

TYPICAL SECTION LOOKING NORTH

PROPOSED PAVEMENT LEGEND

- ① ITEM 448 - 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22
- ② ITEM 448 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG64-22
- ③ ITEM 301 - 4" ASPHALT CONCRETE BASE, PG64-22
- ④ ITEM 408 - PRIME COAT (0.40 GAL/SY)
- ⑤ ITEM 304 - 4" AGGREGATE BASE
- ⑥ ITEM 204 - SUBGRADE COMPACTION
- ⑦ ITEM 608 - 4" CONCRETE WALK W/ 4" AGGREGATE BASE PER ITEM 304 (PER 2008 CITY SPECS. FOR CURB/WALK CONST.)
- ⑧ ITEM 609 - CONCRETE CURB, CITY STANDARD # 30
- ⑨ ITEM 659 - SEEDING AND MULCHING INCLUDING 4" TOPSOIL FURNISHED AND PLACED, CLASS 1 LAWN MIX. (1 YEAR WARRANTY - 90% GERMINATION)
- ⑩ ITEM 407 - TACK COAT (0.075 GAL/SY)
- ⑪ ITEM 605 - 4" UNDERDRAIN, ODOT CMS 707.31 PERFORATED W/ #8 GRAVEL & FILTER FABRIC PER 712.09 TYPE 'A' (NO ACBFS)

REVISIONS	

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMAN
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1359 MARKET AVENUE NORTH CANTON, OHIO 44714

TYPICAL SECTIONS & DETAILS
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

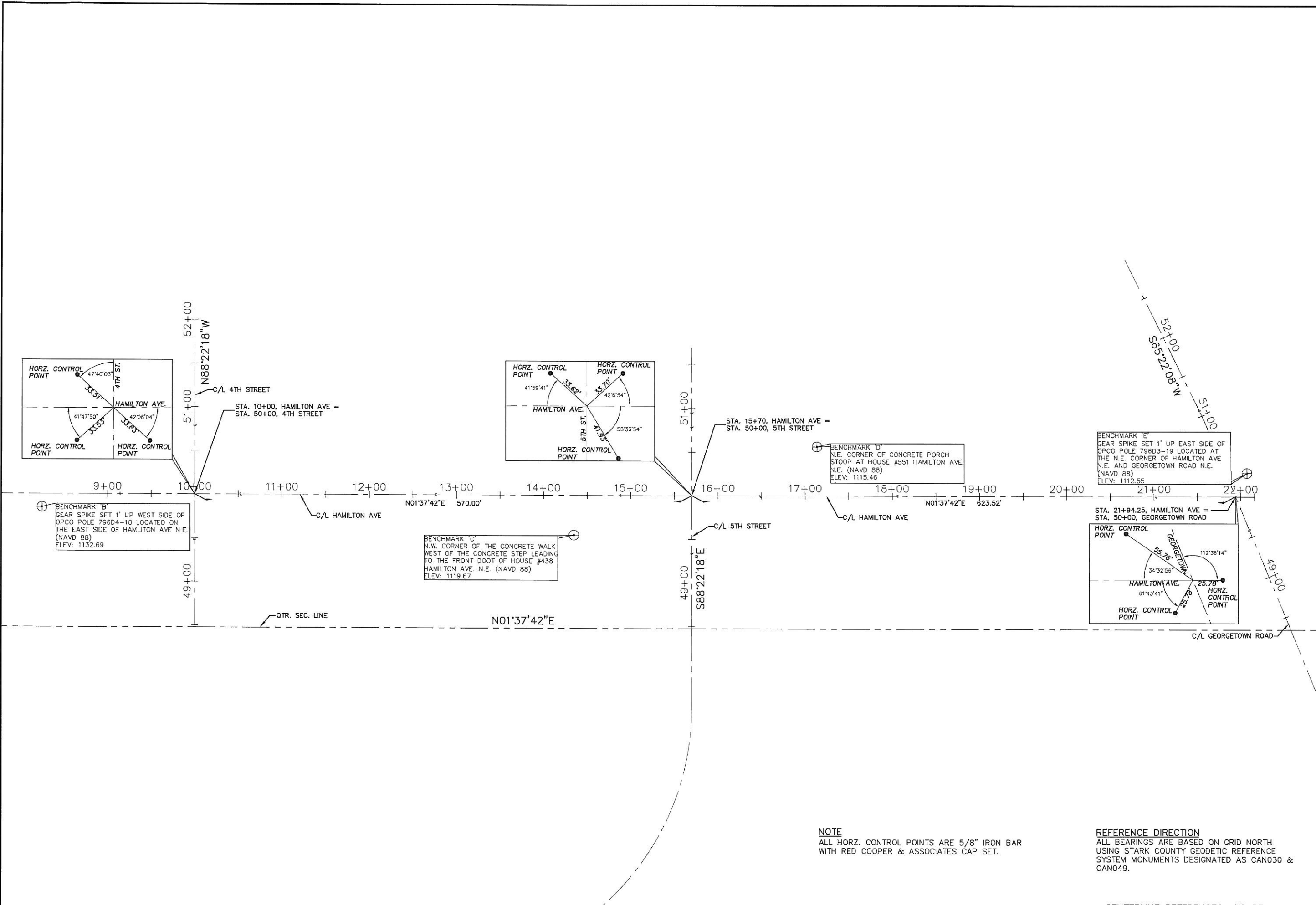
DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011

