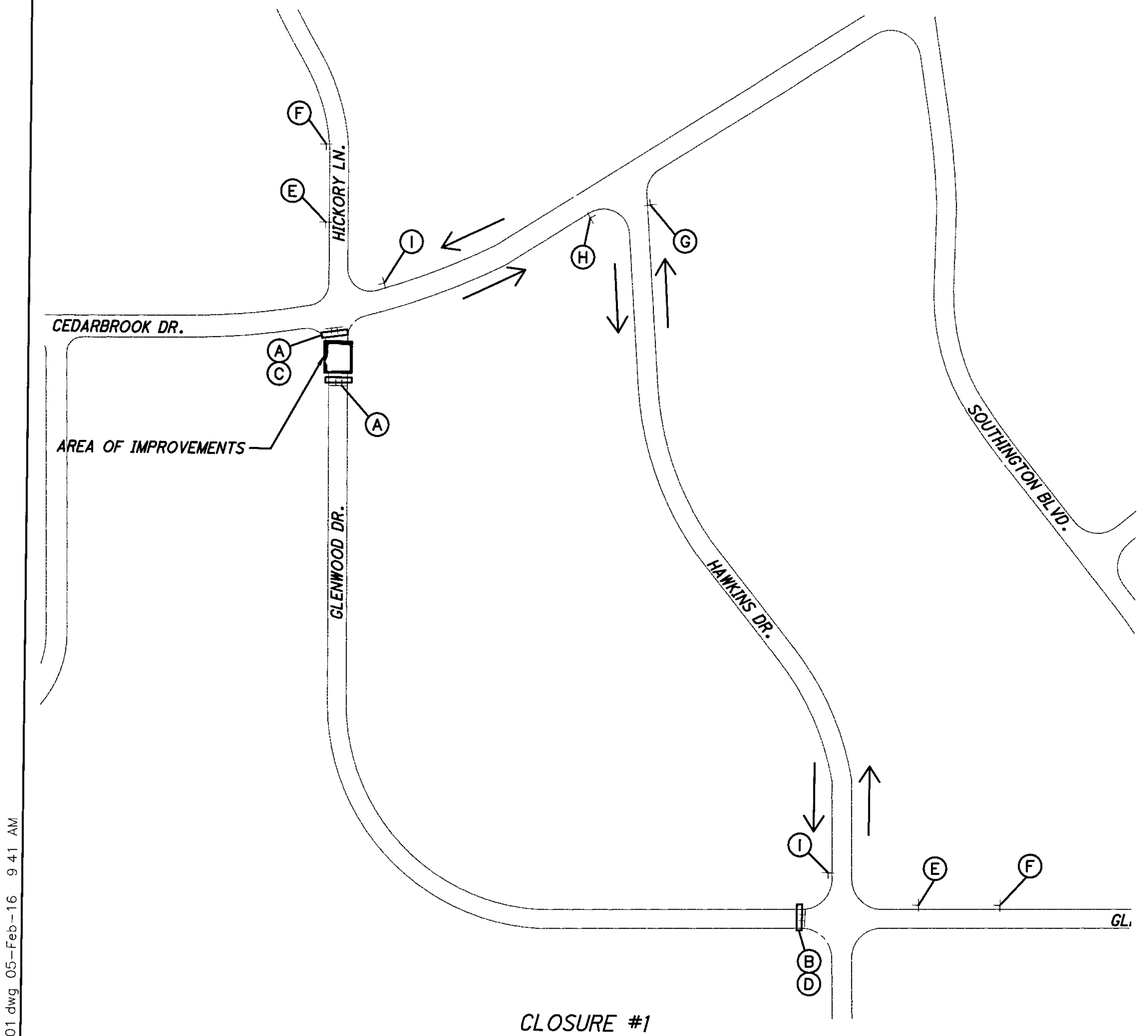
PID NO —

CONSTRUCTION PROJECT NO —

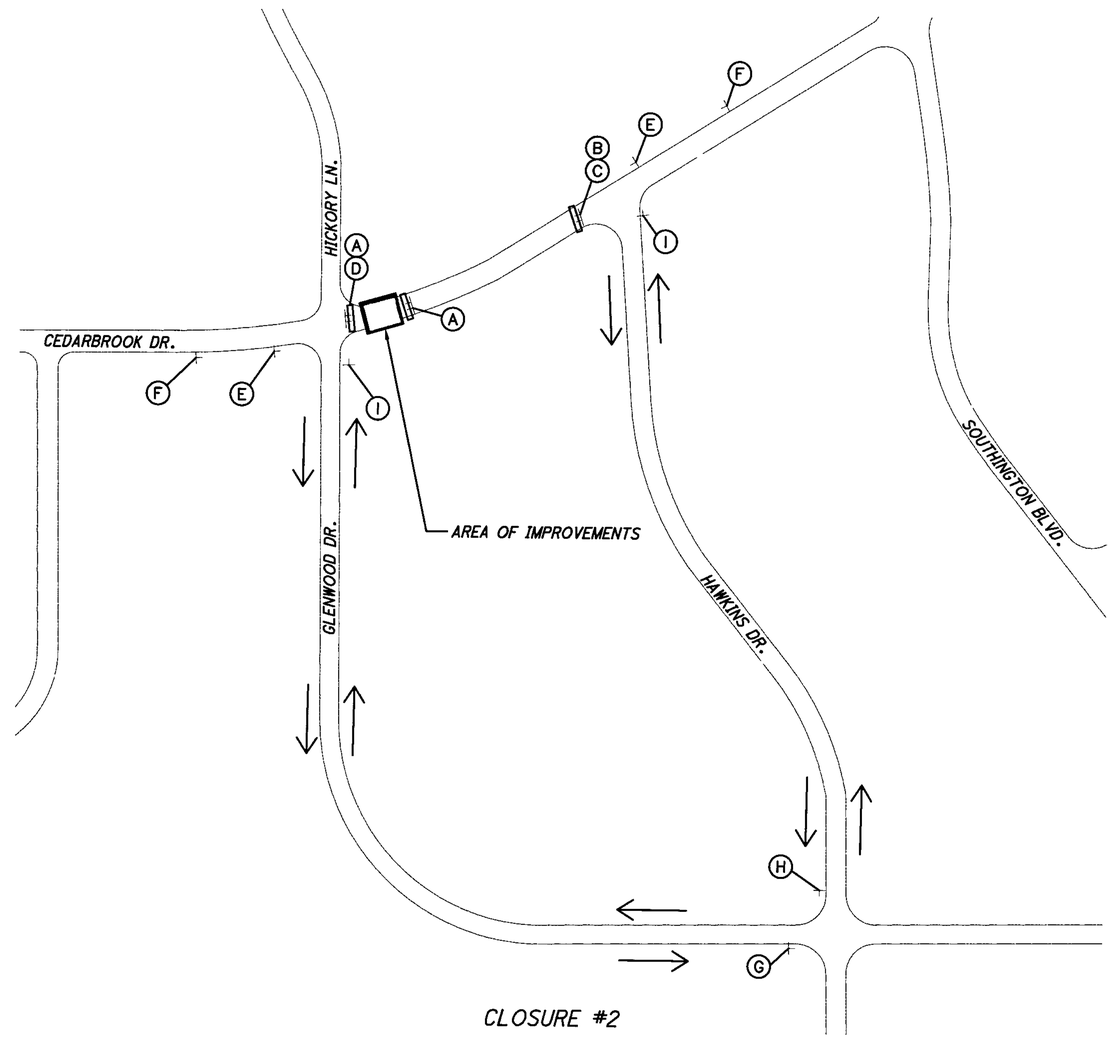
RAILROAD INVOLVEMENT
NONE

CEDARBROOK BASIN & STORM IMPROVEMENT

G:\Project\TOHPAI01 FE01\Drawing\CEDAR\roadway\sheets\CEDARGT01 dwg



CLOSURE #1



CLOSURE #2

A — ROAD CLOSED
R11-2-48
WITH TYPE B FLASHING WARNING LIGHTS

B — ROAD CLOSED LOCAL TRAFFIC ONLY
R11-4-60

C — DETOUR
M4-10L-48

D — DETOUR
M4-10R-48

E — DETOUR AHEAD
W20-2-36

F — ROAD CLOSED AHEAD
W20-3-36

G — DETOUR
M4-9L-30

H — DETOUR
M4-9R-30

I — END DETOUR
M4-8A-24

LEGEND

DETOUR ROUTE

PORTION TO BE IMPROVED

SIGN MOUNTED ON PORTABLE TYPE III BARRICADE AS PER STANDARD CONSTRUCTION DRAWING MT-101.60

SIGN MOUNTED ON POST

NOTES:

