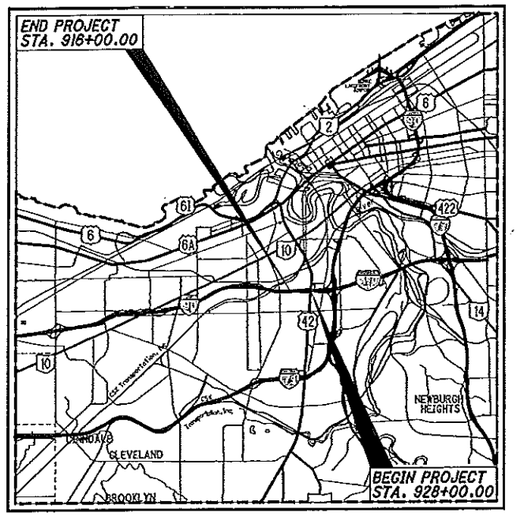
CUY - US 42 - 16.62 Utility Part 2
188010 PID - 105881
Dist 12 5/17/2018

Contract Proposal Available @
www.contracts.dot.state.oh.us/home



LOCATION MAP

LATITUDE: N 41°28'25" LONGITUDE: W 81°42'10"

SCALE IN MILES
0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (20) N/A
DESIGN YEAR ADT (20) N/A
DESIGN HOURLY VOLUME (20) N/A
DIRECTIONAL DISTRIBUTION N/A
TRUCKS (24 HOUR B&C) N/A
DESIGN SPEED N/A
LEGAL SPEED N/A
DESIGN FUNCTIONAL CLASSIFICATION:
N/A
NHS PROJECT N/A

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE — Call Before You Dig 1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:

AECOM
1300 EAST 9TH STREET, SUITE 500
CLEVELAND, OH 44114

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

CUY-42-16.62
UTILITY PART 2

CITY OF CLEVELAND

CUYAHOGA COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

WORK SHALL CONSIST OF THE INSTALLATION OF CLEVELAND PUBLIC POWER (CPP) DUCT BANKS AND CABLES ALONG WADE AVENUE AND VEGA AVENUE FROM THEIR INTERSECTIONS WITH WEST 25TH STREET (US 42) TO THE BORE UNDER I-90 AND THE PROPOSED CPP MANHOLES DESIGNED AS PART 1 OF THE CUY-42-16.62 UTILITY (PID 101856) PROJECT.

PROJECT EARTH DISTURBED AREA: N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A
NOTICE OF INTENT EARTH DISTURBED AREA: N/A

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2016 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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEET 4-6 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

ODOT STANDARD CONSTRUCTION DRAWINGS					CITY OF CLEVELAND STANDARD CONSTRUCTION DRAWINGS			SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	7/18/14	MT-98.11	7/18/14		PR-1	8/3/09		800	1/19/18	
BP-4.1	7/19/13	MT-98.20	7/18/14		CD-1	12/3/09		832	1/17/14	
		MT-98.22	7/18/14							
F-1.1	7/19/13									
F-3.4	7/19/13									
RM-4.2	4/18/14									
DM-4.3	1/15/16									
DM-4.4	1/15/16									

ENGINEERS SEAL:

STATE OF OHIO
MICHAEL ALAN WOOSNING
E-67521
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Michael A. Woosning
DATE: 4-4-2018

APPROVED [signature]
DATE 04-05-18 DISTRICT DEPUTY DIRECTOR

APPROVED [signature]
DATE 4-11-18 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E180(099)
PID NO. 105881
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT N/A
CUY-42-16.62 UTILITY PART 2
1 / 29

GENERAL

UTILITIES

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

CHARTER COMMUNICATIONS
8179 DOW CIRCLE
STRONGSVILLE, OHIO 44136
ATTN.: GARY NAUMANN, SUPERVISOR
PHONE: (216) 575-8016 EXT. 5033
EMAIL: gary.naumann1@charter.com

AT&T
13630 LORAIN AVENUE 2ND FLOOR
CLEVELAND, OHIO 44111
ATTN.: JAMES JANIS, DESIGN MANAGER
PHONE: (216) 476-6142
FAX: (216) 476-6013
EMAIL: pj8191@att.com

CEI FIRST ENERGY
6896 MILLER ROAD
BRECKSVILLE, OHIO 44141
ATTN.: TED RADER, DESIGN SUPERVISOR
PHONE: (440) 546-8738
EMAIL: radert@firstenergycorp.com

DOMINION EAST OHIO GAS COMPANY
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OHIO 44333
ATTN.: K. AARON CONANT
PHONE: (330) 664-2451
EMAIL: k.aaron.conant@dom.com

CITY OF CLEVELAND
DIVISION OF CLEVELAND PUBLIC POWER (MELP)
1300 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
ATTN.: CHRIS HIRZEL
PHONE: (216) 664-3922 EXT. 76115
FAX: (216) 664-2972
EMAIL: chirzel@cpp.com
ATTN.: DALE TURKOVICH
PHONE: (440) 799-9331
EMAIL: dturkovich@hotmail.com

CITY OF CLEVELAND
DIVISION OF TRAFFIC ENGINEERING
601 LAKESIDE AVENUE, ROOM 25
CLEVELAND, OHIO 44114
ATTN: ANDREW CROSS
PHONE: (216) 644-3197
EMAIL: across@City,Cleveland.Oh.Us

CITY OF CLEVELAND
DIVISION OF WATER POLLUTION CONTROL
12302 KIRBY ROAD
CLEVELAND, OHIO 44108
ATTN.: RACHID ZOGHAIB
PHONE: (216) 664-3785
EMAIL: rzoghaib@clevelandWPC.com
ATTN.: ELIE RAMY
PHONE: (216) 664-2756
EMAIL: eramy@clevelandWPC.com

CITY OF CLEVELAND
DIVISION OF WATER
1201 LAKESIDE AVENUE
CLEVELAND, OHIO 44114
ATTN.: FRED ROBERTS
PHONE: (216) 664-2444 EXT. 5590
EMAIL: fred_roberts@ClevelandWater.com

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

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

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.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ODOT PROJECTS. SEE BELOW FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE-NORTH ZONE
COMBINED SYSTEM: 1.00000000 (PRJ. IS IN GRID COORDINATES)

ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED OF THE AREA. USE OF THE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS, AS DEFINED ABOVE, WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

WORK ADJACENT TO DOMINION EAST OHIO GAS LINES

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF DOMINION'S PIPELINE(S), IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION & SHORING). ONE-FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN DOMINION EAST OHIO'S (DEO) EXISTING PIPELINE(S) AND ALL OTHER IMPROVEMENTS. EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY DEO FACILITY (PIPELINES, ETC.) OR APPURTENANCE (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION TEST STATION WIRES & DEVICES, VALVE BOXES, ETC.). DEO FACILITIES MUST BE PROTECTED WITH A TARP DURING BRIDGE CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE AND LIABLE FOR ENSURING THAT ALL DEO EXISTING FACILITIES, ABOVE AND BELOW GROUND, REMAIN UNDAMAGED, ACCESSIBLE AND IN WORKING ORDER. THE CROSSING OF DEO'S PIPELINE WITH ANOTHER STEEL FACILITY MAY CREATE A POT ENTAIL CORROSION ISSUE FOR THE PROPOSED FACILITY AND THE EXISTING DEO FACILITY. PLEASE CONTACT DOMINION'S CORROSION DEPARTMENT: DAVE CUTLIP (330-266-2121), RICK MCDONALD (330-266-2122), OR AL HUMRICHOUSER (330-478-3757).

DEO = DOMINION ENERGY OHIO, 1-800-362-7557.

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.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION - TYPE DEVICES BETWEEN THE HOURS OF 9 PM AND 7 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME AND DEVICES IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

EROSION CONTROL

SEEDING AND MULCHING

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

ITEM 659, SOIL ANALYSIS TEST	2 EACH
ITEM 659, TOPSOIL	178 CY
ITEM 659, SEEDING AND MULCHING, CLASS 2	1600 SY
ITEM 659, REPAIR SEEDING AND MULCHING	80 SY
ITEM 659, COMMERCIAL FERTILIZER	0.22 TON
ITEM 659, LIME	0.33 ACRE
ITEM 659, WATER	8.64 MGAL

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.

PAVEMENT

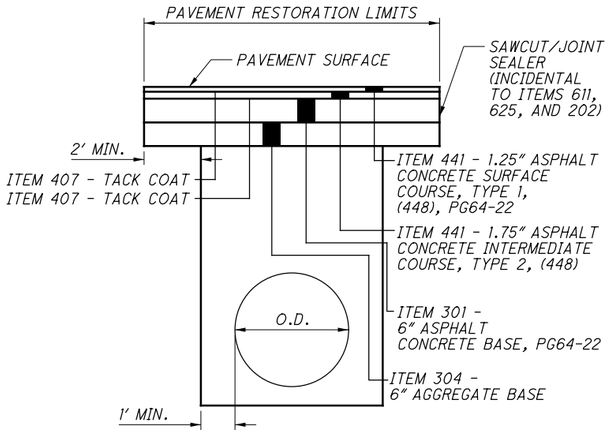
PAVEMENT RESTORATION FOR UTILITY INSTALLATIONS

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR PAVEMENT RESTORATION FOLLOWING THE INSTALLATION OF CONDUIT UNDER ITEMS 202, 611, AND 625.

ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22	568 CY
ITEM 304 - 6" AGGREGATE BASE	568 CY
ITEM 407 - TACK COAT	409 GAL
ITEM 441 - 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, 448, PG64-22	118 CY
ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	166 CY

THE QUANTITIES ARE BASED ON THE PAVEMENT BUILDUP SHOWN IN THE PAVEMENT RESTORATION DETAIL BELOW. THE PAVEMENT RESTORATION WIDTH THAT INCLUDED THE TRENCH WIDTH PLUS ONE FOOT ON EACH SIDE OF THE TRENCH AS SHOWN IN THE PAVEMENT RESTORATION DETAIL.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.



PAVEMENT RESTORATION DETAIL

CURB, MISC.: CITY OF CLEVELAND CONCRETE CURB

CONSTRUCT ALL CURB TO BE REPLACED PER THE CITY OF CLEVELAND STANDARD CONSTRUCTION DRAWING CD-1.

ELECTRIC

ITEM 625 - CONDUIT, CONCRETE ENCASED, AS PER PLAN

THE CONTRACTOR SHALL PROVIDE 5" CONDUITS, AS SHOWN ON THE PLANS, CONFORMING TO 725.051. THESE CONDUITS SHALL BE ENCASED IN CONCRETE PER CITY OF CLEVELAND CONCRETE MIX (SEE SHEET 23 FOR ADDITIONAL INFORMATION) AND THE DETAILS WITHIN THE PLAN SET. THE COST FOR ALL LABOR AND MATERIALS REQUIRED FOR THE COMPLETE INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID PER FOOT OF ITEM 625 - CONDUIT, CONCRETE ENCASED, AS PER PLAN.

ITEM SPECIAL - CPP COORDINATION

CPP WILL PERFORM ALL SPLICES INCLUSIVE OF ALL FINAL HOOK-UP LOCATIONS AND INTERMEDIATE SPLICES WITHIN NEW MANHOLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING THE SPLICES PERFORMED BY CPP. THE CONTRACTOR SHALL NOTIFY CPP FOUR (4) WEEKS PRIOR TO PULLING CABLE. THE CONTRACTOR SHALL PULL CABLE THROUGH MANHOLES SUCH THAT ALL 8 SETS OF CABLES ARE AVAILABLE FOR SPLICING BEFORE PULLING CABLE AT THE NEXT MANHOLE. CPP WILL PROVIDE ALL NECESSARY SPLICE KITS AND PARTS.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE PROPOSED MANHOLES TO CPP FOR APPROVAL PRIOR TO FABRICATION.

THE CONTRACTOR SHALL COORDINATE WITH CPP FOR THE TEMPORARY SUPPORT OF UTILITY POLES IN PROXIMITY OF THE PROPOSED TRENCH EXCAVATION.

THE COST OF ALL COORDINATION BETWEEN THE CONTRACTOR AND CPP SHALL BE INCLUDED IN THE LS PRICE FOR ITEM SPECIAL, CPP COORDINATION.

MOLDED SPLICE SPECIFICATIONS FOR CPP FOR CUY-42-16.62: (TO BE PERFORMED BY CPP)

1) DESIGNED AND TESTED PER IEEE STANDARD 404.

2) VOLTAGE RATINGS:
   A. 15KV CLASS (8.7KV PHASE-TO-GROUND)
   B. IMPULSE WITHSTAND: A=110KV, 1.2 X 50 MICROSECOND WAVE.
   C. CORONA EXTINCTION VOLTAGE: A=13KV, MINIMUM, 3PC SENSITIVITY.
   D. DC WITHSTAND: DURING INSTALLATION: 56KV
   E. DC WITHSTAND: 18KV FOR XLPE INSULATED CABLES 45KV FOR EPR INSULATED CABLES REFERENCE AEIC CS6 AND CS8, SECTION L.2.0

3) FOR THIS PROJECT: SPLICE FOR 4/0 AWG, 15 KV URD, ELASTIMOLD 15 PCJ 1 H 2 270

ITEM 625 - DISTRIBUTION CABLE, MISC.: CPP STANDARD CABLE CABLE SPECIFICATIONS FOR CPP FOR CUY-42-16.62:

1) ALL ETHYLENE PROPYLENE RUBBER INSULATED URD CABLE IS TO BE MANUFACTURED, TESTED AND WARRANTED IN ACCORDANCE WITH:
   A. A.E.I.C. CS6 (LATEST REVISION)
   B. I.C.E.A S66516 (LATEST REVISION)

2) CHARACTERISTICS:
   A. BARE ANNEALED COPPER CENTER CONDUCTOR, "COMPACT" OR "COMPRESSED" CLASS B STRANDING PER ASTM B-3, AS SPECIFIED ON THE BID SHEET.
   B. 1/3 COPPER CONCENTRIC NEUTRAL, AS SPECIFIED ON BID SHEET
   C. ETHYLENE PROPYLENE RUBBER INSULATION
   D. AVERAGE MINIMUM INSULATION THICKNESS 220 MILS
   E. POLYETHYLENE JACKET

3) 15 KV EPR URD:
   A. RATED 15 KV 133 %, 220-MIL INSULATION THICKNESS
   B. FOR THIS PROJECT: 4/0 AWG, 15 KV 133%, EPR URD, 33% NEUTRAL

THE DISTRIBUTION CABLE QUANTITY INCLUDES THE LENGTHS OF ALL FOUR CIRCUITS MEASURED ACCORDING TO ITEM 625 WITH THE SUM MULTIPLIED BY THE THREE CONDUCTORS REQUIRED FOR EACH CIRCUIT.

CALCULATED JEM CHECKED MAW

GENERAL NOTES

CUY-42-16.62 UTILITY PART 2

DRAINAGE

CATCH BASIN, MISC.: CITY OF CLEVELAND CATCH BASIN, CB-1

CONSTRUCT ALL CATCH BASINS TO BE REPLACED PER THE CITY OF CLEVELAND STANDARD CONSTRUCTION DRAWING CB-1.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE A PROPOSED CONDUIT TO 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 LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE, 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.

SANITARY

ITEM 611 - CONDUIT, MISC.: BRICK SEWER CONCRETE REINFORCEMENT

THE CONTRACTOR SHALL PROVIDE CONCRETE REINFORCEMENT AS REQUIRED FOR THE BRICK MAIN SEWER AT THE LOCATIONS OF CONFLICT SHOWN ON THE PLAN AND PROFILE SHEET. THE REINFORCEMENT WILL CONSIST OF NO LESS THAN 6" CONCRETE (3,000 PSI). IN GENERAL, REINFORCEMENT IS REQUIRED WITHIN THE LIMITS OF THE PROPOSED CPP VAULTS, BETWEEN THE VAULT AND THE EXISTING BRICK SEWER. HOWEVER, WPC NEEDS TO BE CONTACTED BY THE CONTRACTOR TO BE PRESENT ONSITE WHEN THE WORK TAKES PLACE FOR EACH VAULT. HAND DIGGING WILL BE REQUIRED TO EXPOSE THE MAIN SEWER AND DETERMINE THE ACTUAL PROXIMITY OF THE VAULT TO THE SEWER. BASED ON THE FINDINGS, WPC WILL CONFIRM THE ACTUAL LIMITS OF THE REINFORCEMENT REQUIRED. ADDITIONALLY, THE CONTRACTOR SHOULD PROCEED WITH CAUTION WHEN WORKING IN THE PROXIMITY OF THE EXISTING SEWER. SHOULD ANY DAMAGE OCCUR TO THE EXISTING SEWER, THE CONTRACTOR IS RESPONSIBLE FOR THE SEWER REPAIR. THE COST FOR ALL LABOR AND MATERIALS REQUIRED FOR THE COMPLETE INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD OF ITEM 611 - CONDUIT, MISC.: BRICK SEWER CONCRETE REINFORCEMENT.

ITEM 611 - CONDUIT, MISC.: CONDUIT CORING

CORE DRILL A HOLE IN THE EXISTING NO. 2 BRICK MAIN SEWER FOR INSTALLATION OF SANITARY LATERAL TO ENSURE A CLEAN, ROUND, SMOOTH HOLE. ADDITIONALLY, THE CONTRACTOR SHOULD PROCEED WITH CAUTION WHEN WORKING IN THE PROXIMITY OF THE EXISTING SEWER. SHOULD ANY DAMAGE OCCUR TO THE EXISTING SEWER, THE CONTRACTOR IS RESPONSIBLE FOR THE SEWER REPAIR.

THE COST FOR ALL LABOR AND MATERIALS REQUIRED FOR THE COMPLETE INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH OF ITEM 611 - CONDUIT, MISC.: CONDUIT CORING.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 611 - CONDUIT, MISC.: CONDUIT CORING 2 EACH

CLEVELAND WATER POLLUTION CONTROL COORDINATION

THE SEWER SERVICE SHALL REMAIN ACTIVE DURING ALL CONSTRUCTION ACTIVITIES

CONTACT CLEVELAND WATER POLLUTION CONTROL AT (216) 664-2756 OR (216) 420-7638 TO COORDINATE THE SEWER CONNECTION RELOCATION OR FOR ANY SEWER RELATED ISSUES ENCOUNTERED DURING CONSTRUCTION.

SANITARY LATERAL REPAIR/REPLACEMENT

REPAIR OR REPLACEMENT OF DAMAGED SANITARY SEWER LATERALS SHALL ADHERE TO THE FOLLOWING STANDARDS:

1) REPAIR ALL DAMAGED SEWER CONNECTIONS IN KIND.

2) USE VCP FOR ALL REPAIRED/RELOCATED SEWER CONNECTIONS.

3) ALL SEWER REPAIRED/RELOCATED CONNECTIONS SHOULD BE LAID AT NO LESS THAN ONE PERCENT GRADE.

4) THE MINIMUM SIZE FOR A SEWER CONNECTION SHOULD BE 6".

5) A MINIMUM OF THREE FEET OF COVER IS REQUIRED FOR ALL RELOCATED SEWER CONNECTIONS.

6) A SIX INCH VCP TEST TEE MAY BE REQUIRED FOR RELOCATED SEWER CONNECTIONS. TEST TEE SHALL BE PER THE CITY OF CLEVELAND, DIVISION OF WATER POLLUTION CONTROL DETAIL ON THIS SHEET.

7) NO HORIZONTAL BENDS ARE ALLOWED FOR SEWER CONNECTIONS.

8) USE A SADDLE FOR SEWER CONNECTIONS THAT TIE TO A BRICK OR RCP MAIN SEWER.

THE LOCATION OF THE EXISTING SANITARY LATERALS SHOWN ON THE PLANS WERE DETERMINED BY THE LOCATION OF THE CONNECTIONS INTO THE MAIN TRUNK SEWER. THE CONTRACTOR SHALL VERIFY THESE LOCATIONS AND REPLACE THE LATERAL AT THE SAME HORIZONTAL AND VERTICAL LOCATION.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 202 - PIPE REMOVED, 24" AND UNDER 50 FT

ITEM 611 - 6" CONDUIT, TYPE B, 706.08 50 FT

SANITARY SEWER REPLACEMENT

A) THE CONTRACTOR SHOULD NOTIFY THE DIVISION OF WATER POLLUTION CONTROL (WPC) PRIOR TO START OF SEWER REPLACEMENT AT THE INTERSECTION OF VEGA AVE AND W 25 ST. CALL THE ENGINEERING OFFICE AT (216) 664-2756, OR (216) 420-7638 TO COORDINATE THE SEWER WORK.

B) THE CONTRACTOR IS REQUIRED TO SUBMIT SEWER SHOP DRAWINGS FOR THE MANHOLE AND SEWER PIPE TO WPC PRIOR TO SEWER INSTALLATION.

C) WPC WILL INSPECT THE CITY SEWER INSTALLATION.