SHEET
2 OF 46

PROJ.# 11161

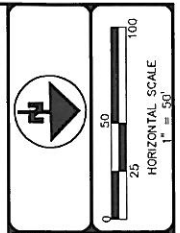
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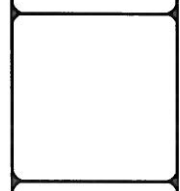
NOTE
 ALL HORZ. CONTROL POINTS ARE 5/8" IRON BAR WITH RED COOPER & ASSOCIATES CAP SET.

REFERENCE DIRECTION
 ALL BEARINGS ARE BASED ON GRID NORTH USING STARK COUNTY GEODETIC REFERENCE SYSTEM MONUMENTS DESIGNATED AS CAN030 & CAN049.



REVISIONS	DATE	BY	DESCRIPTION

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 ENGINEERS AND SURVEYORS
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 1359 MARKET AVENUE NORTH
 CANTON, OHIO 44714



CENTERLINE REFERENCES AND BENCHMARKS
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011
 SHEET: 3 OF 46
 PROJ.# 11161

I. PRECONSTRUCTION INCIDENTALS

(A) PROJECT SPECIFICATIONS/REQUIREMENTS:

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

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

(B) ADMINISTRATIVE REQUIREMENTS:

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

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

(C) PRECONSTRUCTION MEETING:

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

FOR SUBDIVISION DEVELOPMENTS, THE DEVELOPER SHALL CONTACT THE CITY ENGINEER'S OFFICE TO ARRANGE A MEETING DATE. THE DEVELOPER WILL CONTACT THE ABOVE AGENCIES TO CONFIRM THE MEETING DATE.

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

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

(D) PROJECT SAFETY:

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

(E) UNDERGROUND UTILITIES:

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

(F) UTILITY NOTIFICATION:

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

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

THE PRIMARY UTILITIES WITHIN THE CITY OF CANTON AREA:

NATURAL GAS DIST./TRANS.
DOMINION EAST OHIO GAS
320 SPRINGSIDE DR.
AKRON, OHIO 44333
330-664-2409
ATTN: MARY LONG
RELOCATION@DOM.COM
EMERGENCY NO.
1-800-521-4400

TELEPHONE
AT&T
50 WEST BOWER STREET
AKRON, OHIO 44308
330-384-2245
ATTN: RICH WILSON

EMERGENCY NO. - 24 HRS.
1-800-572-4545 OPTION#4

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

ELECTRIC
AMERICAN ELECTRIC POWER
301 CLEVELAND AVE. S.W.
P.O. BOX 24400
CANTON, OHIO 44701-4400
330-438-7762
ATTN: KEN HUOT
EMERGENCY No.
1-800-672-2017