1. DETOUR SIGNS SHALL BE UNCOVERED AND VISIBLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT. AT ALL OTHER TIMES SIGNS SHALL BE COVERED OR REMOVED.

2. DISTANCE BETWEEN ADVANCE WARNING SIGNS IS 100' MINIMUM UNLESS OTHERWISE NOTED.

3. ALL SIGNS SHALL BE IN NEW OR LIKE NEW CONDITION.

N

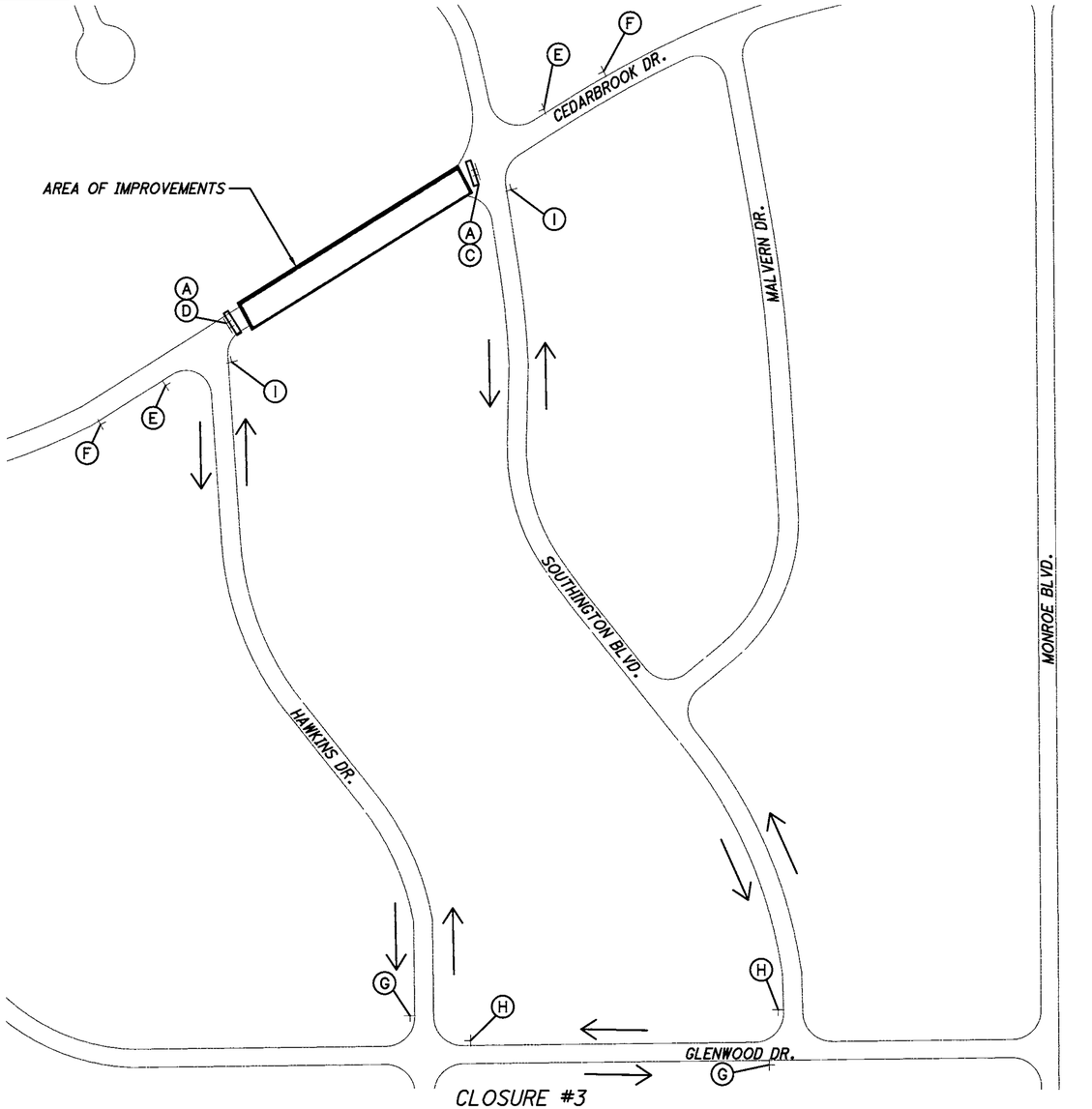
HORIZONTAL SCALE IN FEET
0 50 100 200

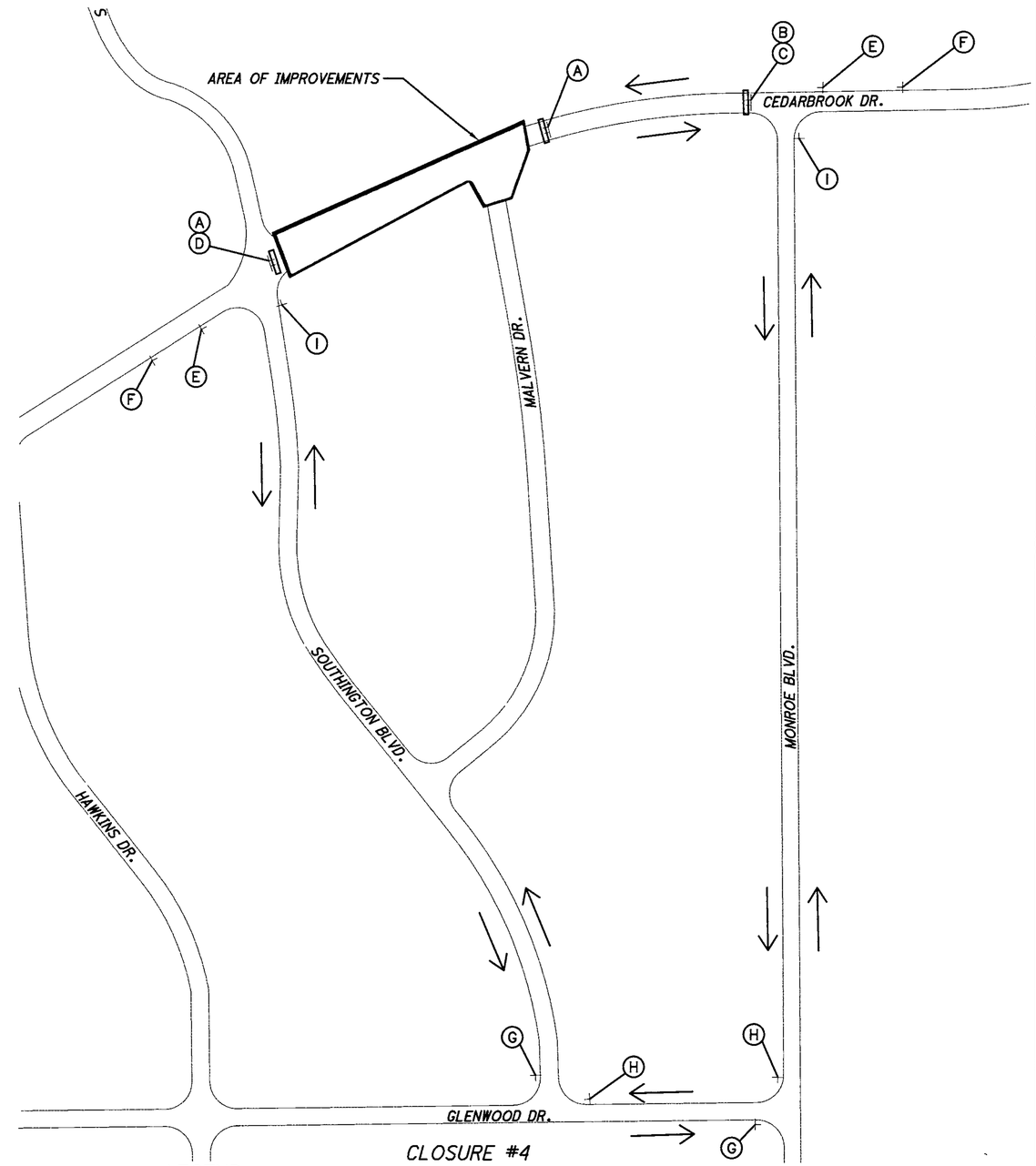
CALCULATED SMG
CHECKED EMC

DETOUR PLAN

CEDARBROOK BASIN & STORM IMPROVEMENT

G:\Project\TOHPA101 FE01\Drawing\CEDAR\roadway\sheets\CEDARMD01.dwg 05-Feb-16 9:41 AM





N

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED SMG
CHECKED EMC

DETOUR PLAN

CEDARBROOK BASIN & STORM IMPROVEMENT