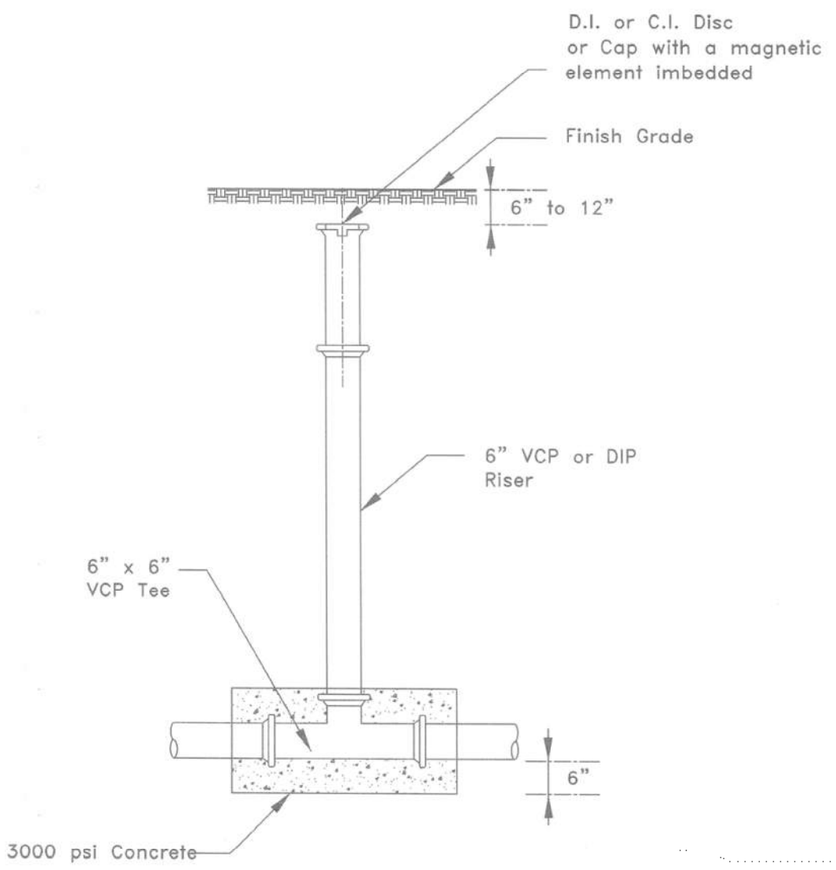
D) THE PROPOSED SEWERS SHOULD BE CONSTRUCTED IN ACCORDANCE TO THE PLANS AND SPECIFICATIONS APPROVED BY WPC. ANY DEVIATIONS FROM THE APPROVED PLANS OR SPECIFICATIONS REQUIRE A NEW PLAN SUBMITTAL REFLECTING THE CHANGES. UPON REVIEW OF THE REVISED ITEMS, WPC WILL RE-ISSUE A NEW APPROVAL. IT IS STRICTLY PROHIBITED TO CONSTRUCT ANY SEWERS UNLESS THEY ARE APPROVED BY WPC.

E) UPON COMPLETION OF THE SEWER REPLACEMENT, THE CONTRACTOR IS REQUIRED TO SUBMIT A CCTV COPY OF THE NEW CITY SEWER. WPC RESERVES THE RIGHT NOT TO APPROVE ANY SEWER THAT DOES NOT MEET THE CITY REQUIREMENTS.

MANHOLE, MISC.: WPC STANDARD MANHOLE

CONSTRUCT ALL MANHOLES TO BE REPLACED PER THE WPC PRECAST CONCRETE MANHOLE STANDARD CONSTRUCTION DRAWING ON SHEET 22.

CITY OF CLEVELAND
DIVISION OF WATER POLLUTION CONTROL
TEST TEE DETAIL
(No scale)



CALCULATED JEM CHECKED MAW

GENERAL NOTES

CUY-42-16.62
UTILITY

MAINTENANCE OF TRAFFIC

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 1 - 10' LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT. UNLESS DESIGNATED FOR CLOSURE IN THE PLAN.

THE PROPOSED CROSSING OF THE I.R. 90 EASTBOUND OFF RAMP SHALL BE CONSTRUCTED USING A WEEKEND CLOSURE. ALL I.R. 90 RAMPS SHALL REMAIN OPEN EXCEPT FOR A PERIOD NOT TO EXCEED 1 WEEKEND, FROM FRIDAY NIGHT 8PM TO MONDAY MORNING 6AM, WHEN THE EASTBOUND OFF RAMP MAY BE CLOSED TO CONSTRUCT THE PROPOSED CROSSING. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE DISTRICT OFFICE BEFORE CLOSING THE I.R. 90 EASTBOUND OFF RAMP.

THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THE WORK FORCES OF THE ADJACENT PROJECT, CUY-42-16.67 (PID 101856), TO FACILITATE THE COMPLETION OF ALL SCHEDULED CONSTRUCTION ACTIVITIES WITHOUT UNDUE DELAY OR INTERFERENCE IN ACCORDANCE WITH SECTION 105.07 OF THE SPECIFICATIONS. THE CONTRACTOR SHALL ARRANGE WITH OTHER WORK FORCES A MUTUALLY ACCEPTABLE WORK SCHEDULE SUBJECT TO THE APPROVAL OF THE ENGINEER PRIOR TO COMMENCING ANY OPERATIONS. THE CONTRACTOR SHALL PRESENT ANY UNRESOLVED SCHEDULE CONFLICTS WITH OTHER WORK FORCES IN WRITING TO THE ENGINEER WITH TWO WORKING DAYS OF THE CONFLICT DISCOVERY. THE ENGINEER WILL ATTEMPT CONFLICT RESOLUTION WITH OTHER WORK FORCES WITHIN TWO WORKING DAYS FOLLOWING RECEIPT OF THE CONTRACTORS NOTIFICATION. COMPENSATIONS FOR THE ABOVE COOPERATION SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS WITHIN THE PROJECT.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACTS TO THE TRAVELING PUBLIC. LANE CLOSURES OR 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.

THE CONTRACTOR SHALL PHASE CONSTRUCTION SO THE EASTERN PORTION OF THE PROJECT WHERE THE PROPOSED DUCT CROSSES WEST 25TH STREET IS COMPLETED FIRST.

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 FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 619 - FIELD OFFICE, TYPE B, AS PER PLAN

A TYPE B FIELD OFFICE IS REQUIRED FOR THIS PROJECT. THE FOLLOWING REVISIONS TO EQUIPMENT SUPPLIED WITH THE TYPE B FIELD OFFICE, AS SPECIFIED IN TABLE 619.02-1, FIELD OFFICE, SHALL APPLY:

THE BROADBAND INTERNET CONNECTION MUST MEET A MINIMUM UPLOAD SPEED OF 5 MB PER SECOND.

ALL OTHER FIELDS OFFICE ITEMS SUPPLIED SHALL MEET THE REQUIREMENTS OF A TYPE B, FIELD OFFICE

ODOT D12 NOTIFICATION PRIOR TO WORK

THE CONTRACTOR SHALL NOTIFY THE ODOT PUBLIC INFORMATION OFFICE STAFF TWO (2) WEEKS PRIOR TO BEGINNING WORK. CONTACT AMANDA MCFARLAND, PUBLIC INFORMATION OFFICER, (216) 589-2005.

ODOT D12 PERMITTED LANE CLOSURES

LANES CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY ODOT'S, PERMITTED LANE CLOSURE WEB SITE, WHICH IS LOCATED ON ODOT'S WEB SITE AT:

HTTP://WWW.DOT.STATE.OH.US/DISTRICTS/D12/HIGHWAYMANAGEMENT/PERMITTEDLANECLOSURES.ASPX

ALL NOTES ON THE PERMITTED LANE CLOSURE TIMES SHALL BE PART OF THE PROJECT. THE LATEST REVISION, 14 DAYS PRIOR TO THE BID DATE, WILL BE IN EFFECT FOR THIS JOB.

TRENCH FOR ELECTRIC DUCT INSTALLATION

TRENCH EXCAVATION FOR ELECTRIC DUCT INSTALLATION SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF TRENCH WHICH IS OPEN AT ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

THE ELECTRIC DUCT INSTALLATION SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 3 INCHES BELOW THE EXISTING PAVEMENT OR COVERED BY STEEL PLATE BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVER NIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN THE CASE THAT WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

CITY OF CLEVELAND MAINTAINING TRAFFIC RESTRICTIONS

BEFORE STARTING ANY WORK UNDER THIS CONTRACT, THE CONTRACTOR SHALL CONFER WITH THE PROPER REPRESENTATIVES OF THE DIVISION OF TRAFFIC ENGINEERING AND PARKING, THE REGIONAL TRANSIT AUTHORITY, THE CITY ENGINEERING OFFICE AND OTHERS WHO MAY BE AFFECTED BY THE CARRYING OUT OF THIS WORK, AND SHALL BE COVERED BY AGREEMENTS REACHED AT SUCH CONFERENCES.

THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH THE FOLLOWING CONDITIONS ON THE WORK SITE AS DIRECTED BY THE COMMISSIONER OF TRAFFIC ENGINEERING AND PARKING OF THE CITY OF CLEVELAND OR HIS AUTHORIZED REPRESENTATIVES.

THE CONTRACTOR SHALL FURNISH ALL REQUIRED TRAFFIC CONTROL DEVICES, INCLUDING WEIGHT DRUMS, TRAFFIC CONES, TRAFFIC CONTROL SIGNS, BARRICADES, WARNING AND FLASHER LIGHTS, AND ANY AND ALL OTHER WARNING OR TRAFFIC CHANNELING DEVICES REQUIRED FOR THE CONTROL OF TRAFFIC IN THE CONSTRUCTION AREA. TRAFFIC CONTROL DEVICES SHALL BE THOSE APPROVED BY THE COMMISSIONER OF TRAFFIC ENGINEERING AND PARKING.

THE CONTRACTOR SHALL PLACE, RELOCATE, AND REMOVE THE TRAFFIC CONTROL DEVICES AS NEEDED WITH THE WRITTEN PERMISSION OF THE COMMISSIONER OF TRAFFIC ENGINEERING AND PARKING.

HE SHALL MAKE ANY AND ALL CHANGES OF THE ARRANGEMENT OF WARNING AND CHANNELING DEVICES AS REQUIRED BY THE PROGRESS OF WORK, AND WHEN THE FLOW OF TRAFFIC MUST BE CHANGED AND MAINTAINED AS REQUIRED. THESE CHANGES SHALL BE PERFORMED AS DIRECTED BY AND UNDER THE SUPERVISION OF A REPRESENTATIVE OF THE COMMISSIONER OF TRAFFIC AND ENGINEERING AND PARKING.

THE CONTRACTOR SHALL PROVIDE A COMPETENT FLAGMAN OR OFF-DUTY POLICEMAN TO ASSIST THE FLOW OF TRAFFIC AND FOR THE SAFE MANEUVERING OF EQUIPMENT AND TRUCKS USED FOR CONSTRUCTION WORK UNDER THIS CONTRACT. THIS FLAGMAN OR OFF-DUTY POLICEMAN MUST BE ON DUTY AT ALL TIMES WHEN CONSTRUCTION WORK IS IN PROGRESS. THE FLAGMAN OR OFF-DUTY POLICEMAN MUST BE APPROVED BY THE COMMISSIONER OF TRAFFIC ENGINEERING AND PARKING PRIOR TO STARTING WORK.

ALL BARRICADES SHALL HAVE THE NECESSARY LIGHTING TO PROVIDE A WARNING TO APPROACHING VEHICLES. THESE LIGHTS SHALL BE MAINTAINED BY THE CONTRACTOR.

THE COST OF MAINTAINING TRAFFIC AS HEREIN SPECIFIED SHALL BE INCLUDED IN THE LUMP SUM BID FOR MAINTAINING TRAFFIC, ITEM 614.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, 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. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) OF THE PLAN. 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 AWAY FROM ALL TRAFFIC.

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

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 PRECONSTRUCTION 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 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.

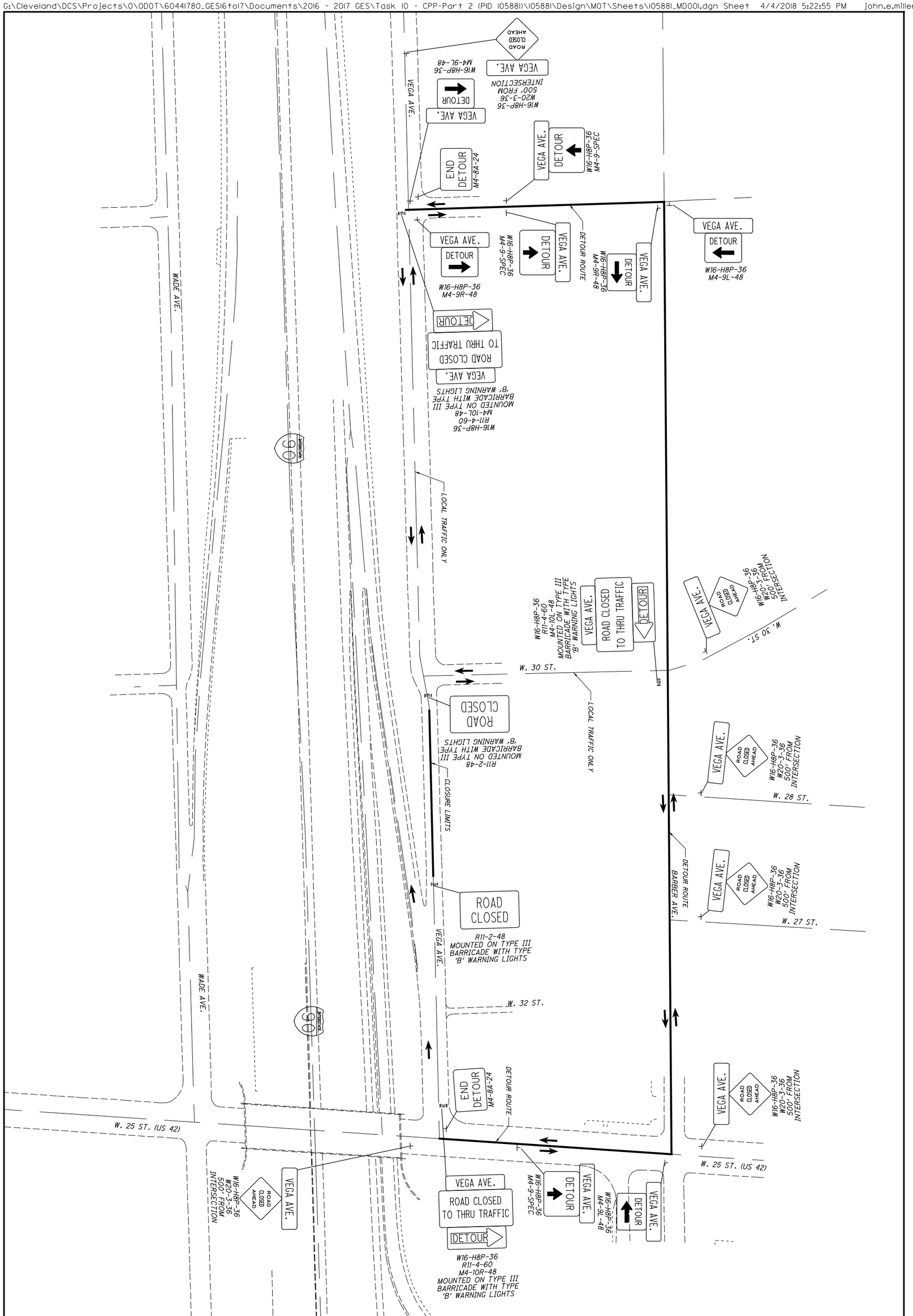
PAYMENT FOR THE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	0.4 SNMT

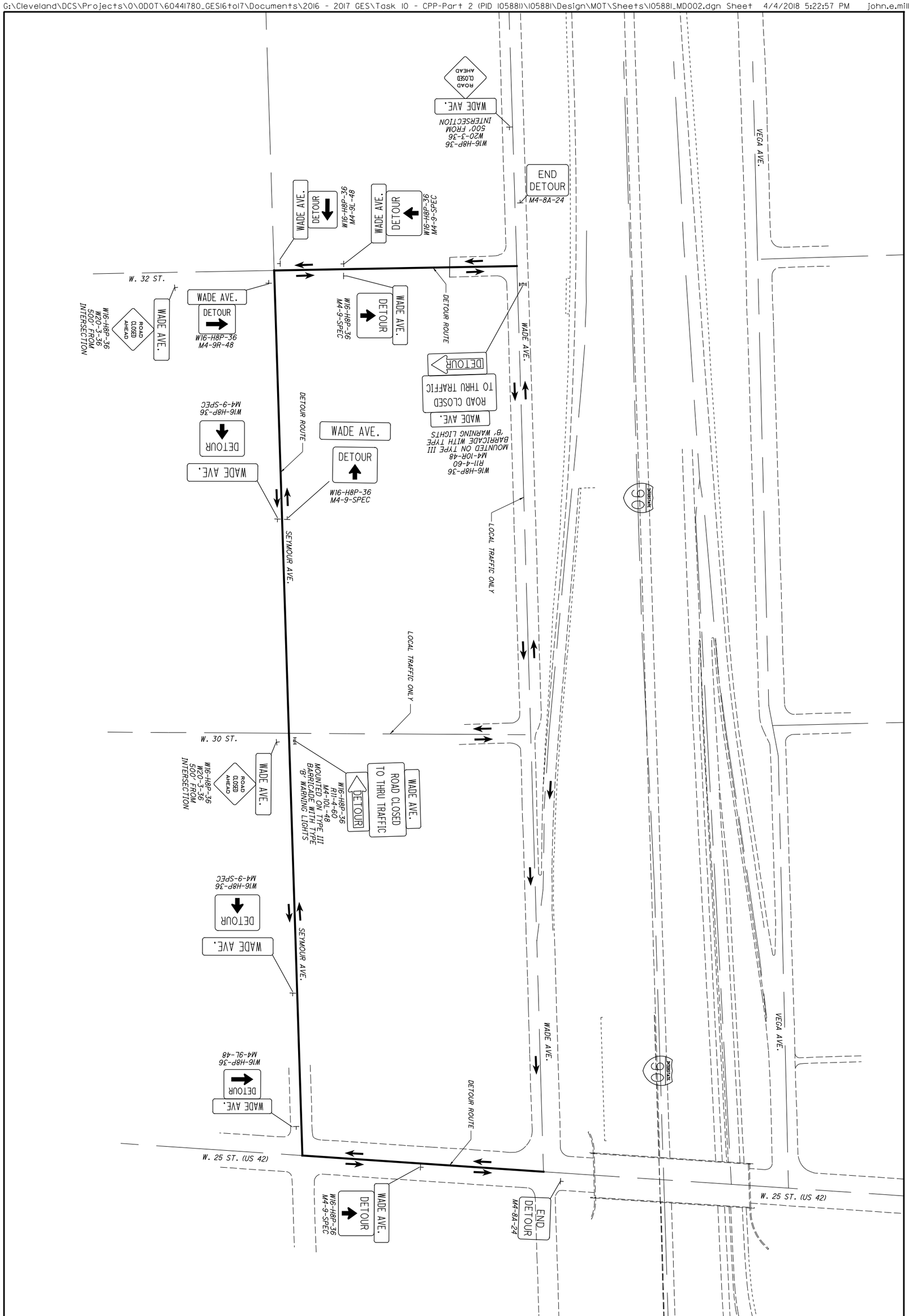
CALCULATED JEM CHECKED MAW

MAINTENANCE OF TRAFFIC GENERAL NOTES

CUY-42-16.62 UTILITY PART 2



5 / 29	CUY-42-16.62 UTILITY PART 2	DETOUR PLAN - VEGA AVENUE	CALCULATED JEM CHECKED MAW	0 60 30 120 HORIZONTAL SCALE IN FEET



6 / 29	CUY-42-16.62 UTILITY PART 2	DETOUR PLAN - WADE AVENUE	CALCULATED JEM CHECKED MAW	0 60 30 120 HORIZONTAL SCALE IN FEET

EAST TO
490 77
1 MILE

EAST
90
Erie Pa

EXIT 170B
71 176 SOUTH
Columbus
1 MILE

EXISTING BRIDGE MOUNTED

ALT 90 EAST
EAST TO
490 77
1 MILE

90 EAST
Erie Pa

EXISTING OVERHEAD SIGN TRUSS

EAST TO
490 77
LEFT 1¼ MILES

EXIT 170A
42
W 25th St
CLOSED
1 MILE

DETOUR
42
M4-8-36
M1-4-36-2
EXIT 169
W 44th St
W 41st St
EXIT ONLY

W20-H15-108
EXISTING OVERHEAD SIGN TRUSS

EXISTING OVERHEAD SIGN TRUSS

EXIT 170B
71 176 SOUTH
Columbus
3/4 MILE

EXIT 170A
42
W 25th St
CLOSED
1 MILE

W20-H15-108

EXIT 170C
EAST TO
490 77
EXIT ONLY

EXIT 170B
71 176 SOUTH
Columbus
1/2 MILE

EXIT 170A
42
W 25th St
CLOSED
EXIT ONLY

EXISTING OVERHEAD SIGN TRUSS

EXIT RAMP CLOSURE
PER SCD MT-98.29

DETOUR
42
M4-8-36
M1-4-36-2
EXIT 169
W 44th St
W 41st St
EXIT ONLY
EXISTING
CANTILEVER SIGN

M4-8-36
M1-4-36-2
M6-2-30
DETOUR
42
W 25th St

M4-8-36
M1-4-36-2
M6-2-30
DETOUR
42

W16-H8P-36
M4-9-SPEC
M1-4-2-36
DETOUR
42
W 25th St

W16-H8P-36
M1-4-30-2
M6-2-30
M4-8-36
DETOUR
42
W 25th St

W16-H8P-36
M1-4-30-2
M4-9L-24
DETOUR
42
W 25th St

W16-H8P-36
M1-4-30-2
M4-9L-24
DETOUR
42
W 25th St

W16-H8P-36
M1-4-30-2
M4-9L-24
DETOUR
42
W 25th St

END
DETOUR
M4-8A-24

W 25th St
EXIT 170A
CLOSED

FOLLOW
DETOUR
EXIT 169

PROPOSED PCMS

ALT 90 EAST
EAST TO
490 77
EXIT ONLY

EXIT 170B
EAST 90
SOUTH
71 176
ONLY

EXIT 170A
42
W 25th St
CLOSED
EXIT ONLY

W20-H15-108

EXISTING OVERHEAD SIGN TRUSS

N

0 250 500 1000
HORIZONTAL
SCALE IN FEET

CALCULATED JEM
CHECKED MAW

DETOUR PLAN - I.R. 90 OFF RAMP

CUY-42-16.62
UTILITY PART 2

7
29

G:\Cleveland\DGS\Projects\0\D0DT\60441780_GES16to17\Documents\2016 - 2017 GES\Task 10 - CPP-Part 2 (PID 10588)\10588\Design\MOT\Sheets\10588I_MD003.dgn Sheet 4/4/2018 5:23:00 PM john.e.miller