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

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

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

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

(G) PROPOSED PUBLIC UTILITY LOCATION IN PROPOSED SUBDIVISIONS:

THE DEVELOPER/CONTRACTOR AND REPRESENTATIVES OF THE CITY OF CANTON SHALL MEET WITH REPRESENTATIVES OF THE VARIOUS PUBLIC UTILITY COMPANIES (EAST OHIO GAS, AMERICAN ELECTRIC POWER, AMERITECH, WARNER CABLE, ETC.) TO DETERMINE THE APPROPRIATE LOCATION FOR THESE UTILITIES WITHIN THE PROJECT SITE. ONCE AN AGREEMENT HAS BEEN REACHED, IT SHALL BE THE RESPONSIBILITY OF THE UTILITY OWNERS TO INSPECT THE INSTALLATION OF THE VARIOUS PUBLIC UTILITY LINES WITHIN THE ROAD RIGHT-OF-WAY TO ENSURE THAT CONFLICTS ARE AVOIDED AND ADEQUATE CLEARANCE AND OFFSETS WITH OTHER UTILITIES ARE MAINTAINED. UTILITY COMPANIES SHALL SUBMIT PLANS INDICATING THEIR PROPOSED IMPROVEMENTS AND FACILITIES TO THE CITY OF CANTON FOR APPROVAL. THE SITE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE INSTALLATION OF THE OTHER UTILITIES NOT OWNED BY THE CITY.

(H) EXPLORATORY BORINGS:

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

(I) CONTINGENCY QUANTITIES:

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

II. CONSTRUCTION INCIDENTALS

(A) PLAN DISCREPANCIES:

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

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

(B) VERIFICATION OF UNDERGROUND UTILITIES:

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

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

(C) PROTECTION OF UTILITIES:

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

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

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

(D) MAINTENANCE OF UTILITY SERVICES:

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

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

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

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

(E) CONSTRUCTION NOISE:

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

(F) OPEN TRENCH CONSTRUCTION:

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

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

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

(G) TRENCH CLOSING AND TEMPORARY TOPPING:

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

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

(H) DUST CONTROL:

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

(I) TESTING OF UTILITIES:

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

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

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

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

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

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

05-01 SEWER TELEVISION INSPECTION AND DOCUMENTATION PROCEDURE.

REVISIONS table with columns for revision number, description, and date.

COOPER & ASSOCIATES, LLP ENGINEERS AND SURVEYORS. Includes contact information for Bryan J. Ashman and Jerold E. Geib, and the company logo.

GENERAL NOTES

HAMILTON AVE. N.E. IMPROVEMENTS. LOCATED IN THE CITY OF CANTON, STARK COUNTY, OHIO. FOR: CITY OF CANTON

Form with fields for DRAWN BY, CHECKED BY, DATE, SHEET, and PROJ.#.

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II. CONSTRUCTION INCIDENTALS (continued)

(J) PRESERVATION AND RESTORATION OF DISTURBED FEATURES:

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

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

(K) SALVAGED CASTINGS:

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

(L) PLUG EXISTING CONDUIT:

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

BULKHEADS SHALL CONSIST OF BRICK AND/OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

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

(M) CONSTRUCTION LAYOUT:

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

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

(N) EXISTING MONUMENTATION:

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

(O) ELEVATION DATUM:

ALL ELEVATIONS ARE BASED ON THE **NAVD 1988 DATUM.**

(P) DEWATERING OPERATIONS:

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

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

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

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

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

(Q) INSPECTION:

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

(R) FIELD OFFICE:

IF A PAY ITEM IS PROVIDED, THE DEVELOPER/CONTRACTOR SHALL PROVIDE A FIELD OFFICE IN ACCORDANCE WITH ODOT 619. THE FIELD OFFICE SHALL BE TYPE 'A', UNLESS OTHERWISE SPECIFIED.