(A) ROAD CLOSED
R11-2-48
WITH TYPE B FLASHING WARNING LIGHTS

(B) ROAD CLOSED LOCAL TRAFFIC ONLY
R11-4-60

(C) DETOUR
M4-10L-48

(D) DETOUR
M4-10R-48

(E) DETOUR AHEAD
W20-2-36

(F) ROAD CLOSED AHEAD
W20-3-36

(G) DETOUR
M4-9L-30

(H) DETOUR
M4-9R-30

(I) END DETOUR
M4-8A-24

LEGEND

DETOUR ROUTE

PORTION TO BE IMPROVED

SIGN MOUNTED ON PORTABLE TYPE III BARRICADE AS PER STANDARD CONSTRUCTION DRAWING MT-101.60

SIGN MOUNTED ON POST

NOTES:

1. DETOUR SIGNS SHALL BE UNCOVERED AND VISIBLE TO TRAFFIC ONLY WHEN THE STREET CLOSURE IS IN EFFECT. AT ALL OTHER TIMES SIGNS SHALL BE COVERED OR REMOVED.

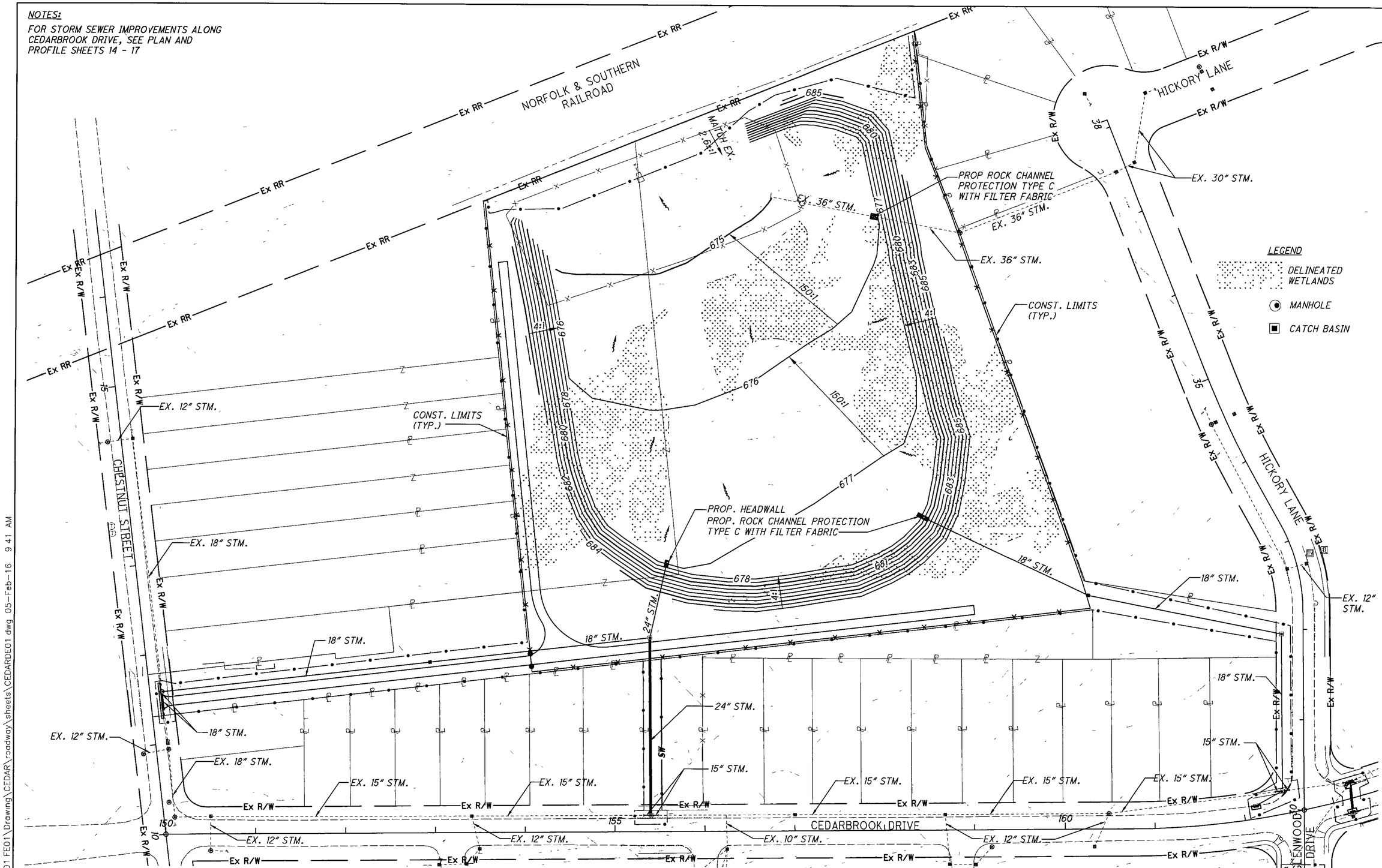
2. DISTANCE BETWEEN ADVANCE WARNING SIGNS IS 100' MINIMUM UNLESS OTHERWISE NOTED.