SHEET NUMBER				PARTICIPATION	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
CADD AREA	2	3	4							
									ROADWAY	
				01/BRO/BR	201	11000	LS		CLEARING AND GRUBBING	
3674				01/BRO/BR	202	23000	3674	SY	PAVEMENT REMOVED	
500				01/BRO/BR	202	30000	500	SF	WALK REMOVED	
1772				01/BRO/BR	202	32000	1772	FT	CURB REMOVED	
		50		01/BRO/BR	202	35100	50	FT	PIPE REMOVED, 24" AND UNDER	
259				01/BRO/BR	202	75000	259	FT	FENCE REMOVED	
259				01/BRO/BR	607	23000	259	FT	FENCE, TYPE CLT	
500				01/BRO/BR	608	10000	500	SF	4" CONCRETE WALK	
									EROSION CONTROL	
	2			01/BRO/BR	659	00100	2	EACH	SOIL ANALYSIS TEST	
	178			01/BRO/BR	659	00300	178	CY	TOPSOIL	
	1600			01/BRO/BR	659	00510	1600	SY	SEEDING AND MULCHING, CLASS 2	
	80			01/BRO/BR	659	14000	80	SY	REPAIR SEEDING AND MULCHING	
	0.22			01/BRO/BR	659	20000	0.22	TON	COMMERCIAL FERTILIZER	
	0.33			01/BRO/BR	659	31000	0.33	ACRE	LIME	
	8.64			01/BRO/BR	659	35000	8.64	MGAL	WATER	
				01/BRO/BR	832	30000	7600	EACH	EROSION CONTROL	
									DRAINAGE	
93				01/BRO/BR	611	04400	93	FT	12" CONDUIT, TYPE B, 706.08	
		1		01/BRO/BR	611	98690	1	EACH	CATCH BASIN, MISC.: CITY OF CLEVELAND CB-1 CATCH BASIN	3
									PAVEMENT	
	603			01/BRO/BR	301	46000	603	CY	ASPHALT CONCRETE BASE, PG64-22	
	603			01/BRO/BR	304	20000	603	CY	AGGREGATE BASE	
	434			01/BRO/BR	407	10000	434	GAL	TACK COAT	
	126			01/BRO/BR	441	50000	126	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
	176			01/BRO/BR	441	50300	176	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
57				01/BRO/BR	452	10050	57	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC MS	
1772				01/BRO/BR	609	98000	1772	FT	CURB, MISC.: CITY OF CLEVELAND CURB	2
									SANITARY SEWER	
		50		01/BRO/BR	611	00900	50	FT	6" CONDUIT, TYPE B, 706.08	
80				01/BRO/BR	611	13400	80	FT	30" CONDUIT, TYPE B, 748.01	
2				01/BRO/BR	611	97200	2	EACH	CONDUIT, MISC.: CONDUIT CORING	3
166				01/BRO/BR	611	97600	166	CY	CONDUIT, MISC.: BRICK SEWER CONCRETE REINFORCEMENT	3
1				01/BRO/BR	611	99690	1	EACH	MANHOLE, MISC.: WPC STANDARD MANHOLE	3
									ELECTRICAL	
5				01/BRO/BR	611	99690	5	EACH	MANHOLE, MISC.: CPP STANDARD MANHOLE	2
33180				01/BRO/BR	625	23308	33180	FT	DISTRIBUTION CABLE, MISC.: CPP STANDARD CABLE	2
2370				01/BRO/BR	625	25803	2370	FT	CONDUIT, CONCRETE ENCASED, AS PER PLAN	2
2370				01/BRO/BR	625	29000	2370	FT	TRENCH	
4740				01/BRO/BR	625	36000	4740	FT	PLASTIC CAUTION TAPE	
				01/BRO/BR	SPECIAL	69098400	LS		SPECIAL - CPP COORDINATION	2
									MAINTENANCE OF TRAFFIC	
				01/BRO/BR	614	12420	LS		DETOUR SIGNING	
			0.4	01/BRO/BR	614	18601	0.4	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	4
									INCIDENTALS	
				01/BRO/BR	108	30000	LS		CPM PROGRESS SCHEDULE SHORT DURATION PROJECTS	
				01/BRO/BR	614	11000	LS		MAINTAINING TRAFFIC	
				01/BRO/BR	619	16011	4	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN	4
				01/BRO/BR	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
				01/BRO/BR	624	10000	LS		MOBILIZATION	

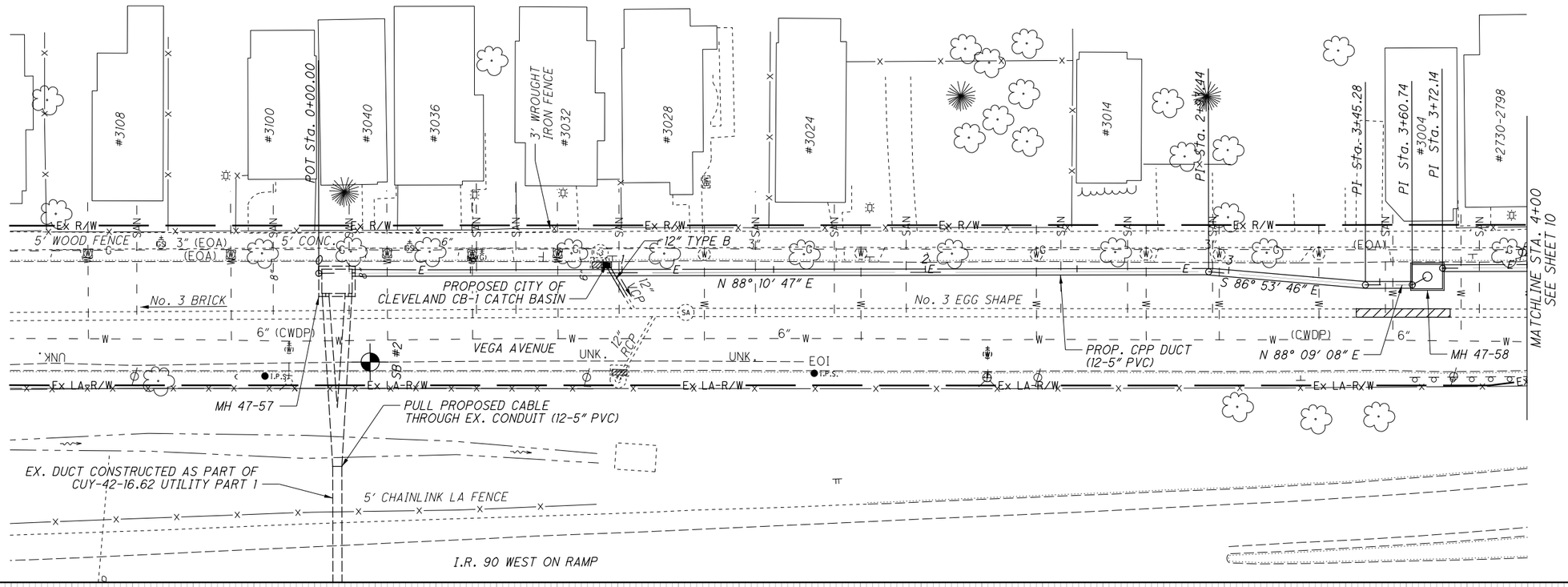
CALCULATED JEM CHECKED MAW

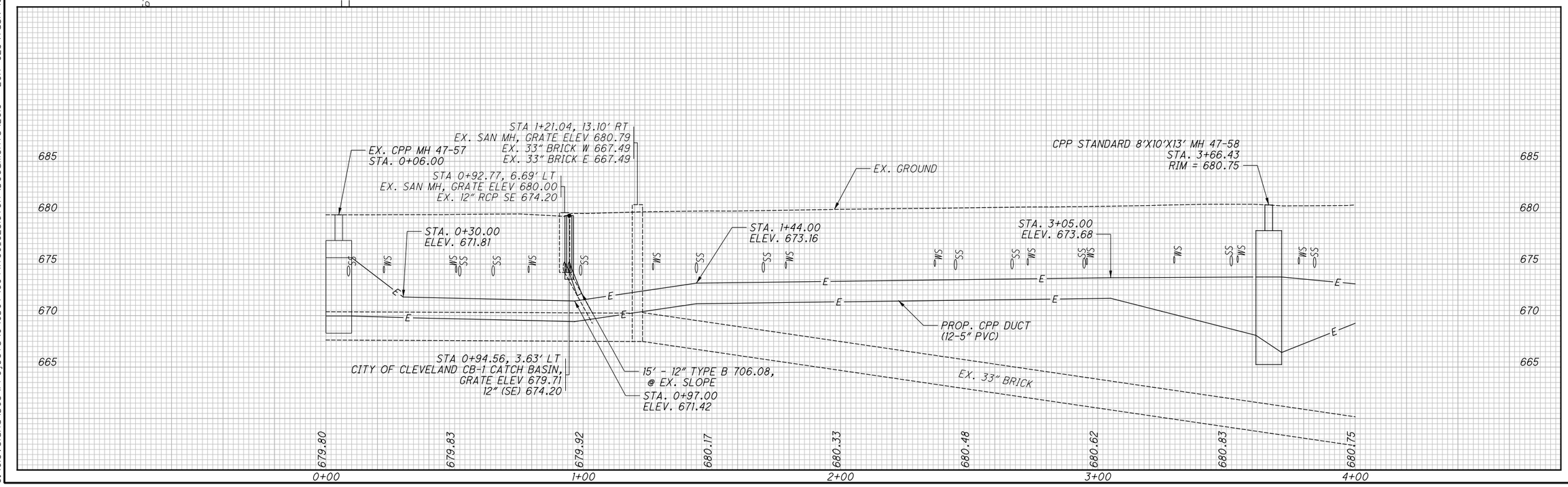
GENERAL SUMMARY

CUY-42-16.62
UTILITY PART 2

LEGEND

ANTICIPATED LIMITS OF BRICK SEWER CONCRETE REINFORCEMENT. SEE NOTE, SHEET 2





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JEM
CHECKED MAW

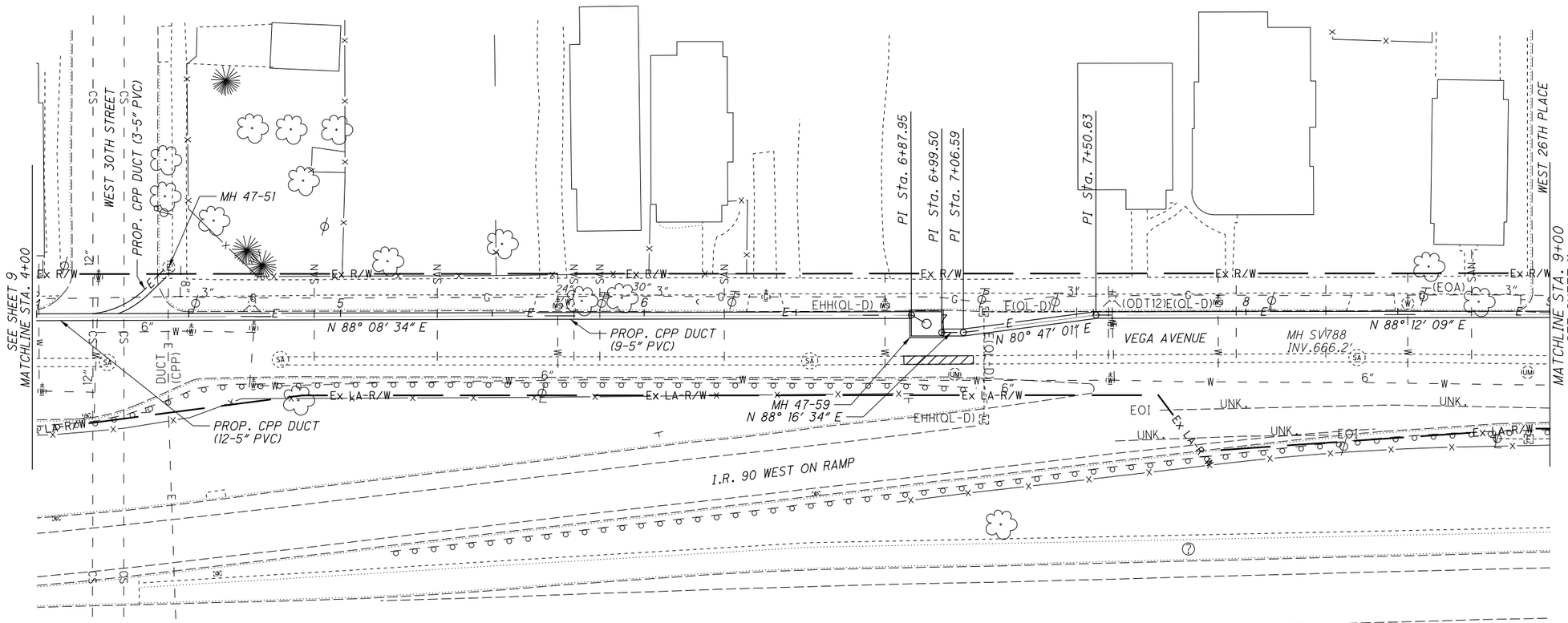
PLAN AND PROFILE
VEGA AVENUE DUCTBANK

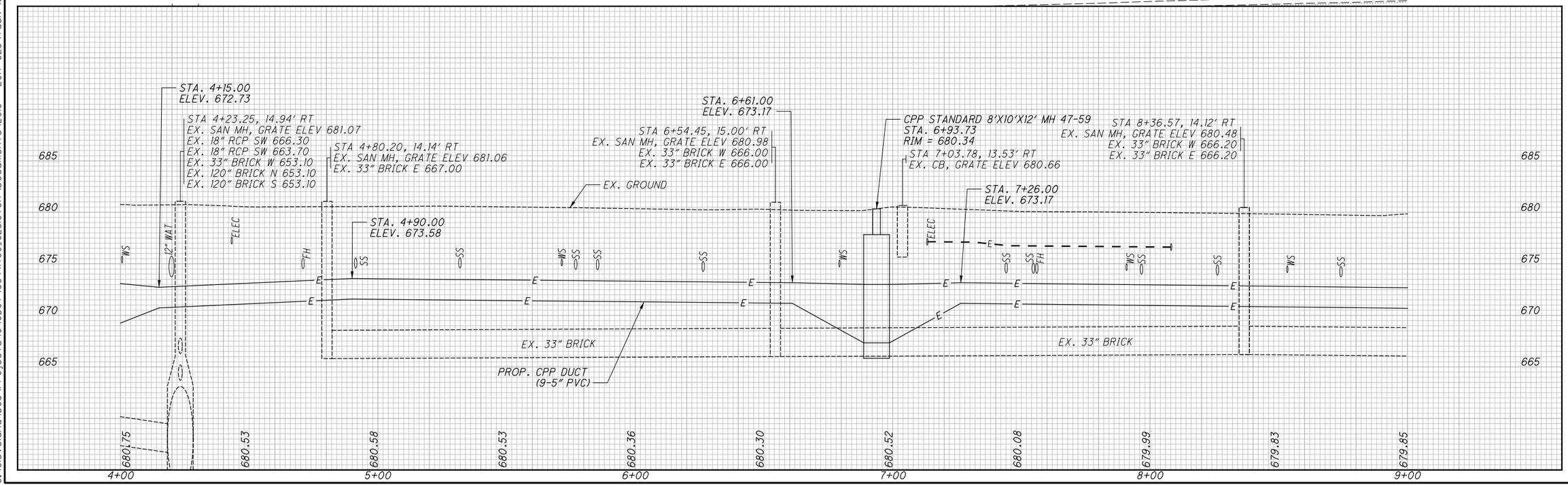
CUY-42-16.62
UTILITY PART 2

9
29

LEGEND

ANTICIPATED LIMITS OF BRICK SEWER CONCRETE REINFORCEMENT. SEE NOTE, SHEET 2





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JEM
CHECKED MAW

PLAN AND PROFILE
VEGA AVENUE DUCTBANK

CUY-42-16.62
UTILITY PART 2

10
29

P.I. Sta. 11+04.11
Δ = 94° 26′ 31″ (LT)
Dc = 190° 59′ 09″
R = 30.00′
T = 32.42′
L = 49.45′
E = 14.17′
C = 44.04′
C.B. = N 50° 57′ 32″ E

LEGEND
ANTICIPATED LIMITS OF BRICK SEWER CONCRETE REINFORCEMENT. SEE NOTE, SHEET 2

PI Sta. 9+18.31
PI Sta. 9+94.39
POT Sta. 11+50.00
PT Sta. 11+21.14
PC Sta. 10+71.69
N 3° 44′ 17″ E
MH 47-49
PROP. CPP DUCT (9-5″ PVC)
(2) 4″ FD(QL-D)
SEE SHEET 10 MATCHLINE STA. 9+00
VEGA AVENUE
S 86° 49′ 13″ E
10 S 81° 49′ 13″ E
80′ - 33″ TYPE B 748.01
EX. NO. 9 SEWER 66″ BRICK
W. 25 ST. (US 42)
(1) 4″ PVC(QL-D)
(18) 4″ FD
(12) 4″ TRANSITE
Ex LA-R/W
Ex R/W

STA 10+00.00, 8.86′ RT
WPC PRECAST CONCRETE MH, DOGHOUSE,
RIM ELEV 679.78
30″ DIP (E) 664.71
EX. 33″ BRICK W 665.82
FOR DETAILS, SEE SHEET 22

STA 10+33.04, 22.48′ RT
EX. CB, GRATE ELEV 679.33
EX. 12″ RCP N 675.71

STA 10+81.25, 12.14′ LT
EX. MH, GRATE ELEV 679.60
EX. 66″ NO.9 SEWER N 659.3
30″ DIP (W) 659.30

EX. CPP MH 47-49
STA. 11+24.70

EX. GROUND
STA. 9+25.00
ELEV. 672.62
STA. 10+96.00
ELEV. 670.38
EX. FO DUCT
12″ GAS
12″ WAT
EX. 33″ BRICK
PROP. CPP DUCT (9-5″ PVC)
80′ - 30″ TYPE B 748.01, @ 6.79%