III. EARTHWORK / SITE WORK

(A) EASEMENTS AND RIGHT-OF-WAY:

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

(B) SUITABILITY OF SITE:

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

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

(C) REMOVAL/REPLACEMENT OF UNSUITABLE MATERIAL:

THE DEVELOPER/CONTRACTOR SHALL UNDERCUT AND REPLACE UNSUITABLE MATERIAL ENCOUNTERED DURING INSTALLATION OF THE PROPOSED UTILITIES AND ROADWAY IN ACCORDANCE WITH CITY STANDARD DRAWING NO. 19.

IV. ROADWAY / DRIVE APPROACHES / WALK / CURB

(A) PAVEMENT STANDARDS:

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

CITY STANDARD DRAWING NO.:

- DRIVEWAYS, CURBS, AND PAVEMENT**
 27 "DRIVE APPROACH WITH LAWNSTRIP BETWEEN SIDEWALK & CURB"
 28 "DRIVE APPROACH WITH SIDEWALK AGAINST CURB"
 29 "COMBINED CURB & WALK"
 30 "CONCRETE CURB AND COMBINED CURB & GUTTER"
 31 "BRICK PAVEMENT REPAIR & REPLACEMENT OVER TRENCHES/ALONG CURB"
 32 "TYPICAL SECTION - LOCAL STREET"
 33 "WHEELCHAIR RAMP"
 34 "PAVEMENT TRANSITION, BRICK-ASPHALT"

CITY STREETScape

- 40 "TYPICAL STREETScape CORRIDOR"
 41 "ROADWAY BRICK & CROSSWALK PAVEMENT DETAILS"
 42 "STREETScape CONCRETE WALK PAVEMENT DETAILS"
 44 "CONCRETE WALK OVER VAULT CONSTRUCTION DETAILS"
 45 "BRICK WALK OVER VAULT CONSTRUCTION DETAILS"

CITY SPECIFICATIONS:

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

(B) RESTRICTED WORK SCHEDULE:

NO CONCRETE FINISH WORK OR PERMANENT ASPHALT SHALL BE PLACED FROM NOVEMBER 15TH TO APRIL 15TH UNLESS WRITTEN APPROVAL IS GRANTED BY THE CITY ENGINEER.

(C) ASPHALT/CONCRETE:

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

V. SANITARY SEWERS / STORM SEWERS

(A) SEWER STANDARDS:

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

CITY STANDARD DRAWING NO.:

- CATCH BASINS**
 1 "CURB INLET CATCH BASIN"
 2 "CURB INLET WATER QUALITY CATCH BASIN"
 3 "HILLSIDE CURB INLET CATCH BASIN"
 4 "SQUARE-TOP CATCH BASIN"
 5 "SQUARE-TOP WATER QUALITY CATCH BASIN"

MANHOLES

- 10 "PRECAST STORM OR SANITARY MANHOLE"
 11 "OUTSIDE DROP CONNECTION FOR SANITARY MANHOLE"
 12 "MANHOLE COVER"

CONDUITS AND TRENCHES

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

DRIVEWAYS, CURBS, AND PAVEMENT

- 32 "TYPICAL SECTION - LOCAL STREET"

(B) CURB INLET DOUBLE CATCH BASIN:

WHERE CALLED FOR ON THE PLANS, THE CONTRACTOR SHALL INSTALL A CURB INLET DOUBLE CATCH BASIN WHICH SHALL BE IN CONFORMANCE WITH ALL ITEMS DESIGNATED ON THE CITY OF CANTON STANDARD DRAWING NO 1 EXCEPT THAT THE INTERIOR WIDTH OF PRECAST CHAMBER SHALL BE 6' AND THAT NOTE B OF THE SAID DETAIL SHALL REFER TO EAST JORDAN 7031 CURB INLET (FRAMES BOLTED).

VI. STORM WATER POLLUTION PREVENTION:

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

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

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

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

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT CO-PERMITTEE APPLICATION TO OHIO EPA PRIOR TO BEGINNING WORK ON THE PROJECT. AS APPLICABLE, THE CONTRACTOR SHALL OBTAIN A COPY OF THE SWP3 AND FAMILIARIZE HIMSELF WITH IT, IMPLEMENTING ALL ITEMS AND ABIDING BY ALL PERMIT REQUIREMENTS AND REGULATIONS.