3. ALL SIGNS SHALL BE IN NEW OR LIKE NEW CONDITION.

G:\Project\TOHPA101 FE01\Drawing\CEDAR\roadway\sheets\CEDARMD01.dwg 05-Feb-16 9:41 AM

NOTES:

FOR STORM SEWER IMPROVEMENTS ALONG CEDARBROOK DRIVE, SEE PLAN AND PROFILE SHEETS 14 - 17



PROJECT DATA

USGS QUADRANT NOS.:
41081-F2-TF-024 AND 41081-F3-TF-024
MENTOR, OHIO AND PAINESVILLE, OHIO
LONGITUDE: 81° 15' 23" W
LATITUDE: 41° 42' 35" N

TOTAL AREA OF CITY PROPERTY AND R/W.....8.93 AC
PROJECT EARTH DISTURBED AREA:.....8.11 AC
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:.....0.25 AC
NOTICE OF INTENT EARTH DISTURBED AREA:.....8.26 AC
IMPERVIOUS AREA FOR PRE-CONSTRUCTION SITE:.....0.17 AC
IMPERVIOUS AREA FOR POST CONSTRUCTION SITE:....0.17 AC

RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:.....0.31
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE:.....0.31

IMMEDIATE RECEIVING WATERS:
TIBER CREEK

SUBSEQUENT RECEIVING WATER:
GRAND RIVER

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE EXPANSION OF THE CEDARBROOK DRIVE STORMWATER BASIN AND THE ADDITION OF THREE BASIN INLET CONNECTIONS FROM THE CEDARBROOK DRIVE STORM SYSTEM. OTHER IMPROVEMENTS INCLUDE STORM SEWER UPGRADES AT THE INTERSECTIONS OF CEDARBROOK DRIVE AND GLENWOOD DRIVE, HAWKINS DRIVE, SOUTHINGTON BOULEVARD, AND MALVERN DRIVE.

CALCULATED PSB
CHECKED EMC

PROJECT SITE PLAN

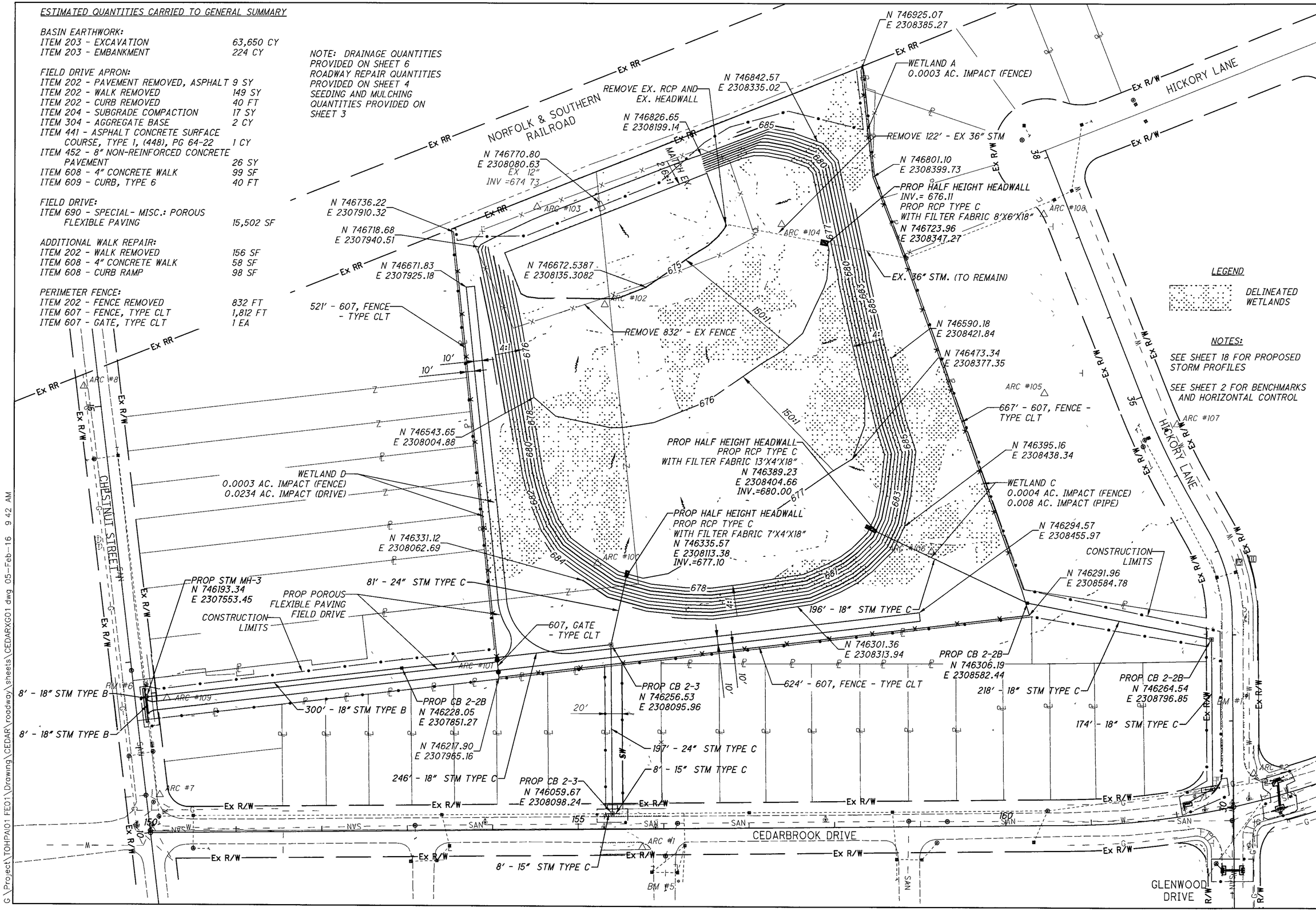
CEDARBROOK BASIN & STORM IMPROVEMENT

G:\Project\TOHPA101 FE01\Drawing\CEDAR\roadway\sheets\CEDARDE01.dwg 05-Feb-16 9:41 AM

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY

BASIN EARTHWORK:	
ITEM 203 - EXCAVATION	63,650 CY
ITEM 203 - EMBANKMENT	224 CY
FIELD DRIVE APRON:	
ITEM 202 - PAVEMENT REMOVED, ASPHALT	9 SY
ITEM 202 - WALK REMOVED	149 SY
ITEM 202 - CURB REMOVED	40 FT
ITEM 204 - SUBGRADE COMPACTION	17 SY
ITEM 304 - AGGREGATE BASE	2 CY
ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG 64-22	1 CY
ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT	26 SY
ITEM 608 - 4" CONCRETE WALK	99 SF
ITEM 609 - CURB, TYPE 6	40 FT
FIELD DRIVE:	
ITEM 690 - SPECIAL- MISC.: POROUS FLEXIBLE PAVING	15,502 SF
ADDITIONAL WALK REPAIR:	
ITEM 202 - WALK REMOVED	156 SF
ITEM 608 - 4" CONCRETE WALK	58 SF
ITEM 608 - CURB RAMP	98 SF
PERIMETER FENCE:	
ITEM 202 - FENCE REMOVED	832 FT
ITEM 607 - FENCE, TYPE CLT	1,812 FT
ITEM 607 - GATE, TYPE CLT	1 EA

NOTE: DRAINAGE QUANTITIES PROVIDED ON SHEET 6
ROADWAY REPAIR QUANTITIES PROVIDED ON SHEET 4
SEEDING AND MULCHING QUANTITIES PROVIDED ON SHEET 3