685
680
675
670
665
679.85
679.56
679.78
679.64
679.63
679.39
9+00
10+00
11+00

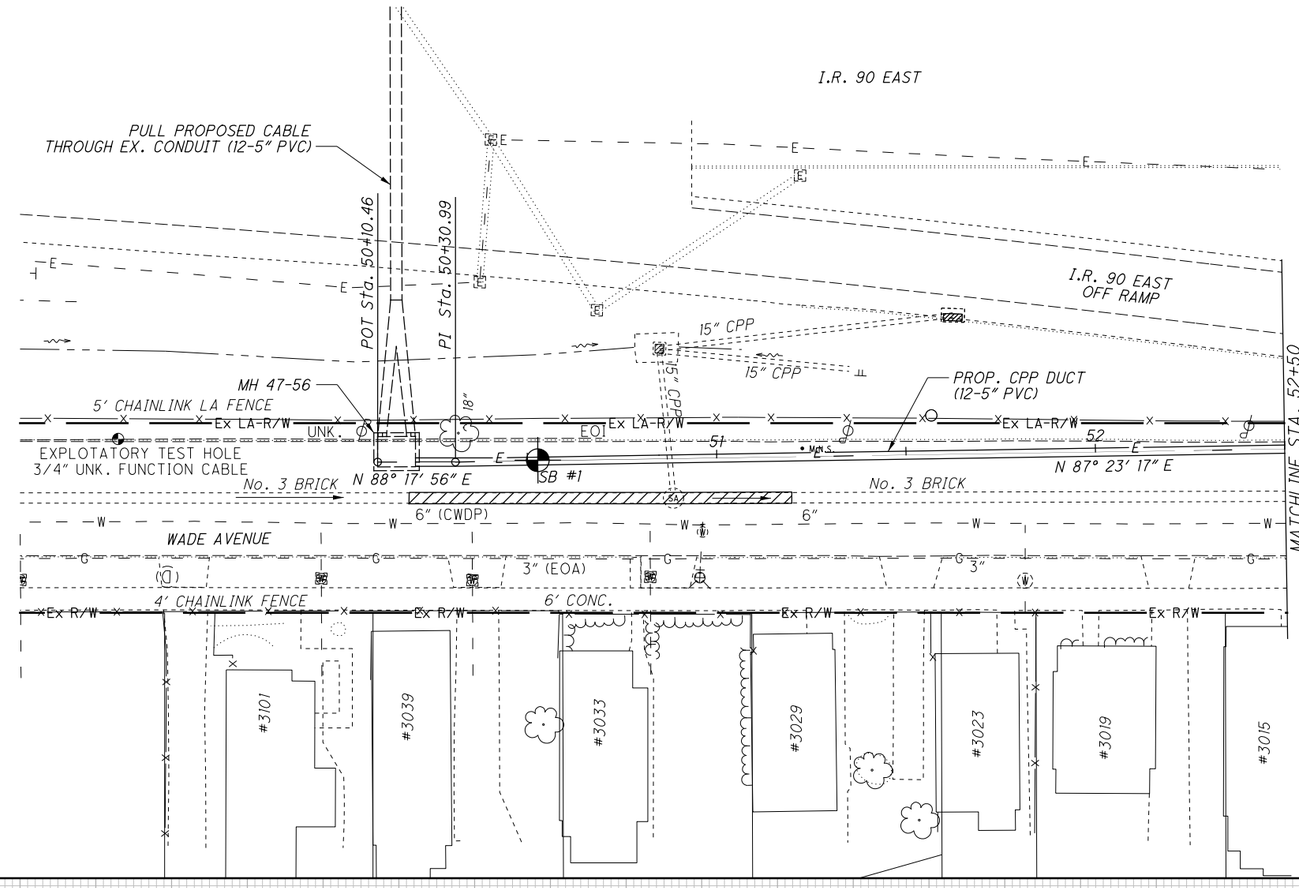
CALCULATED JEM
CHECKED MAW

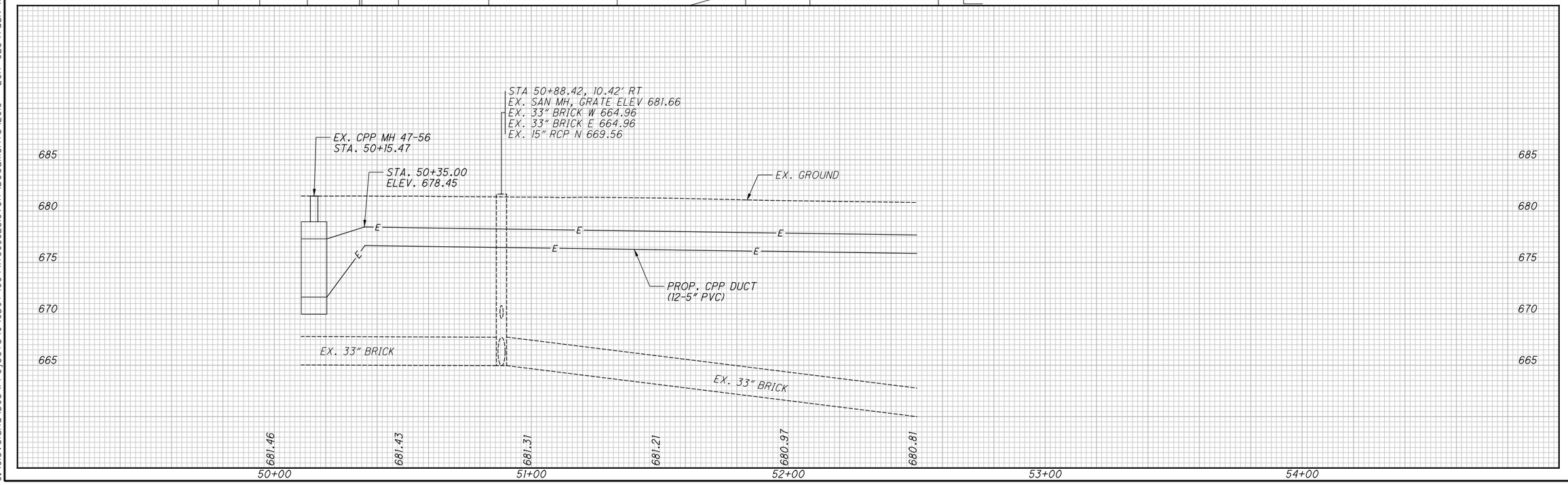
HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE
VEGA AVENUE DUCTBANK

CUY-42-16.62
UTILITY PART 2

11
29





LEGEND

ANTICIPATED LIMITS OF BRICK SEWER CONCRETE REINFORCEMENT. SEE NOTE, SHEET 2

EPA - END POST ASSEMBLY

IAPA - INTERMEDIATE ANCHOR POST ASSEMBLY

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JEM
CHECKED MAW

PLAN AND PROFILE
WADE AVENUE DUCTBANK

CUY-42-16.62
UTILITY PART 2

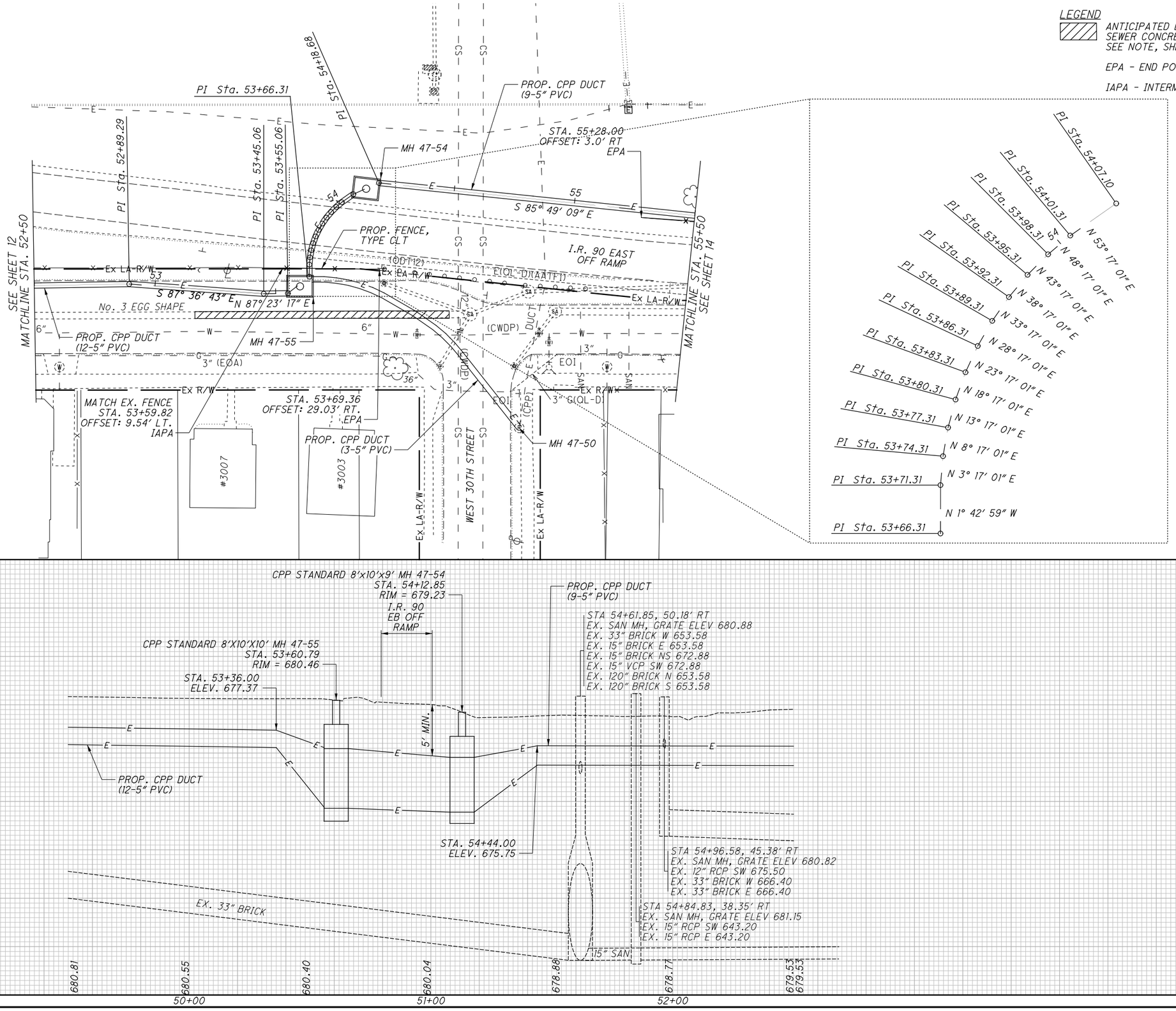
12
29

LEGEND

ANTICIPATED LIMITS OF BRICK SEWER CONCRETE REINFORCEMENT. SEE NOTE, SHEET 2

EPA - END POST ASSEMBLY

IAPA - INTERMEDIATE ANCHOR POST ASSEMBLY



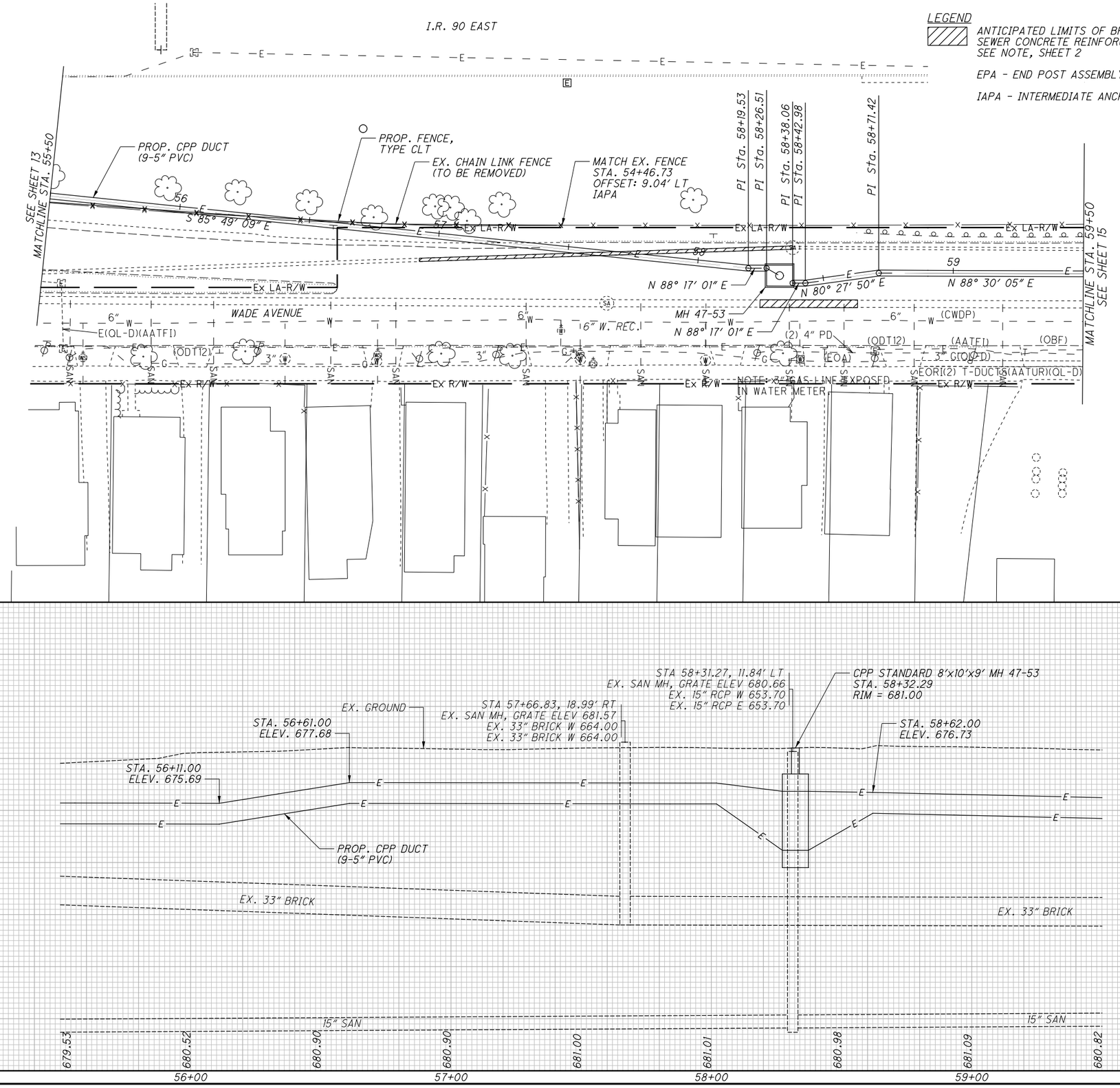
HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

CALCULATED JEM CHECKED MAW

PLAN AND PROFILE
WADE AVENUE DUCTBANK

CUY-42-16.62
UTILITY PART 2

13
29



N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED JEM CHECKED MAW

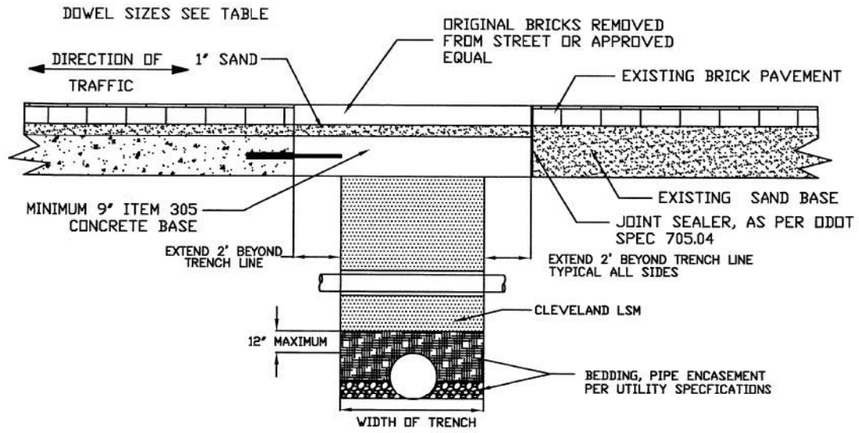
PLAN AND PROFILE
WADE AVENUE DUCTBANK

CUY-42-16.62
UTILITY PART 2

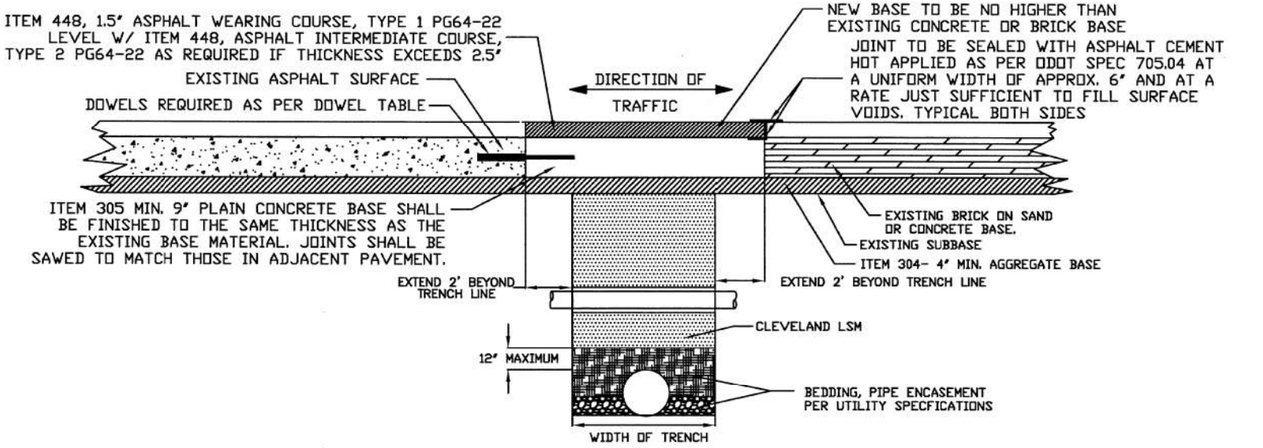
14
29

PLAN AND PROFILE
WADE AVENUE DUCTBANK

CUY-42-16.62
UTILITY PART 2

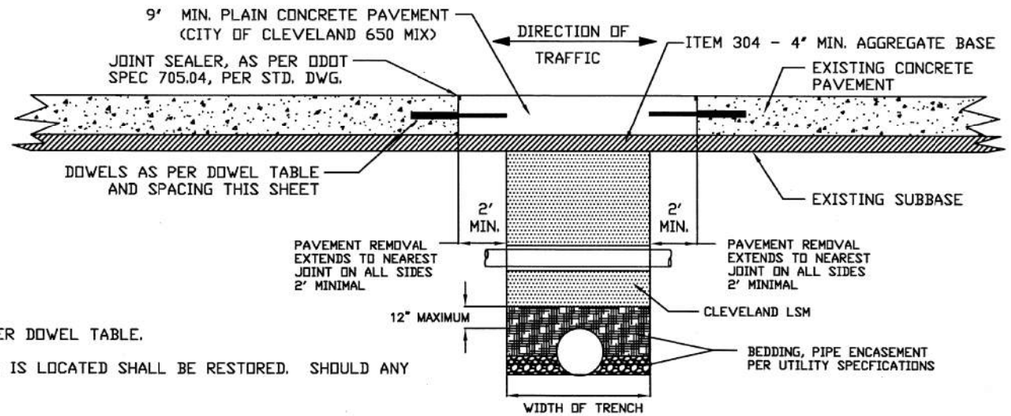


PAVEMENT REPAIR IN BRICK PAVEMENT



ASPHALT ON CONCRETE OR BRICK BASE

DOWEL TABLE	
PAVEMENT THICKNESS	DIAMETER OF DOWELS
8" OR LESS	1"
9"	1 1/8"
10"	1 1/4"
OVER 10"	AS DIRECTED
DOWELS SHALL BE SPACED EVERY 30"	



CONCRETE PAVEMENT

NOTES:

1. ALL PAVEMENT OPENINGS SHALL BE SAWED FULL DEPTH AND HAVE SMOOTH VERTICAL FACES. DOWELS SHALL BE REQUIRED, AS PER DOWEL TABLE.
2. CONCRETE REPAVING SHALL BE PERFORMED IN SUCH A MANNER THAT THE ENTIRE LANE AND/OR SLAB IN WHICH THE REPAIR AREA IS LOCATED SHALL BE RESTORED. SHOULD ANY PORTION OF THE REPAIR AREA EXTEND INTO AN ADJACENT LANE AND/OR SLAB, THAT LANE OR SLAB SHALL ALSO BE REPAVED.
3. EXTEND OVERCUT IN LONGITUDINAL DIRECTION TWO FEET (2') ONTO UNDISTURBED SUBGRADE.
4. ASPHALT RESURFACING SHALL BE PERFORMED IN SUCH A MANNER THAT THE ENTIRE LANE IN WHICH THE REPAIR AREA IS LOCATED SHALL BE RESTORED. SHOULD ANY PORTION OF THE REPAIR AREA EXTEND INTO AN ADJACENT LANE, THAT LANE SHALL ALSO BE RESURFACED. THE RESURFACING SHALL TAKE PLACE FROM BEGINNING PROJECT TO END PROJECT (I.E. WORK LIMITS). FOR PAVEMENTS WITH A WIDTH OF 40' OR LESS A LANE SHALL BE CONSIDERED 1/2 THE PAVEMENT WIDTH.
5. BRICKS REMOVED FROM A REPAIR SHALL BE STORED IN A SAFE PLACE BY THE CONTRACTOR FOR REUSE. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING ANY BRICKS THAT ARE STOLEN OR DAMAGED AT NO COST TO THE CITY.
6. ALL NEW BRICKS SUPPLIED BY THE CONTRACTOR MUST FIRST BE APPROVED BY THE CITY BEFORE THEY ARE USED.
7. SAWCUTTING: ALL PARTIAL BRICKS SHALL BE SAWCUT. FURTHER, NO BRICK WILL BE PERMITTED TO BE CUT, FOR REPLACEMENT, TO A LENGTH LESS THAN ONE-HALF ITS ORIGINAL LENGTH. THIS MAY REQUIRE SAWCUTTING OF ADJACENT UNDISTURBED BRICK(S).
8. THE PERIMETER FACES OF THE EXISTING BASE MATERIAL SHALL BE CUT BACK TO AS NEARLY VERTICAL ORIENTATION AS POSSIBLE. IF SHEARING OF THE ADJACENT BASE RESULTS, THE CONTRACTOR SHALL REMOVE ADDITIONAL BRICK AND BASE AS SHOWN IN THE DETAIL.
9. THE MAXIMUM WIDTH OF A BRICK MORTAR JOINT SHALL BE 1/2" THIS RESTRICTION WILL ALSO APPLY TO THE PERIMETER OF A REPAIR AREA, WHERE THE ROWS MAY NOT BE PARALLEL TO ONE ANOTHER.
10. MORTARING OF JOINTS: ALL JOINTS SHALL BE MORTARED WITH A 50/50 MIXTURE BY VOLUME OF SAND /CEMENT, TO PROVIDE FOR A FLUSH FINISH. THIS MAY REQUIRE MORE THAN ONE APPLICATION; FURTHER MECHANICAL VIBRATION WILL BE REQUIRED FOR COMPACTION.
11. ALL BACKFILL MATERIALS USED UNDER ANY PAVEMENTS SHALL BE CLEVELAND LSM PLACED FROM THE INITIAL ONE FOOT OVER THE TOP OF UTILITIES, TO THE SUBGRADE.
12. TO PREVENT FLOTATION AND ENTRY OF FLOWABLE FILL INTO ANY OTHER AREASCOVER ALL JOINTS IN CLAY PIPE IN THE TRENCH AREA WITH POLYETHYLENE MATERIAL BEFORE POURING FLOWABLE FILL. REPAIR TECHNIQUES SHALL BE IN ACCORDANCE WITH THE UTILITY COMPANY'S STANDARD REPAIR PROCEDURES.