(B) FOR PROJECTS LESS THAN ONE (1) ACRE OF TOTAL LAND-DISTURBANCE:

AN EPA NPDES CONSTRUCTION STORM WATER PERMIT AND SWP3 IS NOT REQUIRED. HOWEVER, THE DEVELOPER/ CONTRACTOR SHALL STILL ENSURE THAT APPROPRIATE PRACTICES ARE IN PLACE TO PROVIDE CONSTRUCTION RUNOFF AND EROSION AND SEDIMENT CONTROLS WITHIN THE PROJECT LIMITS. SUCH PRACTICES MAY INCLUDE THE USE OF SILT FENCE, STORM DRAIN INLET PROTECTION, JUTE MATTING, TEMPORARY SEEDING, MULCHING, CHECK DAMS, CONSTRUCTION ENTRANCES, CONCRETE WASHOUT AREAS, ETC. ALL PRACTICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT EDITION OF THE OHIO DEPARTMENT OF NATURAL RESOURCES' RAINWATER AND LAND DEVELOPMENT MANUAL, AS APPLICABLE.

EROSION AND SEDIMENT CONTROL PRACTICES MUST BE INSTALLED PRIOR TO BEGINNING CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUED INSPECTION AND MAINTENANCE OF ALL PRACTICES AND WILL BE HELD RESPONSIBLE FOR ADDRESSING ANY ON- OR OFF-SITE EROSION/SEDIMENT ISSUES RELATED TO THE PROJECT. THE OWNER/DEVELOPER/CONTRACTOR SHALL ABIDE BY ALL ORDERS ISSUED BY THE CITY PURSUANT TO INSPECTION OF THE PROJECT SITE.

VII. TRAFFIC:

(A) MAINTAINING TRAFFIC:

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

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

(B) RESIDENTIAL AND BUSINESS AREAS:

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

(C) EXISTING STREET NAME AND TRAFFIC CONTROL SIGNS:

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

(D) NEW STREET NAME & TRAFFIC CONTROL SIGNS:

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

FOR SUBDIVISION DEVELOPMENTS, ALL PERMANENT STREET NAME SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE FURNISHED AND INSTALLED BY THE DEVELOPER/CONTRACTOR.

NO.	DATE	REVISIONS
1	09-17-2012	RAE DEPARTMENTAL CHANGES
2	05-23-2012	RAE CANTON ENGINEERS COMMENTS

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1359 MARKET AVENUE NORTH CANTON, OHIO 44714

HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 5 OF 46
PROJ# 11161

VII. TRAFFIC (continued)

(F) EXISTING TRAFFIC SIGNALS:

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

(F) NEW TRAFFIC SIGNALIZATION:

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

(G) TRAFFIC CONTROL PLAN:

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

VIII. WATER MAIN / SERVICES:

(A) WATER MAINS/SERVICES:

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

FOR NEW DEVELOPMENTS INSIDE THE CITY, ALL WATER MAIN PIPE MATERIAL FITTINGS, BENDS, VALVES, VALVE BOXES, MEGALUGS, GASKETS AND HYDRANTS WILL BE SUPPLIED BY THE CITY OF CANTON. THE CONTRACTOR WILL BE RESPONSIBLE FOR TRANSPORTING MATERIALS TO THE PROJECT SITE. BACKFILL, BEDDING, THRUST BLOCKING, ETC. AND ASSOCIATED LABOR IS THE RESPONSIBILITY OF THE CONTRACTOR.

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

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

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

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

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

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

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

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

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

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

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

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

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

SERVICE BRANCHES WILL BE INSTALLED AS PER O.D.O.T ITEM 638.16 WITH THE FOLLOWING EXCEPTIONS: 1. WHEN A SERVICE BRANCH IS DISTURBED FOR LOWERING, RAISING, EXTENDING OR SHORTENING ON THE PROPERTY SIDE ON THE SERVICE STOP, IT SHALL BE REPLACED WITH NEW MATERIALS FROM THE CORPORATION STOP TO THE SERVICE STOP.