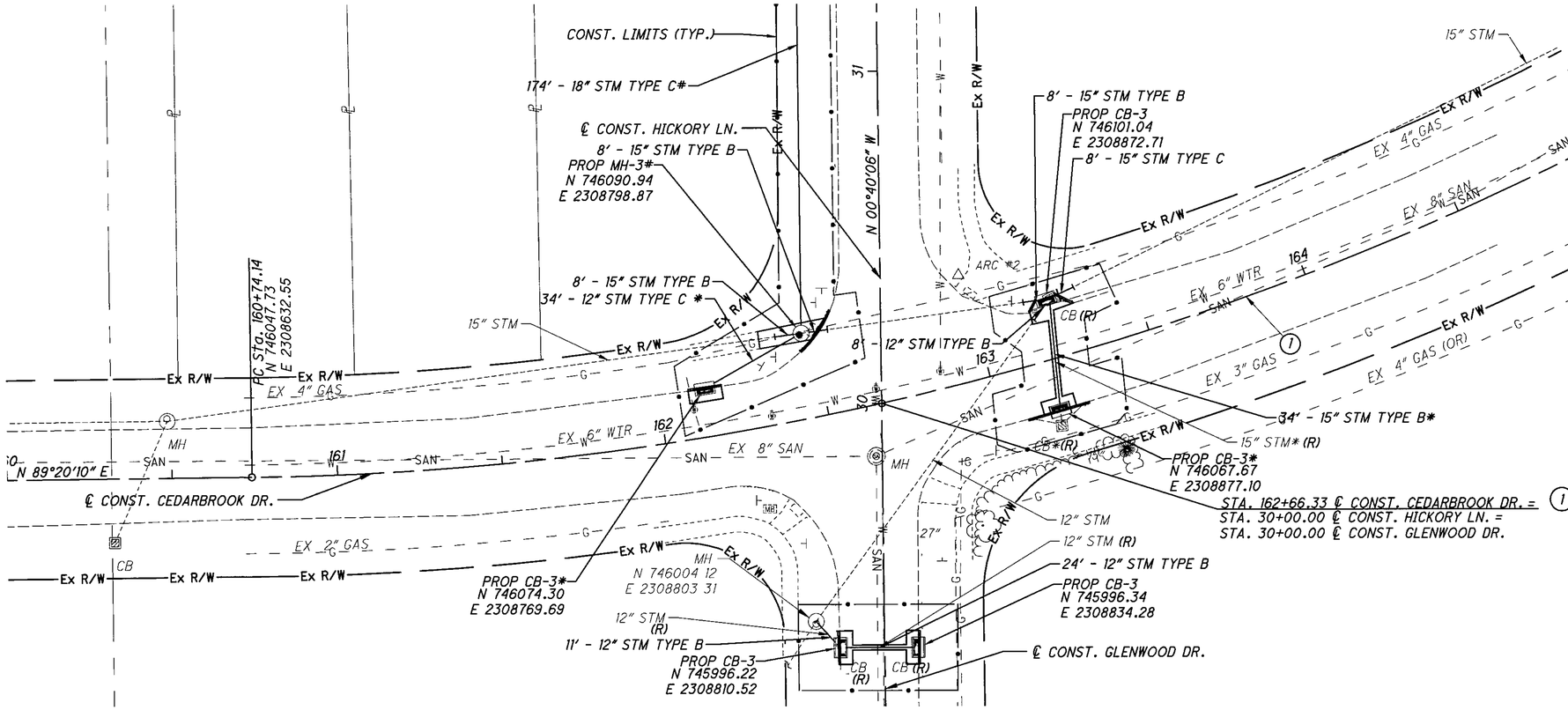


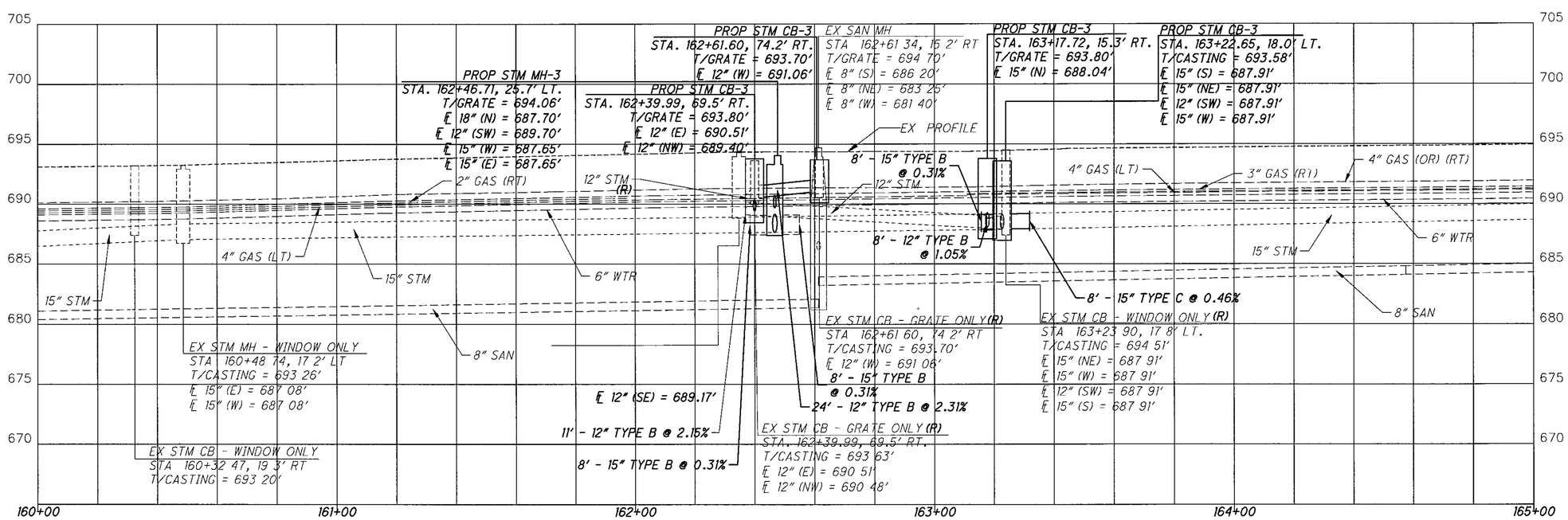
CALCULATED BRO
CHECKED EMC

BASIN GRADING AND SITE PLAN

CEDARBROOK BASIN & STORM IMPROVEMENT

G:\Project\TOHPA\01 FE01\Drawing\CEDAR\roadway\sheets\CEDARXG01.dwg 05-Feb-16 9:42 AM





NOTES:

= NOT SHOWN IN PROFILE BELOW, SEE STORM SEWER PROFILE, SHEET 18

* = NOT SHOWN IN PROFILE BELOW, SEE STORM SEWER PROFILE, SHEET 19

** - MANHOLE AND CATCH BASIN LOCATIONS AND INVERTS ARE DESIGNED UNDER THE ASSUMPTION THAT THE 15" STORM SEWER IS A STRAIGHT LINE CONNECTION BETWEEN EXISTING STRUCTURES. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING STORM PRIOR TO ORDERING MATERIAL.

ALL PROPOSED PIPES CONNECTING TO EXISTING PIPES SHALL BE CONNECTED WITH A CONCRETE COLLAR PER ODOT SCD DM-1.1

FOR BENCHMARKS AND HORIZONTAL CONTROL, SEE SHEET 2

FOR CURB RECONSTRUCTION DETAILS, SEE SHEET 20

GAS LINES WITHOUT (OR) SUFFIX BELONG TO DOMINION EAST OHIO GAS

LEGEND:
(R) = ITEMS TO BE REMOVED
(OR) = ORWELL NATURAL GAS CO. GAS LINE

(1) CURVE DATA
P.I.= STA. 163+39.71
P.I. N = 746050.81
P.I. E = 2308898.11
Δ = 32° 02' 17"
Dc = 6° 11' 39"
R = 925.00'
T = 265.57'
L = 517.23'
E = 37.37'
C = 510.52'
C.B. = N 73° 19' 02" E