REVISED 8/3/09

CITY OF CLEVELAND

DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASIK–DIRECTOR OF PUBLIC SERVICE

STREET OPENING REPAIR–SUPPLEMENTAL

NOT TO SCALE

DRAWN BY: R. PLIODZINSKAS DATE: 4/8/08
SUBMITTED BY: W. MCLAUGHLIN DATE: 4/8/08
APPROVED: [signature] DATE: 4/14/08
COMMISSIONER OF ENGINEERING AND CONSTRUCTION

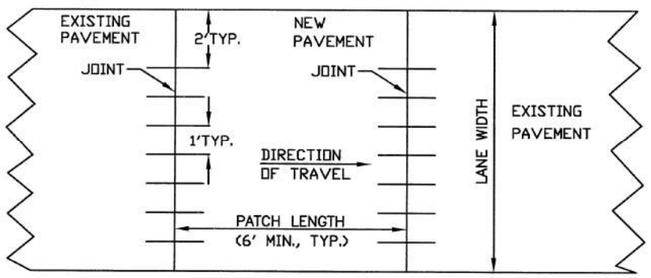
FILE NO. : PR 1 | SHEET 1/2 | (8)

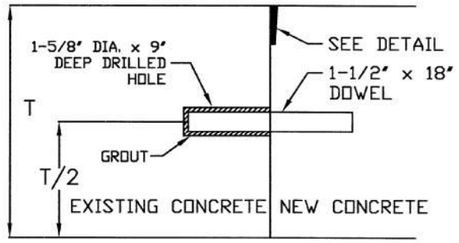
CALCULATED SDK CHECKED MAW

MISCELLANEOUS DETAILS

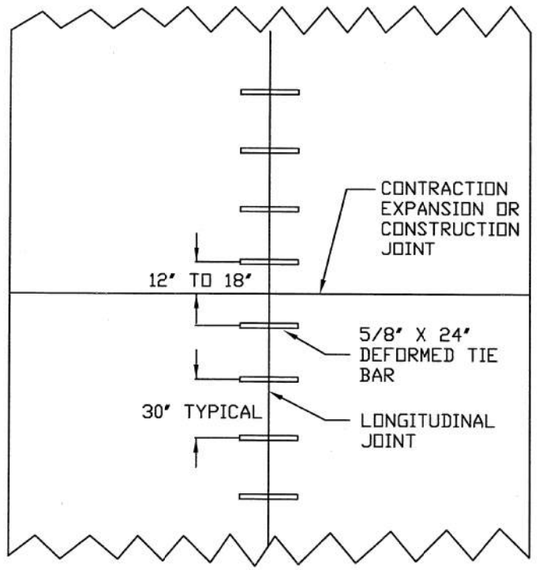
CUY-42-16.62 UTILITY PART 2

16 29

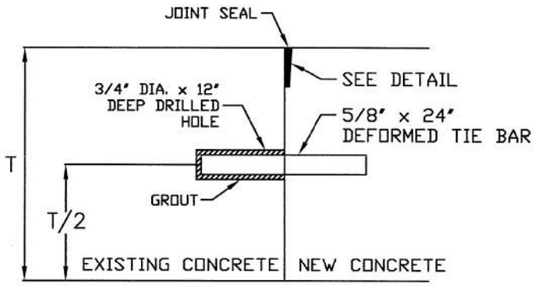




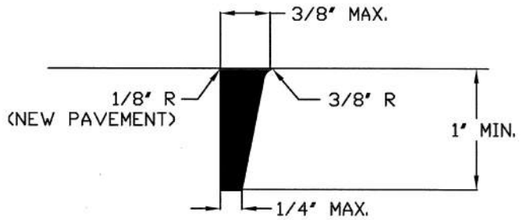
SECTION THROUGH TRANSVERSE JOINT



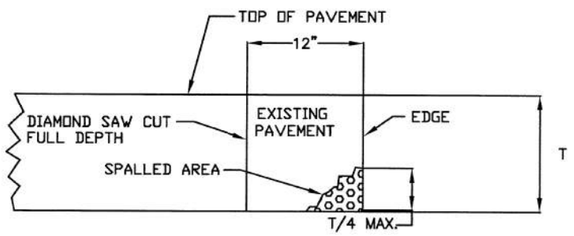
TIE BAR SPACING



TYPE D (DRILLED TIED LONGITUDINAL) JOINT



GROOVE & SEAL DETAIL



ADDITIONAL PAVEMENT REMOVAL

NOTES:

1. ALL JOINTS SHALL BE CONSTRUCTED NORMAL TO THE CENTERLINE OF THE PAVEMENT LANE.

2. ALL DOWEL HOLES SHALL BE DRILLED BY A MECHANICAL DEVICE THAT WILL ALLOW INDEPENDENT ADJUSTMENT OF ALL DRILL SHAFTS IN THE HORIZONTAL AND VERTICAL DIRECTION. THE DEVICE SHALL BE CAPABLE OF DRILLING A MINIMUM OF THREE HOLES AT ONE TIME.

3. ALL SMOOTH DOWELS SHALL BE COATED WITH A THIN LAYER OF OIL OR OTHER 'BOND-BREAKING' MATERIAL AFTER THEY HAVE BEEN INSTALLED IN THE EXISTING PAVEMENT AND JUST PRIOR TO PLACING THE PATCH. ALL DOWELS SHALL BE PLACED PARALLEL TO THE PAVEMENT SURFACE AND THE CENTERLINE OF THE PAVEMENT LANE.

4. ADDITIONAL PAVEMENT REMOVAL: IF AFTER THE REMOVAL OF THE PAVEMENT FROM THE AREA TO BE REPAIRED, THE FACE OF THE REMAINING PAVEMENT IS SPALLED OF DETERIORATED FOR A HEIGHT GREATER THAN ONE-FOURTH (1/4) THE THICKNESS OF THE RIGID PAVEMENT, ADDITIONAL REMOVAL SHALL BE MADE AS SHOWN.

5. LONGITUDINAL JOINT: FOR PATCHES 10 FEET OR GREATER IN LENGTH THE LONGITUDINAL JOINT SHALL BE CONSTRUCTED AS PER STANDARD DRAWING. SPACING OF THE TIE BARS SHALL BE NO MORE THAN 30' NOR LESS THAN 24'.

6. TYPE D (DRILLED TIED LONGITUDINAL)JOINT:
TYPE D JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT SPEC. 255.05. GROUT SHALL MEET THE REQUIREMENTS OF ODOT SPEC. 255.02. THE USE OF 5/8" EXPANSION ANCHORS, FF-S-325, GROUP VIII, TYPE I OF GROUP II, TYPE 4, CLASS I MAY BE USED IN LIEU OF THE 5/8" x 24" DEFORMED TIE BAR AND SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. THE USE OF SELF DRILLING EXPANSION SHIELD ANCHORS, FF-S-325, GROUP III, TYPE I (A) AND (C) SHALL NOT BE PERMITTED.

7. SEALING JOINTS:
SAWED OR HAND FORMED JOINTS SHALL BE SEALED WITH ODOT 705.04 JOINT SEALER.

REVISED 8/3/09

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASIK-DIRECTOR OF PUBLIC SERVICE
STREET OPENING REPAIR
NOT TO SCALE

DRAWN BY: R. PLIODZINSKAS DATE: 4/8/08
SUBMITTED BY: W. MCLAUGHLIN DATE: 4/8/08
APPROVED: [signature] DATE: 4/14/08
COMMISSIONER OF ENGINEERING AND CONSTRUCTION

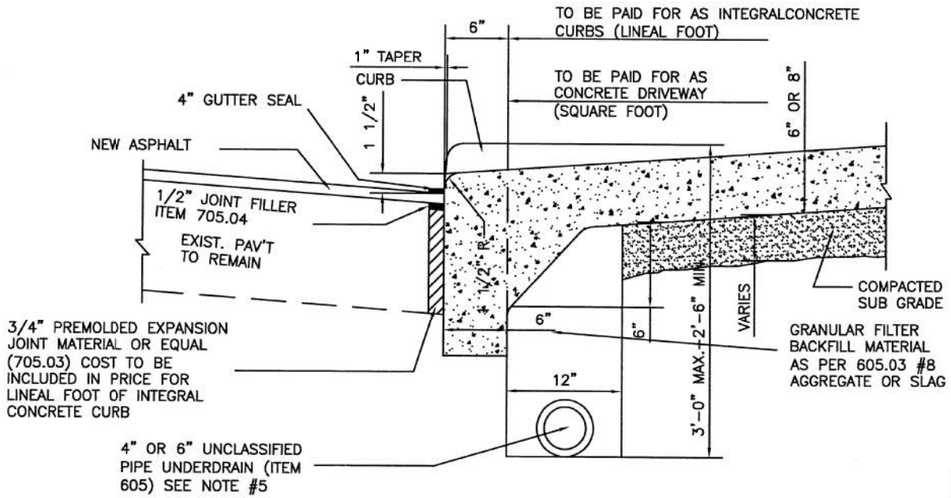
FILE NO.: PR 1 | SHEET 2/2 | ⑨

CALCULATED SDK CHECKED MAW

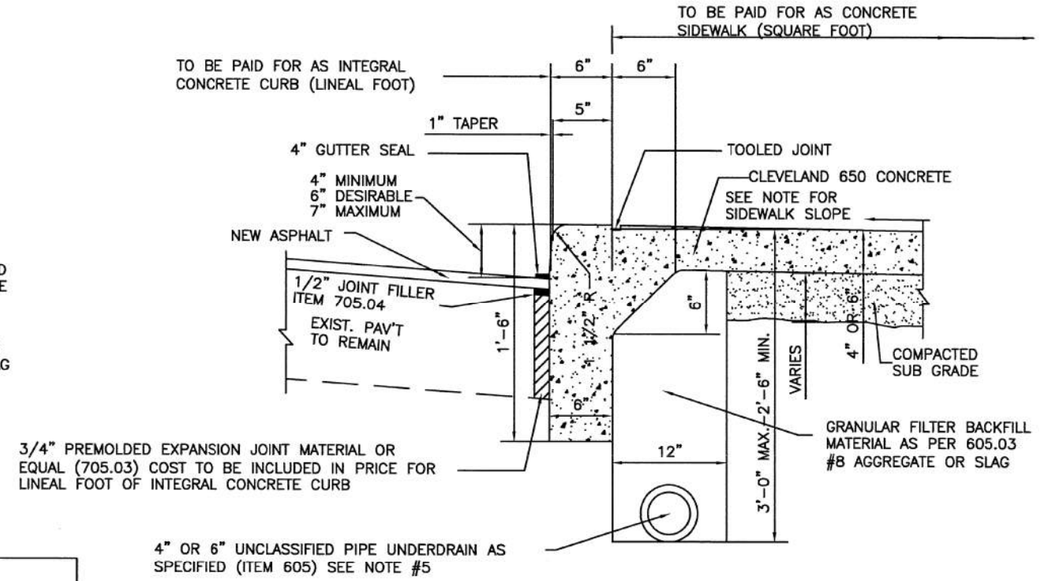
MISCELLANEOUS DETAILS

CUY-42-16.62 UTILITY PART 2

17
29

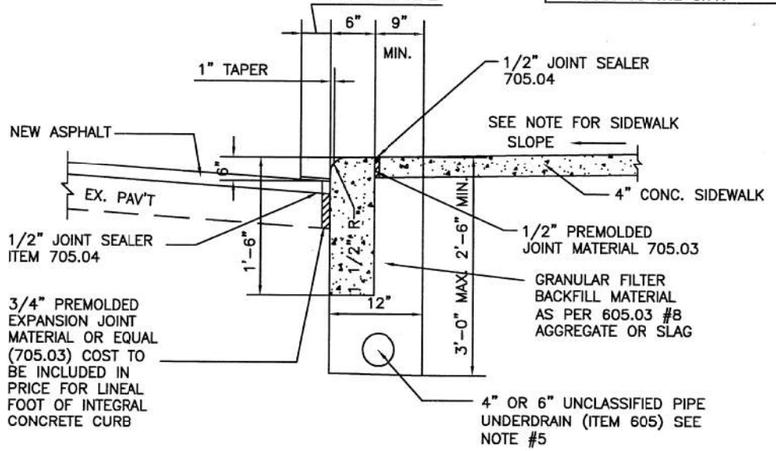


INTEGRAL CONCRETE DRIVEWAY
NO SCALE



INTEGRAL CONCRETE CURB & WALK
NO SCALE

OPTIONAL DETAIL
THE CONTRACTOR MAY USE THIS DETAIL IF GRANTED PERMISSION TO POUR THE CURB AND SIDEWALK OR DRIVEWAY INTEGRALLY THERE SHALL BE NO ADDITIONAL COST TO THE CITY.



CAST-IN-PLACE CONCRETE CURB
NO SCALE

NOTES:

1. SAND BACKFILL AS REQUIRED TO ACHIEVE PROPOSED SUB GRADE. COST TO BE INCLUDED IN UNIT PRICE BID PER SQUARE FOOT OF SIDEWALK OR CONCRETE DRIVEWAY.
2. TRANSVERSE CONTRACTION JOINTS (5'CTRS) AND EXPANSION JOINTS TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER. JOINTS SHALL BE TOOLED 5 " FROM THE STREET FACE OF THE CURB. 1/4" DEEP WITH EDGES ROUNDED TO A 1/4" RADIUS. COST TO BE INCLUDED IN PRICE PER SQUARE FOOT OF SIDEWALK OR CONCRETE DRIVEWAY.
3. TRANSITION FROM STANDARD CURB SECTION TO DROP CURB SECTION TO BE MADE IN 18" DISTANCE FROM DRIVEWAY.
4. SLOPE SHALL BE PROVIDED AS NEEDED TO DRAIN SIDEWALK AND TREELAWN AREA. 1/8"/ FT. MIN. (1/4"/ FT. DESIRABLE AND 5/8"/ FT. MAX.) IF THE EXISTING CONDITIONS RESULT IN A UNIFORM SLOPE GREATER THAN 1/4"/ FT. THEN THE SLOPE IN THE TREELANWN AREA MAY EXCEED THE MAX. AS NEEDED TO PROVIDE A SIDEWALK SLOPE OF 1/4"/ FT.
   THE SLOPE IN THE WALK AREA OF DRIVE APRONS MUST NOT EXCEED ADA REQUIREMENTS OF ¼"/ FT. CROSS SLOPE.
5. UNDERDRAINS TO BE INSTALLED IN AREAS WHERE CURB IS TO BE REPLACED. THE UNDERDRAIN SHALL BE CONSTRUCTED SO AS TO MATCH THE LOCATION OF ANY EXISTING UNDERDRAIN TO REMAIN. UNDERDRAIN SHALL OUTLET AT CATCH BASIN. UNDERDRAINS SHALL HAVE FILTER FABRIC WRAP OR TRENCH IS WRAPPED WITH FILTER FABRIC AS SPECIFIED.

REVISED 12/3/09

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASIK–DIRECTOR OF PUBLIC SERVICE
CURB DETAILS
NOT TO SCALE

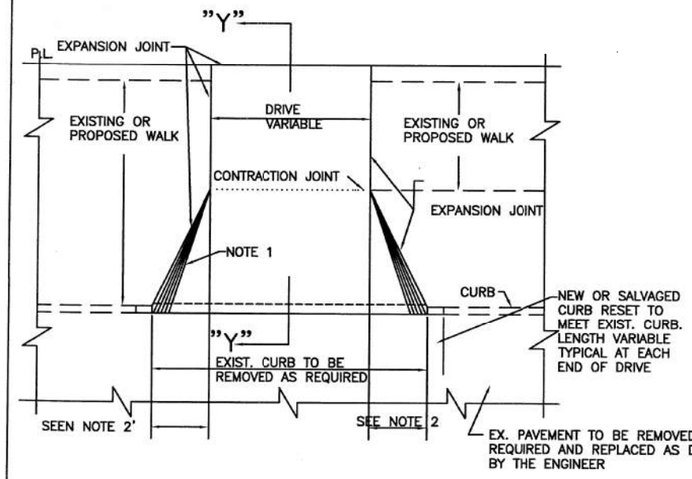
DRAWN BY: R. PLIODZINSKAS DATE: 4/8/08
SUBMITTED BY: W. MCLAUGHLIN DATE: 4/8/08
APPROVED: DATE: 4/14/08
COMMISSIONER OF ENGINEERING AND CONSTRUCTION

FILE NO. CD 1	SHEET 1/3	(17)

CALCULATED SDK CHECKED MAW

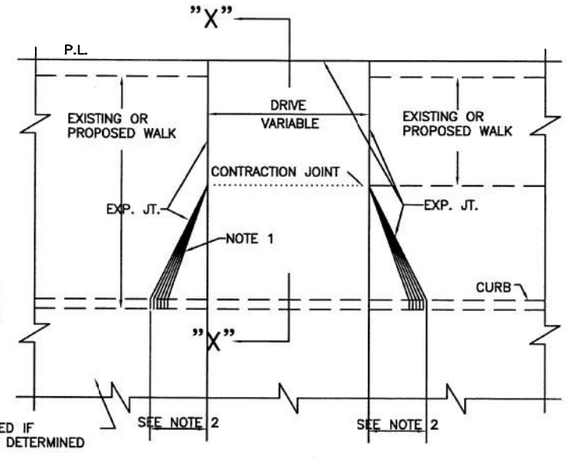
MISCELLANEOUS DETAILS

CUY-42-16.62 UTILITY PART 2



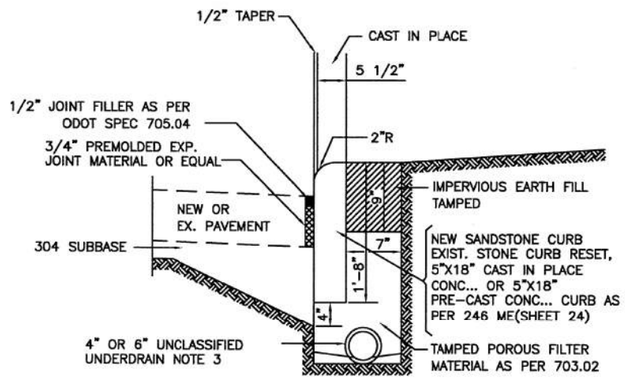
PLAN FOR NEW DRIVE WITH INTEGRAL CONCRETE CURB

NOT TO SCALE



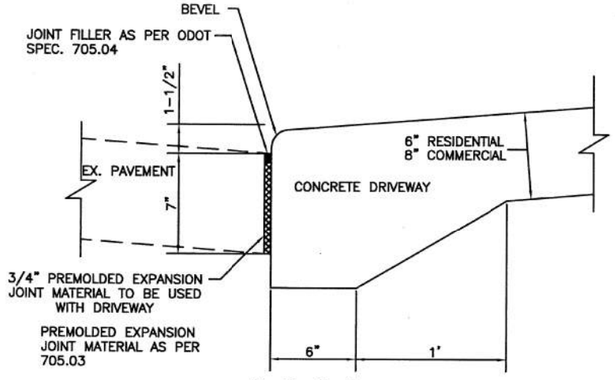
PLAN FOR NEW DRIVE WITH CURB CUT

NOT TO SCALE



TYPICAL CURB CONSTRUCTION DETAIL

NOT TO SCALE



SECTION "Y"–"Y"

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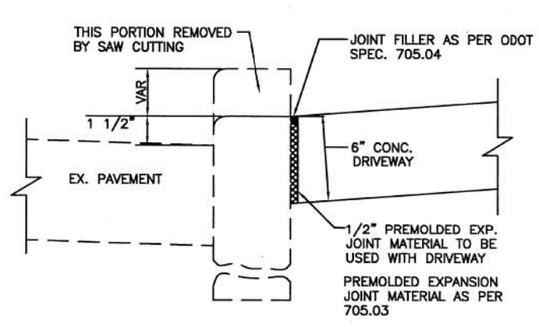
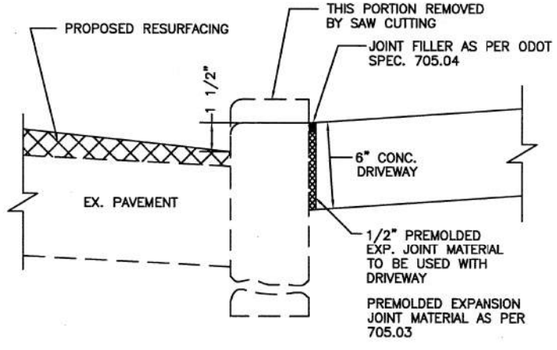


SECTION "X"–"X"

SHOWING PROPOSED DRIVE GUTTER WITHOUT RESURFACING

NOT TO SCALE



SECTION "X"–"X"

SHOWING PROPOSED DRIVE GUTTER WITH RESURFACING

NOT TO SCALE

NOTES:

1 – ON STREETS WITH NARROW TREELAWNS AND SIDEWALKS OR WITH APPROVAL OF THE ENGINEER THE FOLLOWING DETAIL MAY BE USED.
2 – APRON FLARES ARE 3' FOR RESIDENTIAL AND 5' COMMERCIAL
3 – UNDERDRAINS SHALL HAVE FILTER FABRIC WRAP OR TRENCH IS WRAPPED WITH FILTER FABRIC AS SPECIFIED.