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

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

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

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

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

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

IX. POST CONSTRUCTION INCIDENTALS

(A) AS-BUILT DRAWINGS:

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

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

(B) PROPOSED MONUMENTATION:

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

(C) RELEASE OF RETAINER/BONDS:

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

IX. PROJECT SPECIFIC NOTES

(A) REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS (CALIPER 12" AND LARGER) TO BE REMOVED. IN ADDITION TO THE REMOVAL OF TREES AND STUMPS AS MARKED, THE CONTRACTOR SHALL TRIM ALL TREES AND SHRUBS THAT PROTRUDE INTO THE RIGHT-OF-WAY BELOW A HEIGHT OF ELEVEN FEET. ALSO, THE CONTRACTOR MAY TRIM TREES AND SHRUBS THAT PROTRUDE INTO THE RIGHT-OF-WAY ONLY AS NECESSARY TO PERFORM THE PROPOSED GRADING AS SHOWN ON THE PLANS. THE PRICE FOR THIS WORK SHALL BE INCLUDED AS A LUMP SUM UNDER ITEM 201 - CLEARING AND GRUBBING.

Table with 2 columns: SIZES, NO. TREES. Row 1: N/A, N/A

(B) TREE TRIMMING

IN ADDITION TO THE REMOVAL OF TREES AND STUMPS AS MARKED, THE CONTRACTOR SHALL TRIM ALL TREES AND SHRUBS THAT PROTRUDE INTO THE RIGHT-OF-WAY BELOW A HEIGHT OF ELEVEN FEET. ALSO, THE CONTRACTOR MAY TRIM TREES AND SHRUBS THAT PROTRUDE INTO THE RIGHT-OF-WAY ONLY AS NECESSARY TO PERFORM THE PROPOSED GRADING AS SHOWN ON THE PLANS. THE PRICE FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 201 - CLEARING AND GRUBBING.

(C) RESIDENTIAL DRAINAGE CONNECTIONS

RESIDENTIAL DRAINAGE CONNECTIONS SHALL BE IN ACCORDANCE WITH THE CITY OF CANTON STANDARD DRAWING NUMBER 23 AND 24.

CONTINGENCIES OF TWO (2) DOWNSPOUT OUTLETS OR ONE (1) DOWNSPOUT OUTLET AND ONE (1) GROUNDWATER DRAIN LINE CONNECTION SHALL BE PROVIDED FOR EACH RESIDENCE IN ACCORDANCE WITH CITY STANDARD NUMBERS 23 AND 24. RESPECTIVELY, TO CONNECT EXISTING DOWNSPOUTS AND GROUNDWATER DRAIN LINES ENCOUNTERED WITHIN CONSTRUCTION LIMITS.

CONTINGENCIES OF ONE (1) GROUNDWATER DRAIN LINE CONNECTION SHALL BE PROVIDED FOR VACANT, BUILDABLE PROPERTIES WITHIN PROJECT LIMITS FOR FUTURE CONNECTIONS.

DOWNSPOUT OUTLETS AND GROUNDWATER DRAIN LINE CONNECTIONS SHALL BE CONSTRUCTED ONLY AS DIRECTED BY THE CITY ENGINEER.

LOCATIONS OF THE PROPOSED DOWNSPOUT OUTLETS AND GROUNDWATER DRAIN LINE CONNECTIONS ARE APPROXIMATE AND MAY BE MODIFIED AS DIRECTED BY THE CITY ENGINEER.

PLEASE SEE SECTION 'V' ON SHEET 5 OF 46 FOR ADDITIONAL INFORMATION.

(D) DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE PRICE FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 203 - EXCAVATION.

(E) ITEM SPECIAL - PERSONAL ITEMS

ALL PERSONAL ITEMS SUCH AS, BUT NOT LIMITED TO; PLANTERS, FENCES AND LIGHT POLES WITHIN THE RIGHT OF WAY SHALL BE REMOVED AND STORED FOR REUSE BY THE OWNER. WHEN REQUIRED, BACKFILLING SHALL BE IN ACCORDANCE WITH ITEM 202.02.