N

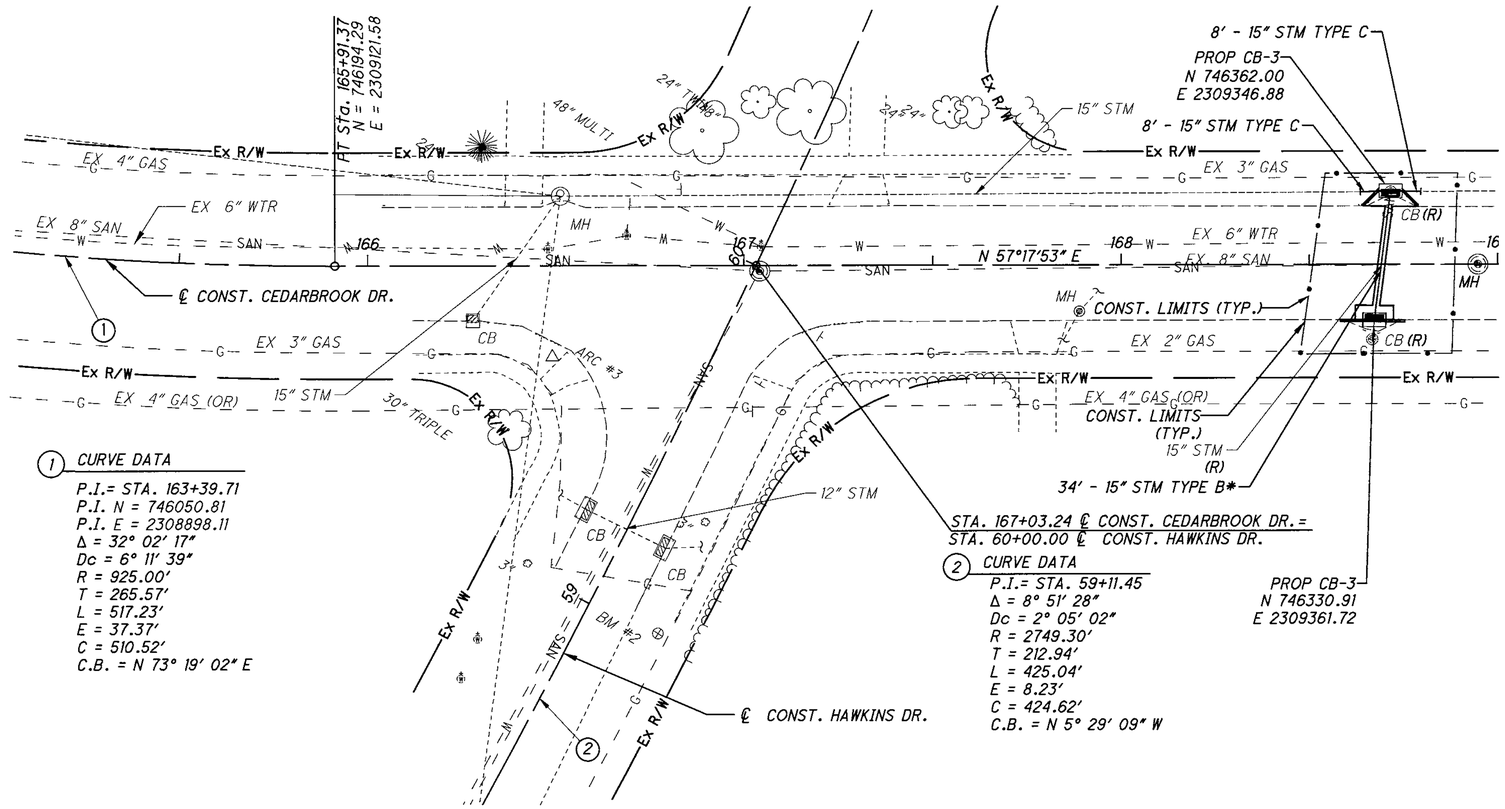
0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED MRH
CHECKED EMC

INTERSECTION PLAN AND PROFILE
HICKORY, GLENWOOD, AND CEDARBROOK

CEDARBROOK BASIN & STORM IMPROVEMENT

G:\Project\TOHPAI01 FE01\Drawing\CEDAR\roadway\sheets\CEDARGP01.dwg 05-Feb-16 9:43 AM



(1) CURVE DATA

P.I.= STA. 163+39.71
P.I. N = 746050.81
P.I. E = 2308898.11
Δ = 32° 02' 17"
Dc = 6° 11' 39"
R = 925.00'
T = 265.57'
L = 517.23'
E = 37.37'
C = 510.52'
C.B. = N 73° 19' 02" E

(2) CURVE DATA

P.I.= STA. 59+11.45
Δ = 8° 51' 28"
Dc = 2° 05' 02"
R = 2749.30'
T = 212.94'
L = 425.04'
E = 8.23'
C = 424.62'
C.B. = N 5° 29' 09" W

NOTES:

* = NOT SHOWN IN PROFILE BELOW, SEE STORM SEWER PROFILE, SHEET 19

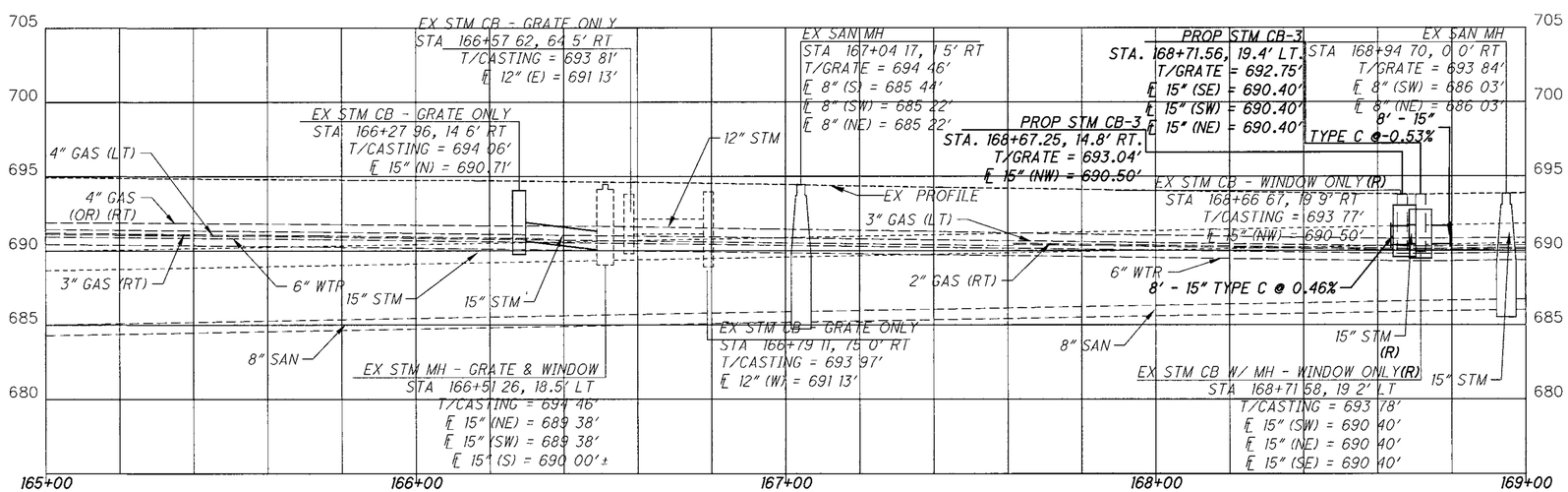
FOR BENCHMARKS AND HORIZONTAL CONTROL, SEE SHEET 2