REVISED 8/3/09

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASIK – DIRECTOR OF PUBLIC SERVICE

STANDARD PLAN OF
TYPICAL CURB & DETAILS
AT DRIVEWAYS

NOT TO SCALE

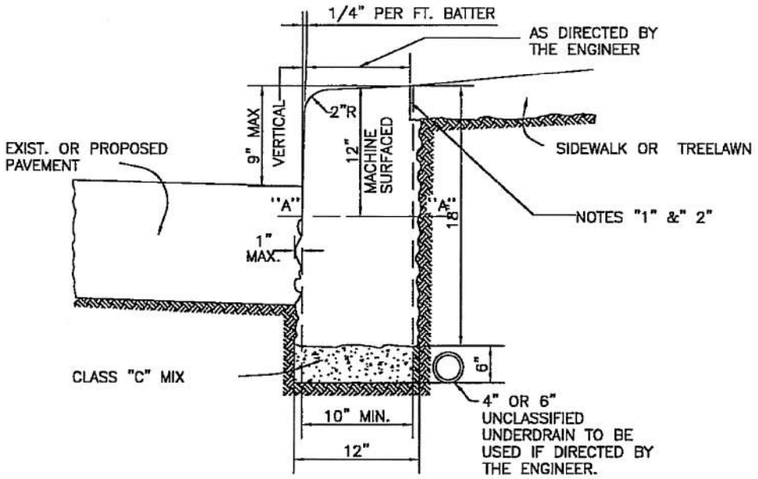
DRAWN BY: R. PLIODZINSKAS DATE: 4/8/08
SUBMITTED BY: W. MCLAUGHLIN DATE: 4/8/08
APPROVED: [signature] DATE: 4/14/08
COMMISSIONER OF ENGINEERING AND CONSTRUCTION

FILE NO. CD 1	SHEET 2/3	(18)

CALCULATED SDK CHECKED MAW

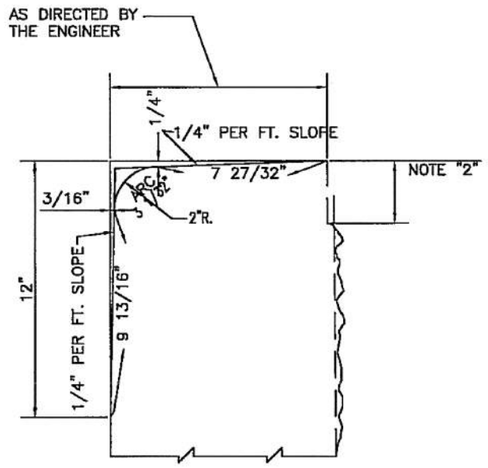
MISCELLANEOUS DETAILS

CUY-42-16.62
UTILITY PART 2

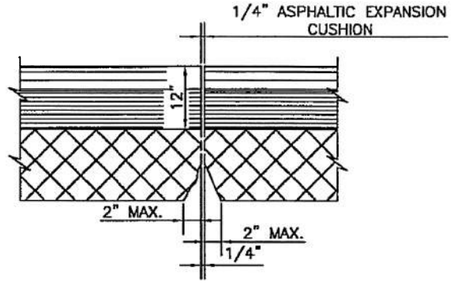


CURB TO BE USED ON STRAIGHT SECTION

TOP FACE AND ENDS OF CURB ABOVE LINE "A"–"A" ARE TO BE MACHINED. ALSO BACK OF CURB 1" FROM TOP AS SHOWN.



DETAIL OF CURB CUTTING



ELEVATION SHOWING CURB JOINT SECTION "A" – "A"

NOTES

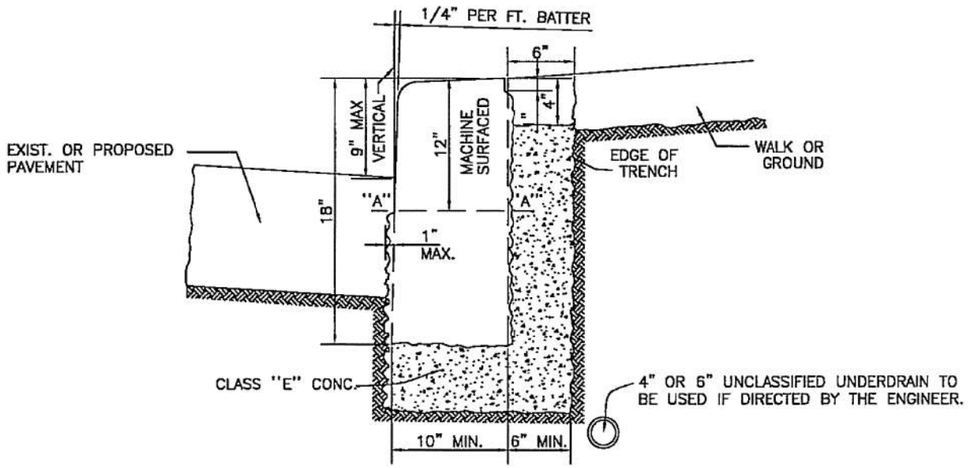
CURB SHALL BE SET IN AND BACKED WITH A MINIMUM OF CLASS "C" CONCRETE AS SHOWN. THE ENTIRE CURB TRENCH IS TO BE COMPLETELY FILLED WITH CONCRETE UP TO THE LEVEL SHOWN ON THE SECTION. SEE STANDARD SPECIFICATIONS.

CURB TO BE LIGHT GRAY GRANITE TO MATCH EXISTING CURBING IN MALL. LENGTH TO BE 4"–6" WITH CLOSURE STONE NOT LESS THAN 3' LONG.

1 – EXPANSION JOINT NOT SHOWN

2 – 6" MINIMUM, INCREASE IF REQUIRED TO MATCH EXISTING WALK OR APRON THICKNESS

3 – FOR 8" OR 12" MALL CURBING DECREASE OR INCREASE THE THICKNESS DIMENSIONS AND TOLERANCES BY 2"



CURB DETAIL TO BE USED ON ALL CURVED SECTIONS

CITY OF CLEVELAND

DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASIK–DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
STANDARD DETAILS SHOWING GRANITE CURBING
NOT SCALE

DRAWN BY: R. PLIODZINSKAS DATE: 4/8/08

SUBMITTED BY: W. MCLAUGHLIN DATE: 4/8/08

APPROVED: Ronald E Call DATE: 4/11/08

COMMISSIONER OF ENGINEERING & CONSTRUCTION

FILE NO. CR 1 | SHEET 3/3 | 19

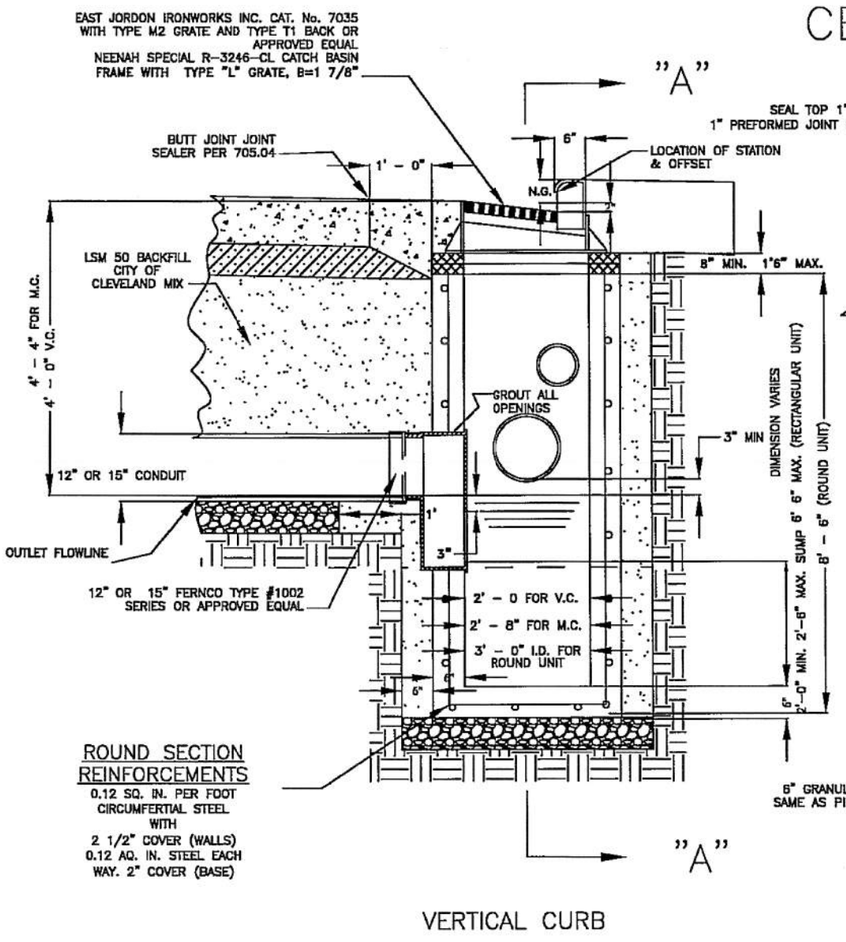
CALCULATED SDK CHECKED MAW

MISCELLANEOUS DETAILS

CUY-42-16.62 UTILITY PART 2

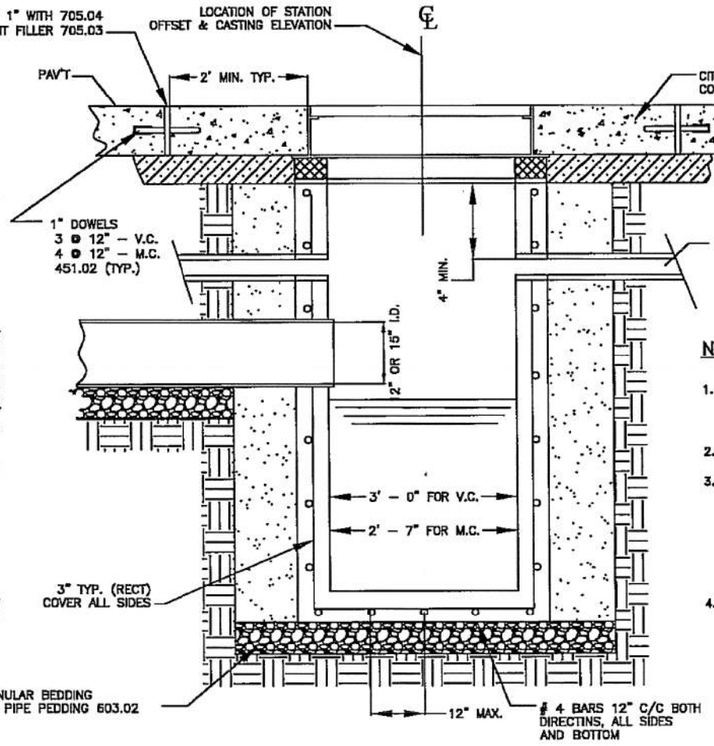
20 29

CB–1 CATCH BASIN

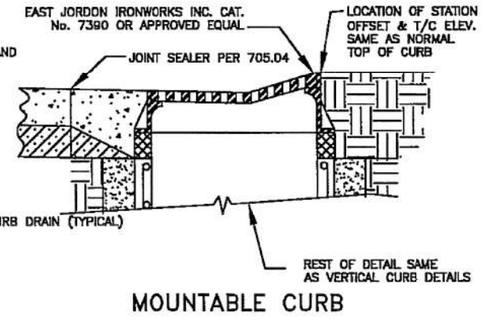


ROUND SECTION
REINFORCEMENTS
0.12 SQ. IN. PER FOOT
CIRCUMFERTIAL STEEL
WITH
2 1/2" COVER (WALLS)
0.12 AQ. IN. STEEL EACH
WAY. 2" COVER (BASE)

VERTICAL CURB



"A" – "A"



MOUNTABLE CURB

NOTES

1. ALL REINFORCING SHALL BE # 4 DEFORMED BARS, AS PER ODOT 709, AND SUFFICIENT TO PERMIT SHIPPING AND PLACEMENT WITHOUT DAMAGE TO DECTANGULAR SHAPE.
2. CONCRETE SHALL BE ODOT 499 CLASS "C" 4000 PSI IN 28 DAYS.
3. BOX–OUT SHALL BE PAID FOR AS PAVEMENT IN PORTLAND CEMENT CONCRETE PAVEMENT AND AS PART OF THE CATCH BASIN IN ASPHALTIC CONCRETE PAVEMENT WITH NO REDUCTION IN PAVEMENT OR CURB QUANTITY BECAUSE OF CASTING.

   FOR FULL WIDTH ASPHALTIC CONCRET PAVEMENT CONSTRUCT A PORTLAND CEMENT CONCRET APRON.
4. MINIMUM WALL THICKNESS 8" CAST IN PLACE AND 6" FOR PRECAST.

ALTERNATE BASIN SHAPE

A ROUND PRECAST CONCRETE UNIT MAY BE USED IN LIEU OF RECTANGULAR UNIT. THE ROUND SECTION SHALL BE 36" I.D. UNIT WITH INTEGRAL BASE AND PRECAST TOP TRANSITION SECTION (ROUND TO RECTANGULAR) TO FIT CASTING BEING USED. THE TRANSITION UNIT REQUIRES A # 5 REBAR AT CORNERS OF THE RECTANGULAR SHAPED SECTION AND 3 X 8 W6 X W5 WELDED WIRE FABRIC IN VERTICAL SECTION. ALSO, IF APPROVED BY THE ENGINEER, 8" THICK MASONRY WALL MAY BE USED IN LIEU OF PRECAST UNITS.

NOTE: IF PRECAST CATCH BASIN IS CONSTRUCTED IN TWO PIECES THE JOINT BETWEEN UNITS MUST BE A PERMIUM JOINT,PER 706.11.

LEGEND

V.C. = VERTICAL CURB
M.C. = MOUNTABLE CURB
T/C = TOP OF CASTING
N.G. = NORMAL GUTTER

CITY OF CLEVELAND
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF ENGINEERING & CONSTRUCTION
JOMARIE WASIK–DIRECTOR OF PUBLIC SERVICE
STANDARD CONSTRUCTION DRAWING
STANDARD DETAIL FOR
RECTANGULAR CATCH BASIN
NOT TO SCALE

REVISED BY: R. PLIODZINSKAS DATE: 4/8/08

SUBMITTED BY: W. MCLAUGHLIN DATE: 4/8/08

APPROVED: [signature] DATE: 7-8-08
COMMISSIONER OF ENGINEERING & CONSTRUCTION

FILE NO. CB–1	SHEET 1/7	(26)

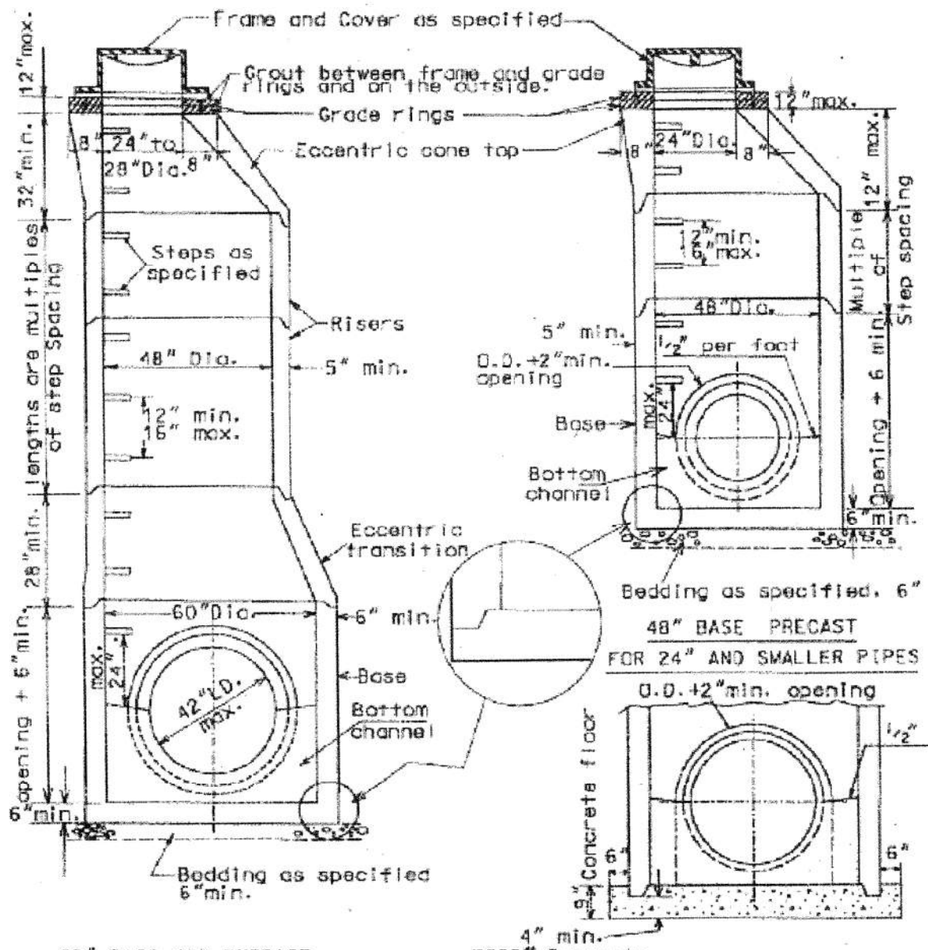
CALCULATED SDK
CHECKED MAW

MISCELLANEOUS DETAILS

CUY-42-16.62
UTILITY PART 2

21
29

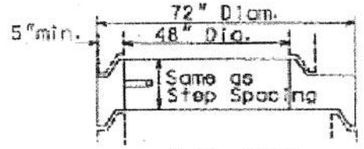
Use EJIW 1700 for manhole cover with vented holes and casting or approved equal



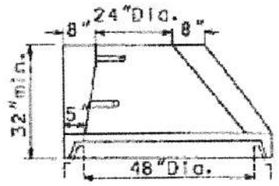
60" BASE FOR PRECAST
42" AND SMALLER PIPES

60" BASE FOR CAST IN PLACE
36" AND SMALLER PIPES

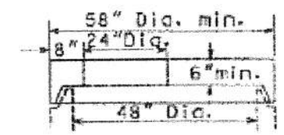
48" BASE FOR CAST IN PLACE
18" AND SMALLER PIPES



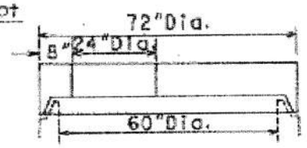
FLAT SLAB TRANSITION



ALTERNATE ECCENTRIC CONE TOP



FLAT SLAB TOP



FLAT SLAB TOP

NOTES

Sections of the precast manhole shall be cast and assembled with either all tongue or all groove ends up. Lift holes may be provided in each section for handling.

TOP AND TRANSITION /or reducer/
Sections may be either eccentric cone, concentric cone or flat slab.
BASES for Manholes are shown with monolithic floor and riser which may be cast in one or two operations.
A permissible alternate is to cast and ship the floor and barrel separately. Openings for inlet and outlet pipes shall be provided, either when the unit is cast or later, to meet project requirements. Bottom channels may be formed of concrete precast in the base or by field construction. Floors may also be poured in place.

OPENINGS IN RISER SECTIONS for sewer pipes shall be prefabricated. Flexible connections shall be provided for SANITARY, STORM, AND COMBINED SEWERS. Premium seals shall meet A.S.T.M C-923.

JOINT SEALS between precast manhole sections and sewers shall be resilient and flexible gasket joints shall meet A.S.T.M C-443. FEDERAL SPECIFICATIONS SS-S-00210 (210 A) and AASHTO M-198

MANHOLE JOINTS and GRADE RINGS shall be sealed externally and between the grade rings with a layer of mastic compound such as Foberlite, Kent Seal or equal.

MATERIALS for bases and other precast sections including reinforcement not specified hereon, shall comply with the specifications.

PRECAST MANHOLES shall conform to the requirements of A.S.T.M C-478.

SEAL all lift holes with approved concrete plugs.

LANDING PLATFORMS as shown on the LANDING DETAILS shall be installed in manholes that are over 28 feet deep to the invert with a maximum vertical spacing of 20 feet.

MANHOLE FRAMES - chimney seals will be required on all new sanitary manholes.

A minimum 3" vertical wall is required below the casting for installation of chimney seals.

PRECAST CONCRETE MANHOLE

42" PIPE OR SMALLER

REVISIONS:	SCALE NO SCALE	DATE : DEC. 1998

UNIFORM STANDARDS: CLEVELAND --- CUYAHOGA COUNTY --- NORTHEAST OHIO REGIONAL SEWER DISTRICT

Sheet No. 4/27

CALCULATED SDK CHECKED MAW

MISCELLANEOUS DETAILS

CUY-42-16.62 UTILITY PART 2

CLEVELAND PUBLIC POWER GENERAL CONSTRUCTION NOTES

Contact Ohio Utilities Protection Service, two working days prior to start of construction. In Ohio, call toll free 1-800-362-2764. It's The Law.

Utilities shown are from best available records and field investigation, and are not necessarily complete or exact. The contractor is responsible for the investigation, location, support, protection and restoration of all existing utilities and appurtenances whether shown on this plan or not.

All power conduit runs are to be constructed by using 2", 4", 5", or 6" pvc schedule EB conduits, as depicted on the plans, encased with a 3" concrete envelope, unles other wise noted on the plans or specifications. The concrete envelope is to be 4000psi (City of Cleveland Concrete Mix).

A rugged polyethylene material warning tape capable of resisting high or low ph conditions must be placed above the electrical conduit bank. This warning tape is to be six inches wide, red in color, and imprinted with the words, "DANGER - BURIED HIGH VOLTAGE CABLES BELOW". This tape is to be placed 6" above the newly install duct bank. This shall conform with the standards as set by Ohio Utilities Protection Service.

As an option, contractor may elect to encase CPP's conduits in red concrete. Both methods are approved by Cleveland Public Power and are recommended by Ohio Utilities Protection Service.

All conduits runs are to be installed at a minimum depth of 2'-6" below the existing and/or proposed grades,or as shown on the profile sheets, except those that are under any railroad or RTA tracks. The conduits will be installed at a minimum depth of 60" below the rail ties. Also, at any railroad crossings, conduits are to be encased in a steel pipe. See drawings issued by Cleveland Public Power for details.

Vertical and horizontal curves shall have a minimum radius of no less than 30 feet. These curves are to be constructed by using the appropriate 5° couplings, and associated chord lengths of conduits as noted on the plan view and/or as shown on the Conduit Curve Construction Chart. Any other curve design, field changes, or the use of preformed radius bends must be approved by the Engineering Department of Cleveland Public Power.

All manhole outside walls and conduits runs are to have a minimum clearance of 5' (face to face), horizontally from all water lines. Vertical clearance shall be at a minimum of 1'-6", or as shown on the profile sheets of the project. Clearance between other utilities shall be 1 foot, unless noted otherwise. CPP's duct bank shall cross over or under other utilities at an angle of no less than 45°.

Any conduit runs that are crossing any steam lines shall have a minimum clearance of 5', or as shown on the profile sheet of the project. In the event that this can not be accomplished, notify the Engineering Department of Cleveland Public Power prior to the installation of our conduits.

Each newly constructed manhole shall be free of all foreign objects and debris. The contractor shall also provide a pulling line in each of the new conduits. All manhole covers should be inscribed with the Cleveland Public Power logo "CPP".

The contractor shall provide Cleveland Public Power with as-built plans of the newly install conduit system, showing both vertical and horizontal locations. These locations shall be at 50' intervals. All elevations are to be based on Cuyahoga County Reginal Geodetic Surveys.

BACKFILL MATERIAL AND BACKFILLING PROCEDURES

All backfill material used under any pavement shall be crushed limestone or gravel as per ODOT Item 304-Aggregate Base. Crushed air-cooled slag meeting #304 gradation may be used with prior written approval of the Division of Engineering and Construction inspector. The use of sand or #57 aggregate as a premium backfill if prohibited. Sand may only be used as indicated on the plan details for items such as conduit cover. The sand material shall be natural river or bank sand; free of silt, clay, loam, friable or soluble materials and organic matter. The backfill shall be installed in 4 inch (4") lifts and compacted using machanical means only. Compact to within 12" of subgrade and each layer of backfill to 95% maximum dry density as determined by Standard Proctor Test (ASTM D698). The use of water for compaction is prohibited, e.g. flooding or puddling. Sand used as embankment construction and as backfill around structures shall be ODOT Item 203-Embankment or meeting the requirements of 703 - Special Backfill Material of the section.

Employ a placement method that does not disturb or damage conduit encasement.

Do not backfill over wet, frozen or unstable subgrade surfaces.

FLOWABLE FILL SPECIFICATION FOR UTILITY TRENCHES

PART I CERTIFICATE OF COMPLIANCE
Material must come from a plant with a current Certificate of Compliance demonstrating the ability of the mix design to meet the specified requirements. Certificates in excess of one year will not be accepted. Certificates must contain the name of supplier, date, contract number and mix design data on each delivery ticket.

PART II MATERIALS
All materials shall conform to the applicable requirements stated herin.
1. Cement shall be ASTM C-150 Type I.
2. **The use of Fly Ash is strictly prohibitied.**
3. Fine aggregate shall conform to ODOT Specification 703.03. Fine aggregate for Mortar or Grout. (ODOT Construction and Materials Specifictions most current edition). The use of spent foundry sand or core sand is strictly prohibited.

PART III PERFORMANCE ENHANCING ADMIXTURE
An air-enhancing admixture shall be incorporated in the mix that will have the effect of lowering the water/cement ratio to between 95 and 105 lbs/cubic foot. The air entrained content for the mix shall be 30% to eliminate/minimize the excessive water and segregation. Compressive strengths shall have a range of 50 PSI to 80 PSI at 28 dayswill be required if additional excavation by machine or hand is required.

Approved Admixtures

Manufacturer	Product
a) Master Builders	Rheofill
b) Axim	Flow Air
c) W.R. Grace	DaraFill
d) Or approved equal	

PART IV FLOWABLE FILL MIX DESIGN
The mix design shall be proportioned as follows:

Cement (Type I)	50 lbs/cubic yard
Sand (SSD)	2475 lbs/cubic yard
Water	25 gallons/cubic your
Admixture (Air)	3 oz/cubic yard

Variations of the aforementioned mix design are strictly prohibited

PART V APPLICATION
1. Flowable fill shall begin 12 inches above the top of pipe and continue in the trench to the concrete base.
2. Material for pipe bedding and pipe zone to a miximum depth of 12 inches over the top of pipe shall be as speified by the utility.
3. Exposed bolts and valves exposed in the trench should be wrapped with polyethylene material conforming to ODOT 748.07 (8 mil thick).
4. Cover all joints in clay pipe in the trench area with polyethylene material before pouring flowable fill. Repair all observed openings in any pipe or manhole in the trench area prior to backfilling with flowable fill. Repair techniques shall be in accordance with the utility company's standard repair procedures.
5. Contact the respective utility owner for repair procedures.

CONCRETE DESIGN MIX (CITY OF CLEVELAND MIX)

Under this section of these specifications the contractor is required to submit a separate mix design for each combination of cement type, aggregate type, and concrete supplier they will use under this contract. Each mix shall be designed in accordance with ASTM C94-94 Option C and as herein modified.

REQUIREMENT

Minimum twenty-eight (28)
4000 psi for 28 days compressive strength test. Four cylinders will be taken and tesed as per ASTM C-39-94. One to be tested at seven days and the remaining three will be tested at twenty-eight days. Acceptance will be based on the average results of the three cylinders.

Minimum Cement Constant
650 lbs. Per cubic yard. The cement shall conform to ASTM C-150-94 or C -595-94.

Water Cement Ration
0.45 Maximum.

Slump
Nominal three inches (3") as per ASTM C-94-94 (2"-4" actual). The use of chemical admixtures meeting ASTM C-494, to increase the slump to a maximum of 7", may be used with prior written approval of the Division of Engineering and Construction inspector. If this option is selected the admixture and resultant maximum slump shall be submitted for approval.

Air Content
Four percent (4%) to seven and one-half percent (7 1/2 %) ASTM C-173-94 or C-231-94.

Aggregate Size
No. 57 for couse aggregate shall be linestone, gravel or crushed air-cooled blast furnace slag. Both course and fine aggregate as per ASTM C 33-94.

If crushed air-cooled blast furnace slag is used it shall meet all of the requirements of ODOT 703.01 and ODOT 703.02. Copies of all tests and certifications for the crushed air-cooled blast furnace slag, if used, shall be submitted as part of the concrete mix design.

When high early strength is required, ASTM C-150-94 Type III A cement or admixtures in accordance with ASTM C-494-94 shall be used.

PAVEMENT REPAIR

Concrete Pavement ------
All pavement openings shall be sawed full depth and have smooth vertical faces.
Dowels shall be required as per dowel table.

Concrete repaving shall be performed in such a manner that the entire lane and/or slab in which the repair area is located shall be restored. Should any portion of the repair area extend into an adjacent lane and/or slab, that lane or slab shall also be repaved.

PAVEMENT REPAIR (continued) -----

Asphalt Pavement ------
All pavement openings shall be sawed full depth and have smooth vertical faces. Dowells shall be required as per dowel table.

Asphalt resurfacing shall be performed in such a manner that the entire lane in which the repairs are located shall be restored. Should any portion of the repair area extend into an adjacent lane, that lane shall also be resurfaced. For pavements with a width of 40' or less, a lane shall be considered 1/2 the pavement width.

Extend overcut in longitudinal direction two feet (2') unto undisturbed subgrade.

Brick Pavement ------
All streets within the City of Cleveland that are currently brick paved, shall be replaced with brick, or as directed by the inspector representing the Division of Engineering and Construction of the City of Cleveland.

The contractor under this section of the specifications shall construct concrete base, pavement, sidewalk, driveway aprons, curb, curb and gutter sections, handicap ramps, and intergral radius curb and walk. This includes the restoration of all adjacent surfaces which are disturbed by this construction at no cost to the City of Cleveland and/or Cleveland Public Power. Contractor shall take any and all measures necessary to ensure concrete is not defaced with graffitte, foot prints, tire tracks, and rocks, etc. by vandals.

REGULATIONS GOVERNING THE LAYING OF CONCRETE SIDEWALKS, APRONS, AND CURBING

Concrete walks shall be of one-course construction and shall be four inches (4") in thickness, except in the downtown district where they must be six inches (6") in thickness. Concrete for walks, curbs, drives, and aprons shall be Class "C" concrete as per item 608 and Special of the "Supplemental to State Specifications for the City of Cleveland - 1967".

When concrete walks are laid on clay, and extra excavation to a depth of one-and-one-half inches (1 1/2") must be made and filled with sand or gravel, to act as a foundation to the four inches of sidewalk proper.

No blocks of concrete shall be larger than six feet (6') and the joints must be cut by the use of an approved "Grooving Tool" making a groove one-fourth inches (1/4") deep. All edges shall be rounded with an approved "Edging Tool" to a radius of one-fourth inch (1/4").

Existing aprons and "drive areas" of the walk must be constructed of concrete. Aprons and the area of walk over which vehicles drive must be no less than six inches (6") in thickness, and must be laid in accordance with Supplemental to State Specifications for the City of Cleveland.

At all water-meter covers, gas boxes, hydrants, or other obstructions, neatly fitted openings shall be cut in the sidewalk. No walk shall be laid until all these obstructions have been raised or lowered to the correct elevations.

No obstructions shall be placed in front of any catch-basin, fire hydrant, fire alarm box or letter box, or near enough to the same to interfere with their use.

No change in the width of the walk to be laid shall be made from that of existing walks on the street at the time work is done under this permit, unless specialy permited by the Director of Public Service. Trees, lawns, and shrubbery shall not be interfered with or destroyed by any work performed by the contractor. Walks must be laid to the same grade as existing walks on the street, unless permission for change of grade is obtaind from the Director of Public Service.

Only one-half (1/2) of the sidewalk in the business district can be obstructed at one time, unless contractor has an obstruction permit. Gutters must be left open at all times.

The spacing between the walk and the curb line must be graded to allow water drainage, and must be of a gradual slope from the walk to the curb line.

The contractor is responsible for removing all dirt and rubbish caused by his work.

FAILURE OF A CONTRACTOR TO COMPLY WITH THESE REGULATIONS SHALL RESULT IN THE WITHHOLDING OF FUTURE PERMITS AND SHALL SUBJECT THE HOLDER OF THIS PERMIT TO THE PENALITIES PRESCRIBED IN THE SIDEWALK ORDINANCE.

CURBING: Curbing shall conform to the standards established for size and quality in the district in which it is to be installed. Cast-in-place concrete curbs and Integral curbs, where used, shall conform to detail Plan No. ME-246 of the City of Cleveland.

Copies of these specifications and plans for Pavement Repair and Laying of Concrete Sidewalks may be obtained, upon request, from the Division of Engineering and Construction of the City of Cleveland.

CALCULATED JEM
CHECKED MAW

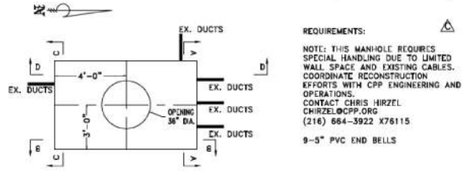
CPP DETAILS

CUY-42-16.62
UTILITY PART 2

CALCULATED JEM
CHECKED MAW

CPP DETAILS

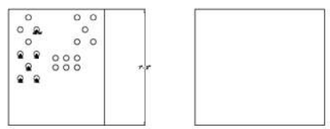
6'-0" WIDE	8'-0" LONG	7'-2" H.R.	NECK: 2'-9"	COVER: ROUND	EX. MH 47-48
LOCATION: SW COR. W.25 ST., IN SIDEWALK					



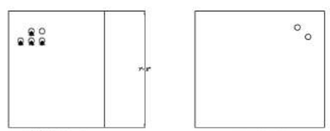
REQUIREMENTS:

NOTE: THIS MANHOLE REQUIRES SPECIAL HANDLING DUE TO LIMITED WALL SPACE AND EXISTING CABLES. COORDINATE RECONSTRUCTION EFFORTS WITH CPP ENGINEERING AND OPERATIONS.
CONTACT CHRIS HIRZEL
CHIRZEL@CPP.ORG
(216) 664-3922 X76115

9-5" PVC END BELLS

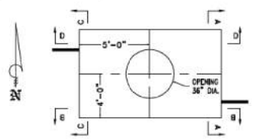

SECTION B-B

SECTION A-A


SECTION C-C

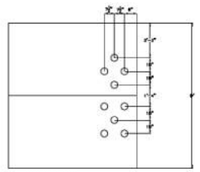
SECTION D-D

8'-0" WIDE	10'-0" LONG	9'-0" H.R.	NECK: 2'-6"	COVER: AS SHOWN	NEW MH 47-53
LOCATION: WADE AVE., APPROX. 325' W. OF W. 25 ST.					



REQUIREMENTS:

1-36"ø ROOF OPENING
18-5" PVC FLARED BELL ENDS
6-PULLING IRONS
1-9" PRECAST NECK RING
1-3" PRECAST CAP RING
1-12" ø SUMP HOLE
1-36"ø COVER AND CASTING
EJIW # 1585 W/HOLES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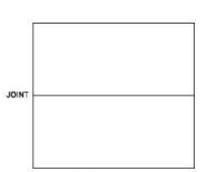
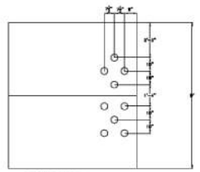


SECTION B-B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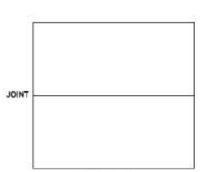
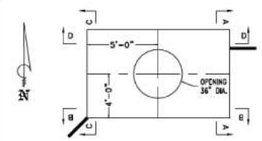


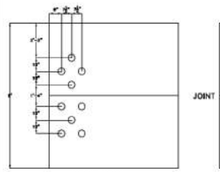
SECTION D-D

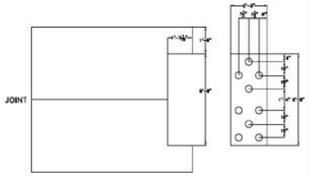
8'-0" WIDE	10'-0" LONG	9'-0" H.R.	NECK: 2'-6"	COVER: AS SHOWN	NEW MH 47-54
LOCATION: IR-90 EAST OFF RAMP, APPROX. 35' W. OF W.30 ST.					



REQUIREMENTS:

1-36"ø ROOF OPENING
1-CORNER ENTRY
18-5" PVC FLARED BELL ENDS
6-PULLING IRONS
1-9" PRECAST NECK RING
1-3" PRECAST CAP RING
1-12" ø SUMP HOLE
1-36"ø COVER AND CASTING
EJIW # 1585 W/HOLES


SECTION A-A



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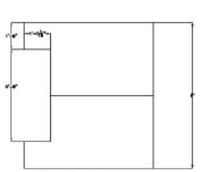
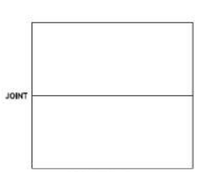
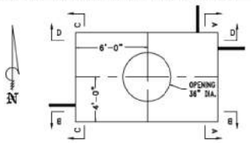

SECTION C-C



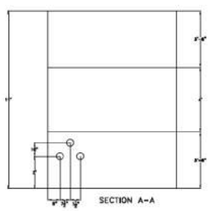
SECTION D-D

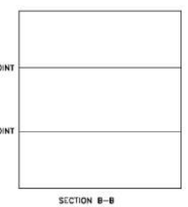
8'-0" WIDE	10'-0" LONG	11'-0" H.R.	NECK: 2'-6"	COVER: AS SHOWN	NEW MH 47-55
LOCATION: WADE AVE., APPROX. 40' W. OF W. 30 ST.					



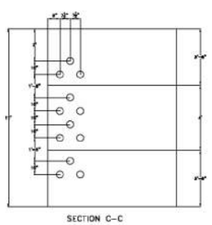
REQUIREMENTS:

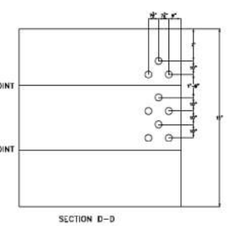
1-36"ø ROOF OPENING
24-5" PVC FLARED BELL ENDS
6-PULLING IRONS
1-9" PRECAST NECK RING
1-3" PRECAST CAP RING
1-12" ø SUMP HOLE
1-36"ø COVER AND CASTING
EJIW # 1585 W/HOLES


SECTION A-A



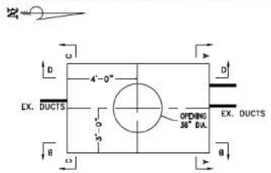
SECTION B-B


SECTION C-C



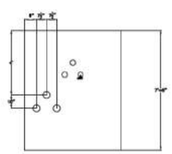
SECTION D-D

6'-0" WIDE	8'-0" LONG	7'-5" H.R.	NECK: 2'-10"	COVER: ROUND	EX. MH 47-50
LOCATION: SE COR. W.30 ST. AND WADE AVE., IN SIDEWALK					

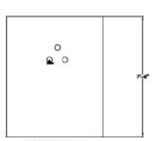


REQUIREMENTS:

CORE DRILL 3-6" DIA. HOLES
3-5" PVC FLARED BELL ENDS

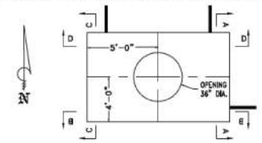

SECTION A-A


SECTION B-B


SECTION C-C

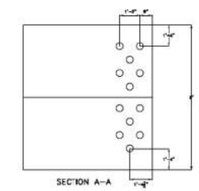

SECTION D-D

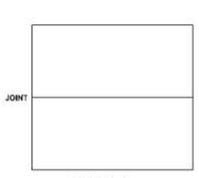
8'-0" WIDE	10'-0" LONG	9'-0" H.R.	NECK: 2'-6"	COVER: AS SHOWN	EX. MH 47-56 INSTALLED BY OTHERS
LOCATION: WADE AVE., APPROX. 415' W. OF W.30 ST.					



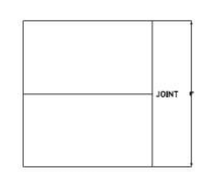
REQUIREMENTS:

CORE DRILL 3-6" DIA. HOLES
3-5" PVC FLARED BELL ENDS

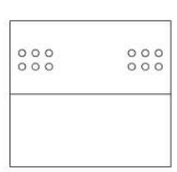

SECTION A-A



SECTION B-B



SECTION C-C



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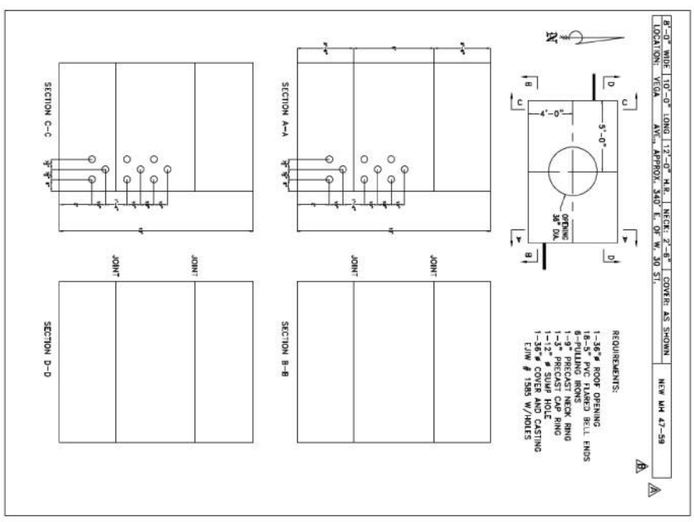
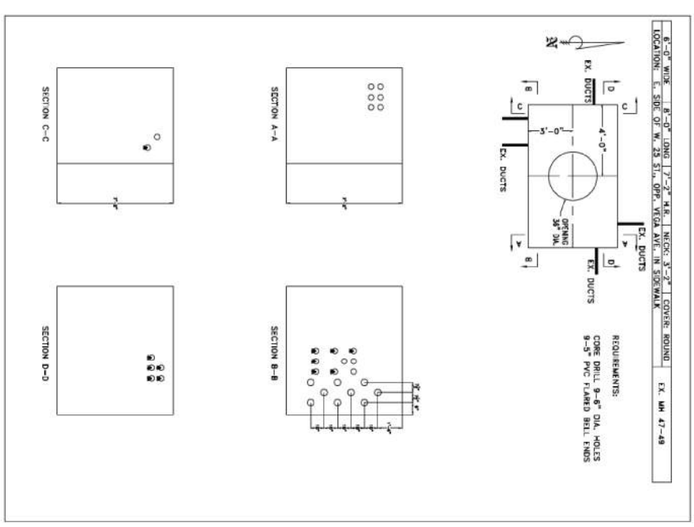
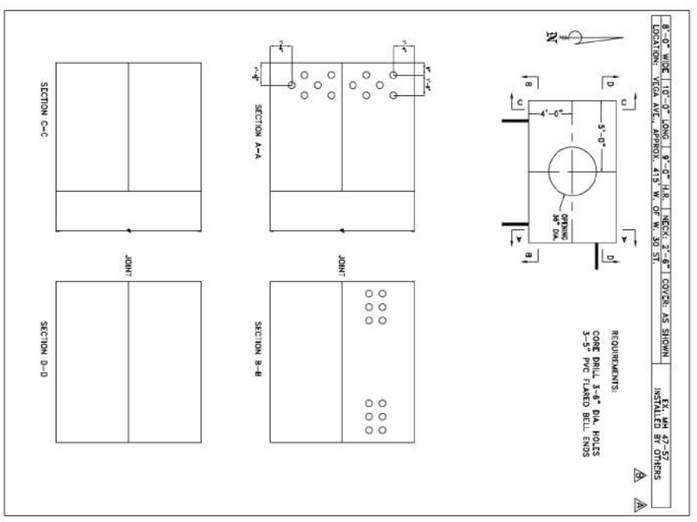
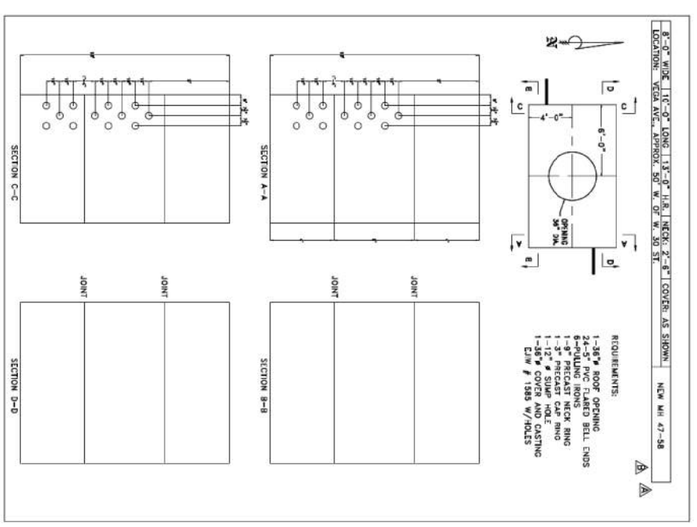
UTILITY PART 2