FOR CURB RECONSTRUCTION DETAILS, SEE SHEET 20

ALL PROPOSED PIPES CONNECTING TO EXISTING PIPES SHALL BE CONNECTED WITH A CONCRETE COLLAR PER ODOT SCD DM-1.1

GAS LINES WITHOUT (OR) SUFFIX BELONG TO DOMINION EAST OHIO GAS

LEGEND:
(R) = ITEMS TO BE REMOVED
(OR) = ORWELL NATURAL GAS CO. GAS LINE



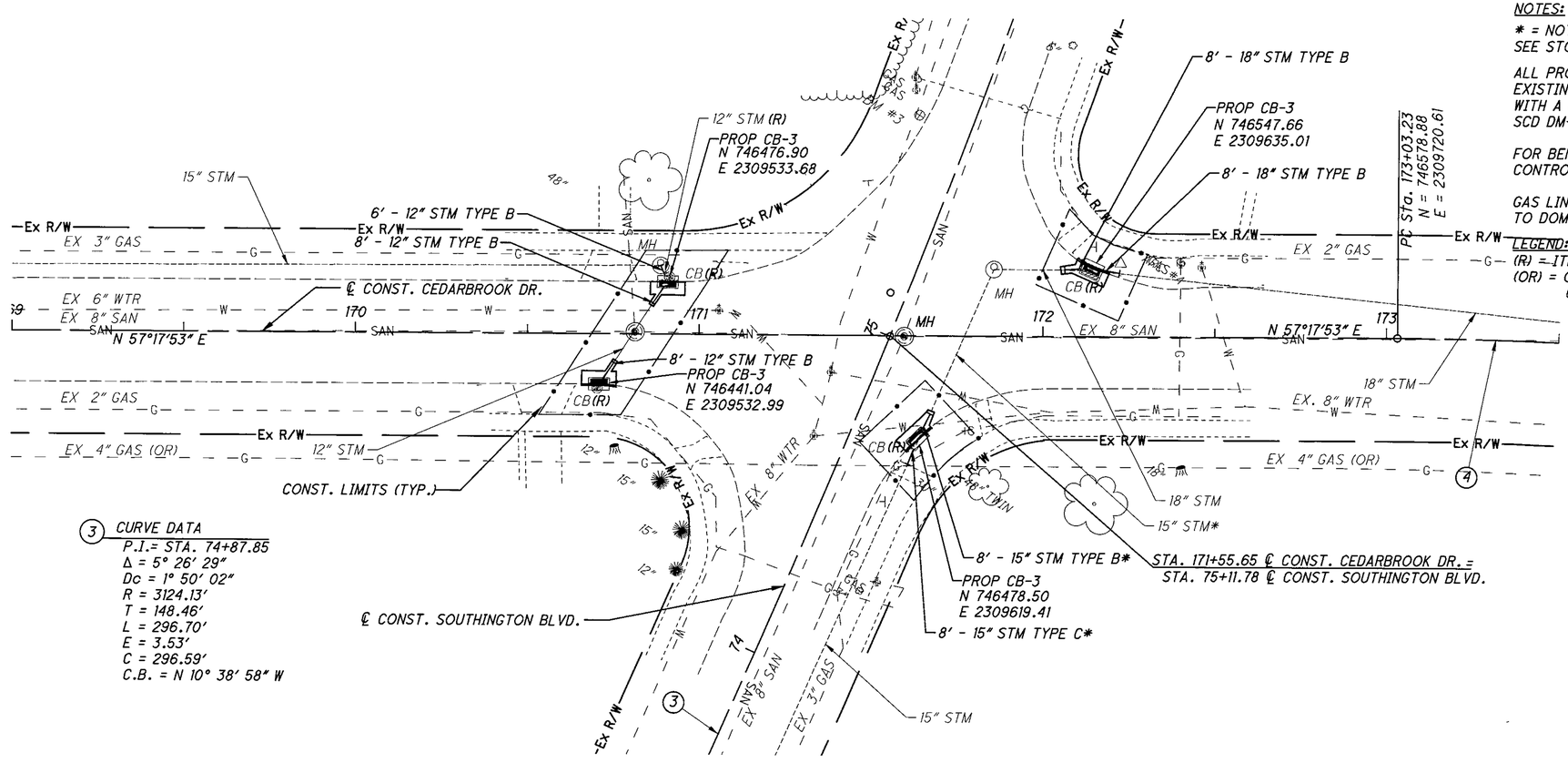
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MRH
CHECKED EMC

INTERSECTION PLAN AND PROFILE HAWKINS AND CEDARBROOK

CEDARBROOK BASIN & STORM IMPROVEMENT

G:\Project\TOHPA101 FE01\Drawing\CEDAR\roadway\sheets\CEDARGP01.dwg 05-Feb-16 9:43 AM



(3) CURVE DATA
P.I.= STA. 74+87.85
Δ = 5° 26' 29"
Dc = 1° 50' 02"
R = 3124.13'
T = 148.46'
L = 296.70'
E = 3.53'
C = 296.59'
C.B. = N 10° 38' 58" W

NOTES:

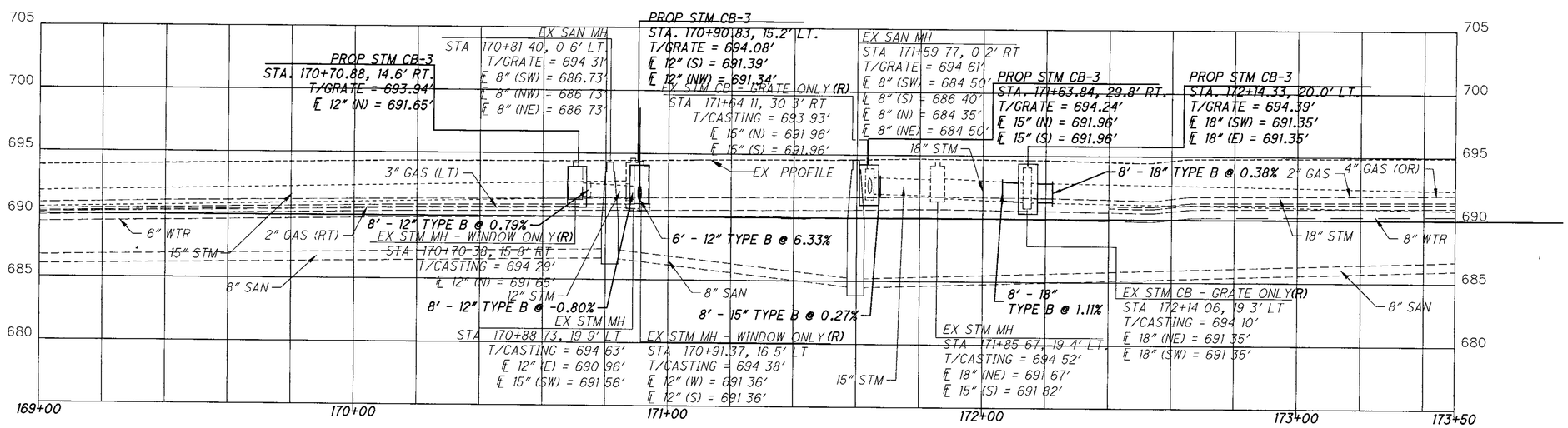
* = NOT SHOWN IN PROFILE BELOW, SEE STORM SEWER PROFILE, SHEET 19

ALL PROPOSED PIPES CONNECTING TO EXISTING PIPES SHALL BE CONNECTED WITH A CONCRETE COLLAR PER ODOT SCD DM-1.1

FOR BENCHMARKS AND HORIZONTAL CONTROL, SEE SHEET 2

GAS LINES WITHOUT (OR) SUFFIX BELONG TO DOMINION EAST OHIO GAS

LEGEND:
(R) = ITEMS TO BE REMOVED
(OR) = ORWELL NATURAL GAS CO. GAS LINE



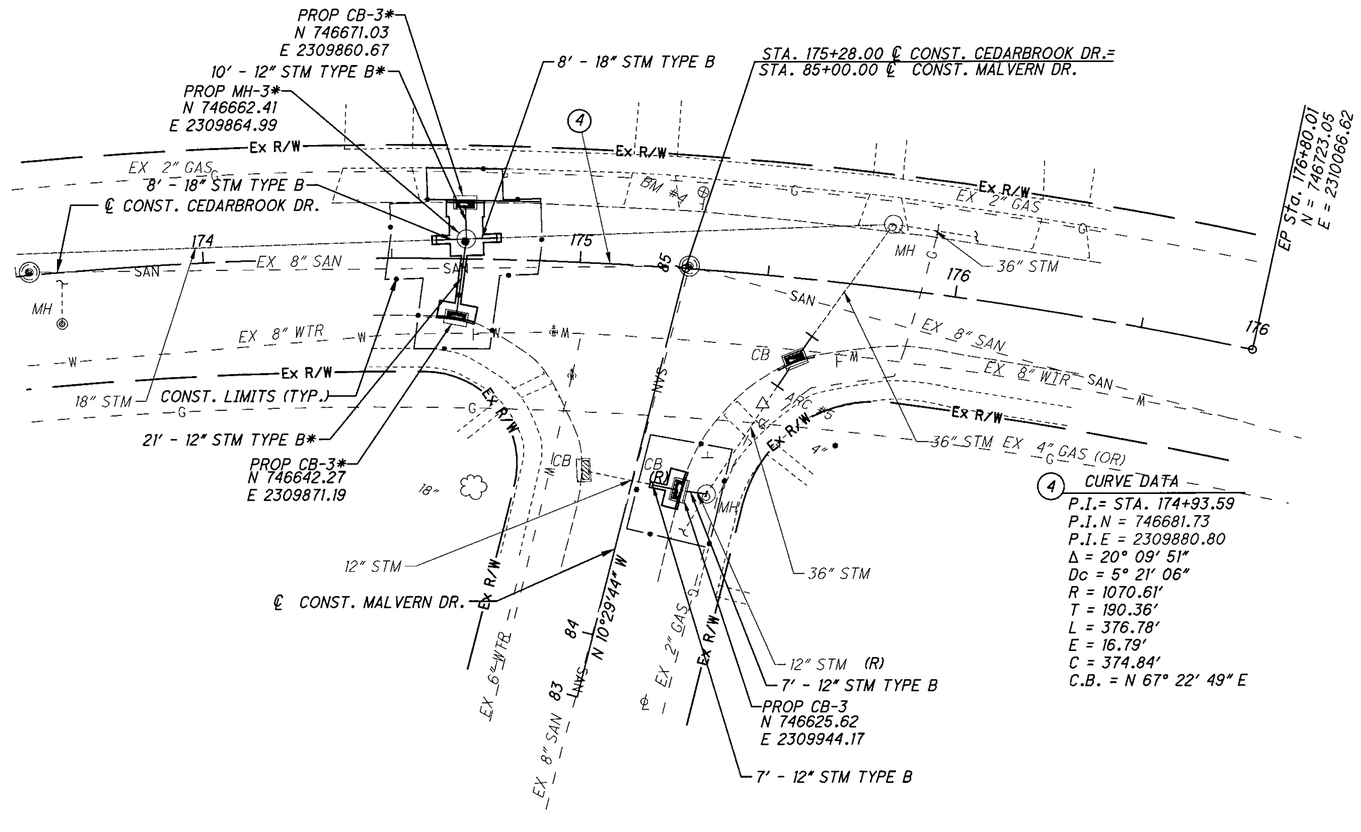
HORIZONTAL SCALE IN FEET
0 10 20 40

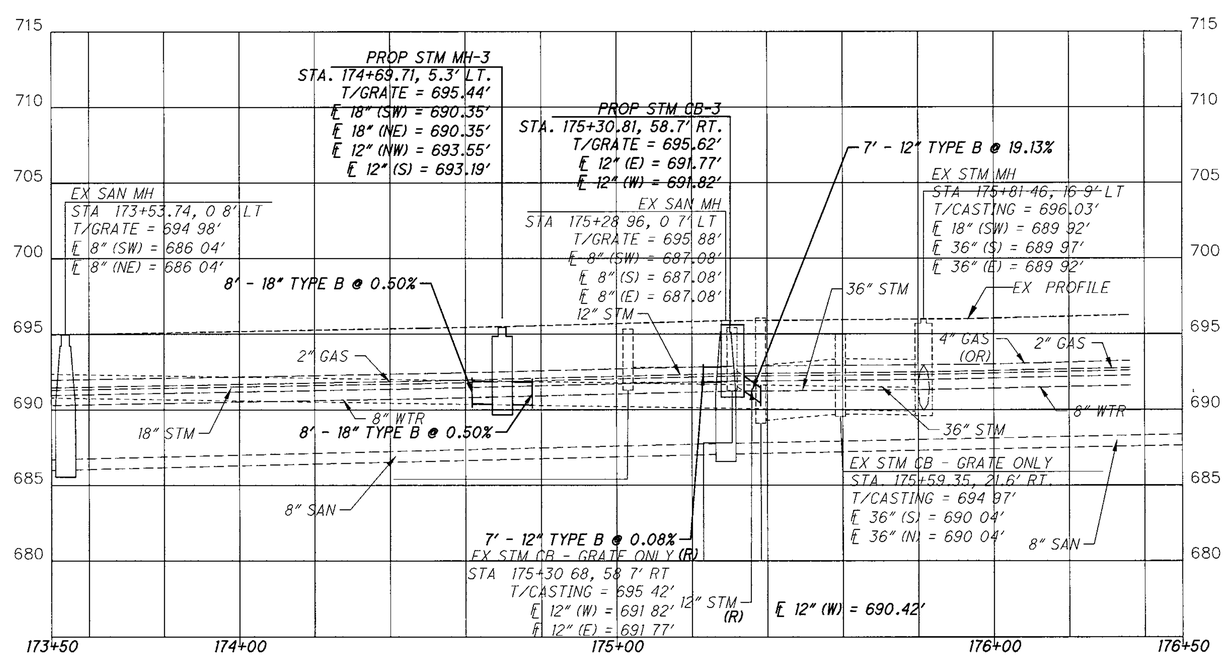
CALCULATED MRH
CHECKED EMC

INTERSECTION PLAN AND PROFILE
SOUTHINGTON AND CEDARBROOK

CEDARBROOK BASIN & STORM IMPROVEMENT

G:\Project\TOHPAI01 FE01\Drawing\CEDAR\roadway\sheets\CEDARGP01.dwg 05-Feb-16 9:43 AM





NOTES:

* = NOT SHOWN IN PROFILE BELOW, SEE STORM SEWER PROFILE, SHEET 19

ALL PROPOSED PIPES CONNECTING TO EXISTING PIPES SHALL BE CONNECTED WITH A CONCRETE COLLAR PER ODOT SCD DM-1.1

FOR BENCHMARKS AND HORIZONTAL CONTROL, SEE SHEET 2

GAS LINES WITHOUT (OR) SUFFIX BELONG TO DOMINION EAST OHIO GAS

LEGEND:

(R) = ITEMS TO BE REMOVED
(OR) = ORWELL NATURAL GAS CO. GAS LINE

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED MRH
CHECKED EMC

INTERSECTION PLAN AND PROFILE MALVERN AND CEDARBROOK

CEDARBROOK BASIN & STORM IMPROVEMENT

G:\Project\TOHPAI01 FE01\Drawing\CEDAR\roadway\sheets\CEDARGP01.dwg 05-Feb-16 9:43 AM