REQUIREMENTS:
CORE DRILL 3-6" DIA. HOLES
3-5" PVC FLARED BELL ENDS
SECTION A-A
SECTION B-B
SECTION C-C
SECTION D-D
JOINT


REQUIREMENTS:
1-36"ø ROOF OPENING
24-5" PVC FLARED BELL ENDS
8-PULLING IRONS
1-8" PRECAST NECK RING
1-3" PRECAST CAP RING
1-12" ø SUMP HOLE COVER AND CASTING
E/W # 1585 W/HOLES
SECTION A-A
SECTION B-B
SECTION C-C
SECTION D-D
JOINT

REQUIREMENTS:
CORE DRILL 3-6" DIA. HOLES
3-5" PVC FLARED BELL ENDS
EX. DUCTS
SECTION A-A
SECTION B-B
SECTION C-C
SECTION D-D


REQUIREMENTS:
CORE DRILL 3-6" DIA. HOLES
3-5" PVC FLARED BELL ENDS
SECTION A-A
SECTION B-B
SECTION C-C
SECTION D-D
JOINT


REQUIREMENTS:
1-36"ø ROOF OPENING
24-5" PVC FLARED BELL ENDS
8-PULLING IRONS
1-8" PRECAST NECK RING
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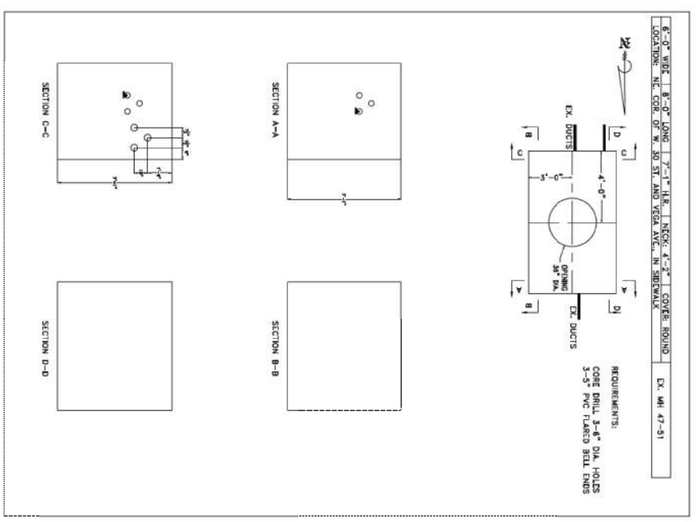
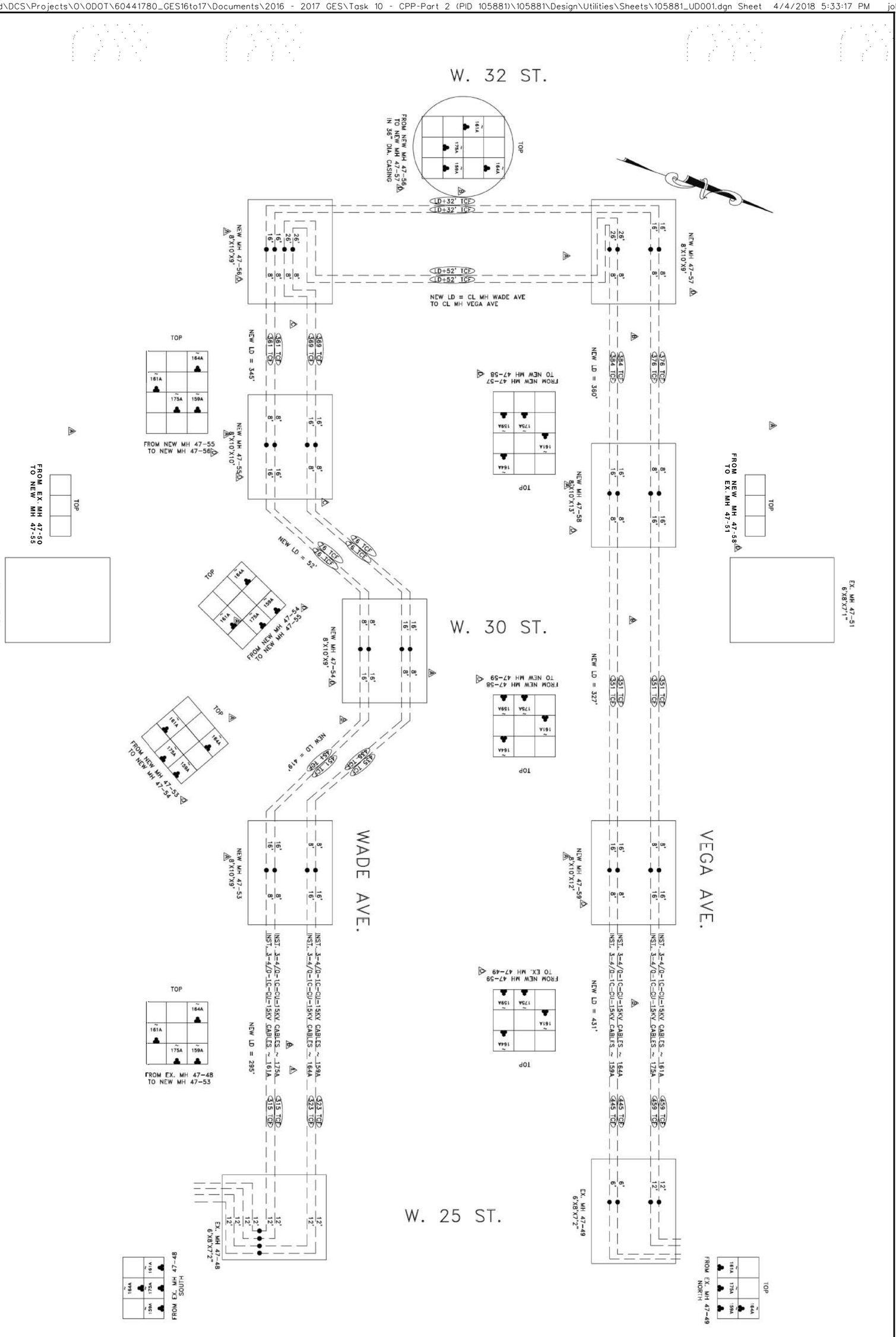
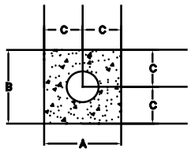
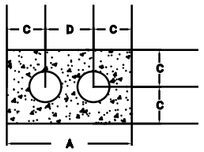
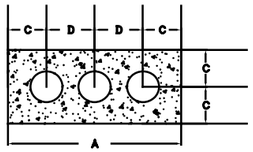
1-12" ø SUMP HOLE COVER AND CASTING
E/W # 1585 W/HOLES
SECTION A-A
SECTION B-B
SECTION C-C
SECTION D-D
JOINT

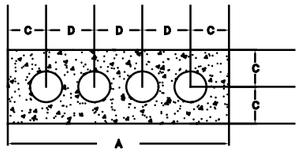

REQUIREMENTS:
CORE DRILL 3-6" DIA. HOLES
3-5" PVC FLARED BELL ENDS
EX. DUCTS
SECTION A-A
SECTION B-B
SECTION C-C
SECTION D-D

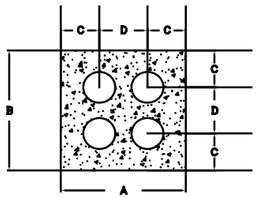

W. 32 ST.
W. 30 ST.
W. 25 ST.
WADE AVE.
VEGA AVE.
FROM NEW MH 47-56 TO NEW MH 47-57 IN 36" DIA. CASING
NEW LD = CL MH WADE AVE TO CL MH VEGA AVE
NEW LD = 345'
NEW LD = 360'
NEW LD = 52'
NEW LD = 419'
NEW LD = 327'
NEW LD = 431'
NEW LD = 295'
NEW MH 47-56 8'X10'X9'
NEW MH 47-57 8'X10'X9'
NEW MH 47-55 8'X10'X10'
NEW MH 47-58 8'X10'X13'
NEW MH 47-54 8'X10'X9'
NEW MH 47-53 8'X10'X9'
NEW MH 47-59 8'X10'X12'
EX. MH 47-48 6'X8'X7'2"
EX. MH 47-49 6'X8'X7'2"
EX. MH 47-50 6'X8'X7'5"
EX. MH 47-51 6'X8'X7'1"
FROM NEW MH 47-55 TO NEW MH 47-56
FROM NEW MH 47-57 TO NEW MH 47-58
FROM NEW MH 47-54 TO NEW MH 47-55
FROM NEW MH 47-53 TO NEW MH 47-54
FROM EX. MH 47-48 TO NEW MH 47-53
FROM NEW MH 47-58 TO NEW MH 47-59
FROM EX. MH 47-50 TO NEW MH 47-55
FROM NEW MH 47-59 TO EX. MH 47-51
FROM EX. MH 47-49 NORTH
FROM EX. MH 47-48 SOUTH
INST. 3-4/0-1C-OJ-15KV CABLES ~ 159A
INST. 3-4/0-1C-OJ-15KV CABLES ~ 161A
INST. 3-4/0-1C-OJ-15KV CABLES ~ 164A
INST. 3-4/0-1C-OJ-15KV CABLES ~ 175A

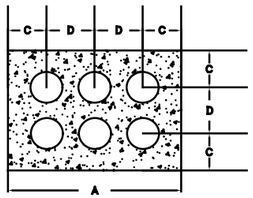


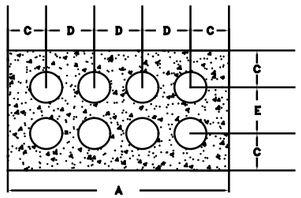


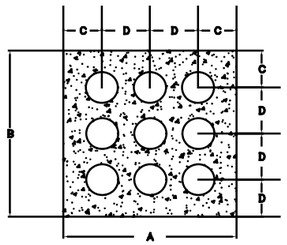


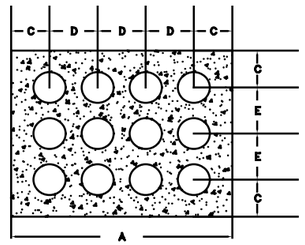


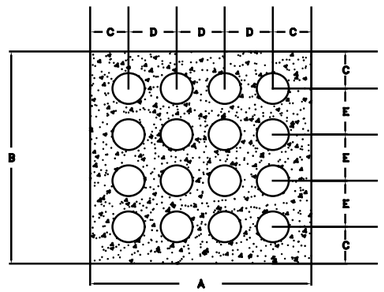












NOTE:

THE ABOVE CONFIGURATIONS ARE THOSE SHOWN WITHIN THE CONDUIT RUNS.

DIMENSIONS ARE BASED ON THE USE OF CARLON SNAP–LOC INTERMEDIATE AND BASE SPACERS.

SEE MANHOLE DETAILS FOR CONDUIT CONFIGURATION AT MANHOLE WALLS

TYPE W x H	4" PVC CONDUITS				
	A	B	C	D	E
1 x 1	10"	10"	5"	–	–
2 x 1	16.75"	10"	5"	6.75"	–
3 x 1	23.5	10"	5"	6.75"	–
4 x 1	30.25"	10"	5"	6.75"	–
2 x 2	16.75"	16.51"	5"	6.75"	6.51"
3 x 2	23.5	16.51"	5"	6.75"	6.51"
4 x 2	30.25"	16.51"	5"	6.75"	6.51"
3 x 3	23.5	23"	5"	6.75"	6.51"
4 x 3	30.25"	23"	5"	6.75"	6.51"
4 x 4	30.25"	29.5"	5"	6.75"	6.51"

TYPE W x H	5" PVC CONDUITS				
	A	B	C	D	E
1 x 1	12"	12"	6"	–	–
2 x 1	19.81"	12"	6"	7.81"	–
3 x 1	27.62"	12"	6"	7.81"	–
4 x 1	35.43"	12"	6"	7.81"	–
2 x 2	19.81"	19.57"	6"	7.81"	7.57"
3 x 2	27.62"	19.57"	6"	7.81"	7.57"
4 x 2	35.43"	19.57"	6"	7.81"	7.57"
3 x 3	27.62"	27.14"	6"	7.81"	7.57"
4 x 3	35.43"	27.14"	6"	7.81"	7.57"
4 x 4	35.43"	34.71"	6"	7.81"	7.57"

TYPE W x H	6" PVC CONDUITS				
	A	B	C	D	E
1 x 1	13"	13"	6.5"	–	–
2 x 1	21.88"	13"	6.5"	8.88"	–
3 x 1	30.76"	13"	6.5"	8.88"	–
4 x 1	38.5"	13"	6.5"	8.88"	–
2 x 2	21.88"	21.64"	6.5"	8.88"	8.64"
3 x 2	30.76"	21.64"	6.5"	8.88"	8.64"
4 x 2	39.64"	21.64"	6.5"	8.88"	8.64"
3 x 3	30.76"	30.28"	6.5"	8.88"	8.64"
4 x 3	39.64"	30.28"	6.5"	8.88"	8.64"
4 x 4	39.64"	38.92"	6.5"	8.88"	8.64"

CALCULATED JEM
CHECKED MAW

CPP DETAILS

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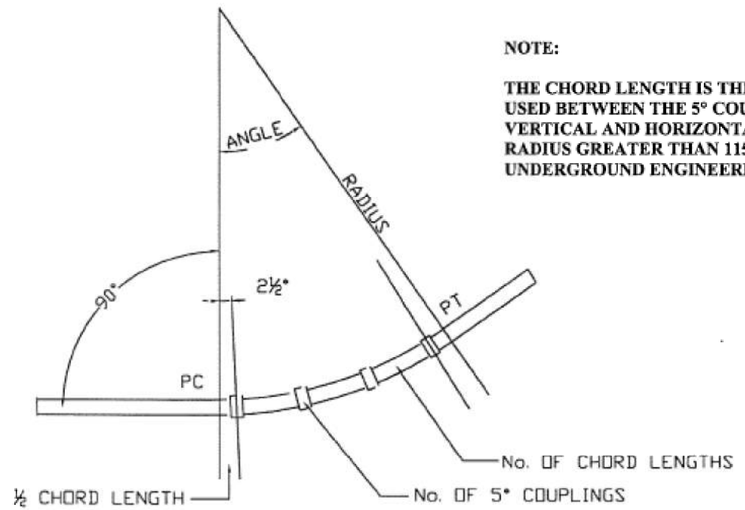
UTILITY PART 2

TYPICAL CURVE CONSTURCTION USING 5° COUPLINGS

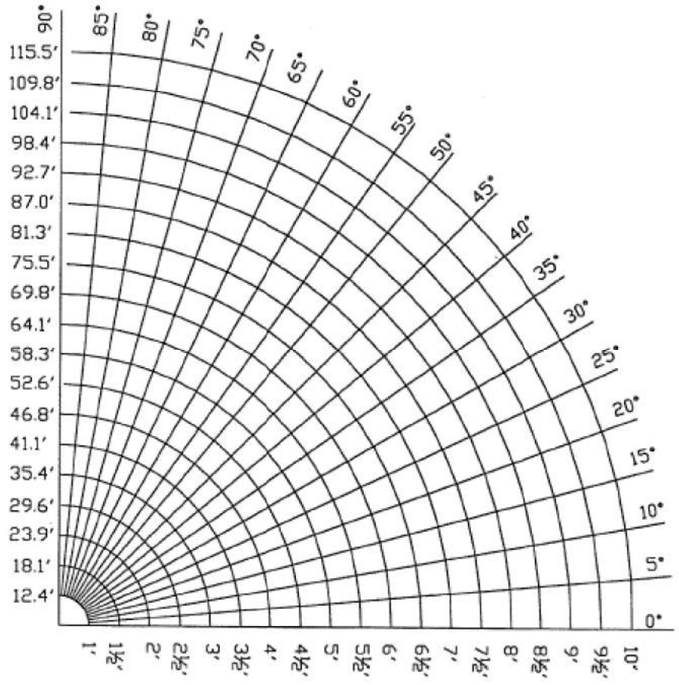


NOTE:

THE CHORD LENGTH IS THE SPECIFIED LENGTH OF DU USED BETWEEN THE 5° COUPLINGS TO CONSTRUCT BO VERTICAL AND HORIZONTAL CURVES. FOR CURVES E RADIUS GREATER THAN 115.5 FEET, PLEASE CONSULT UNDERGROUND ENGINEERING.

CONDUIT LENGTH	APPROX. OFFSET
1'	0'-1"
5'	0'-5"
10'	0'-10"
15'	1'-4"
20'	1'-9"

CONDUIT RADUIS CHART AND CHORD LENGTH DATA



CHORD LENGTH

ANGLE	5° COUPLINGS	No. OF CHORDS
10°	2	1
15°	3	2
20°	4	3
25°	5	4
30°	6	5
35°	7	6
40°	8	7
45°	9	8
50°	10	9
55°	11	10
60°	12	11
65°	13	12
70°	14	13
75°	15	14
80°	16	15
85°	17	16
90°	18	17

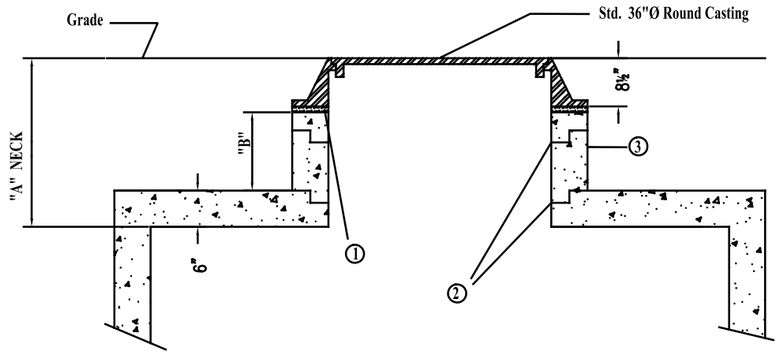
MIN. RADIUS	LENGTH OF CHORD
12.4'	1'
18.1'	1½'
23.9'	2'
29.6'	2½'
35.4'	3'
41.1'	3½'
46.8'	4'
52.6'	4½'
58.3'	5'
64.1'	5½'
69.8'	6'
75.5'	6½'
81.3'	7'
87.0'	7½'
95.7'	8'
98.4'	8½'
104.1'	9'
109.8'	9½'
115.5'	10'

CALCULATED JEM
CHECKED MAW

CPP DETAILS

CUY-42-16.62
UTILITY PART 2

PRECAST NECK RING SCHEDULE



NOTES:

1 Bricks or blocks to be flush with inside face of neck rings.

2 Place sealant in all neck ring joints before assembly.

3 Apply ½" thick layer of waterproof morter to outside surface of neck. Waterproofing additive to be added to mortar per manufacturer's recommendation.

"A" NECK	"B" NECK RING HEIGHT	PREFERRED RING COMBINATION
2' - 6" *	15"	1 - 3" CAP RING 1 - 12" NECK RING
3' - 0"	21"	1 - 3" CAP RING 1 - 6" NECK RING 1 - 12" NECK RING
4' - 0"	33"	1 - 3" CAP RING 1 - 6" NECK RING 2 - 12" NECK RING

NOTE:

For intermediate neck heights, please consult with Underground Engineering.

CPP standard round cover and casting --- East Jordan Iron Works No. 1585.

* CPP minimum standard neck.

REVISED NECK RING SCHEDULE 5-22-08

RING SIZE (EFFECTIVE HEIGHT)	WEIGHT	NORWALK CONCRETE CATALOG NO.
3"	265#	R-3-37-C
6"	425#	R-6-37-N
9"	635#	R-9-37-N
12"	845#	R-12-37-N

NOTE:

The use of cap rings and neck rings by other manufacturers must be equivalent to those of Norwalk Concrete Industries. See above for Norwalk cataloge numbers.

CALCULATED JEM
CHECKED MAW

CPP DETAILS

CUY-42-16.62
UTILITY PART 2

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29