THE PRICE FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM SPECIAL - PERSONAL ITEMS.

(F) ITEM SPECIAL - COMBINED CURB & WALK

INTEGRAL CURBS SHALL BE CONSTRUCTED AT LOCATIONS REPRESENTED ON THE PLANS. THE CURBS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARD DRAWING NO. 29 ITEM 609 AND THE CONCRETE DRIVEWAY DETAIL ON SHEET 25.

PAYMENT FOR THE INTEGRAL CURB SHALL BE INCLUDED WITH ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT

(G) PAVEMENT RESTORATION FOR PIPE INSTALLATIONS

PAVEMENT RESTORATION FOR PIPE INSTALLATION WITHIN GEORGETOWN ST. SHALL BE IN ACCORDANCE WITH THE CITY OF CANTON STANDARD DRAWING 19. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE CORRESPONDING PIPE UNDER ITEM 603.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS SHOWN ON THE ABOVE REFERENCED DETAIL AT NO ADDITIONAL COST.

(H) PRIVATE CURBS

REMOVE EXISTING CONCRETE CURBS AS PER PLAN. TERMINATE THE CURBS AT THE RIGHT OF WAY LINE USING A CURB HEIGHT TAPER FROM FULL HEIGHT TO 0" IN 5'. PAYMENT FOR THIS WORK SHALL BE INCLUDED WITH ITEM 202 - CONCRETE PAVEMENT REMOVED.

(I) ITEM 603 - CONDUIT BORED OR JACKED - IF APPLICABLE

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 5 FEET TO THE EDGE OF PAVEMENT. PROVIDE A 0.50 INCH UNGALVANIZED CASING PIPE CONFORMING TO 748.06 THAT HAS JOINTS WITH A CIRCUMFERENTIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN CITY OF CANTON APPROVED FIELD WELDER. THE INSTALLED CASING PIPE IS THE STORM WATER CONVEYANCE CARRIER UNLESS OTHERWISE SPECIFIED IN THE PLANS. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE.

(J) ITEM 603 - CONDUIT JACKED - IF APPLICABLE

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 5 FEET TO THE EDGE OF PAVEMENT.

Table with 4 columns: REVISIONS, DEPARTMENTAL CHANGES, DEPARTMENTAL CHANGES, CANTON ENGINEERS COMMENTS. Rows 1-4 with checkmarks.

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1389 MARKET AVENUE NORTH CANTON, OHIO 44714

HAMILTON AVE. N.E. IMPROVEMENTS LOCATED IN THE CITY OF CANTON, STARK COUNTY, OHIO FOR: CITY OF CANTON

GENERAL NOTES DRAWN BY: SDH CHECKED BY: BJA DATE: SEPTEMBER 2011 SHEET 6 OF 46 PROJ.# 11161

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Note: The quantities shown hereon are approximate and are subject to field adjustments.

GENERAL SUMMARY

SHEET NUMBER										ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET	
9	10	15	16	24	28	30										
											PAVEMENT					
358											301	46000	358	CU. YD.	4" ASPHALT CONCRETE BASE, PG64-22	
410							54				304	20000	464	CU. YD.	AGGREGATE BASE	
242											407	10000	242	GALLON	TACK COAT	
1290											408	10000	1290	GALLON	PRIME COAT	
											411	10000	1	CU. YD.	2" STABILIZED CRUSHED AGGREGATE FOR GRAVEL DRIVEWAYS	
157											448	46020	158	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22	
112											448	47020	113	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
											452	10000	442	SQ. YD.	6" NON-REINFORCED CONCRETE PAVEMENT	
6											608	49000	6	EACH	CURB RAMP	
4247											608	10000	4247	SQ. FT.	4" CONCRETE WALK, NOT INCLUDING AGGREGATE BASE	
2307											609	26000	2307	LIN. FT.	CURB, CITY STANDARD #30	
											SANITARY SEWER					
			1	2							604	34500	3	EACH	MANHOLE ADJUSTED TO GRADE	
				60							603		60	LIN. FT.	8" SANITARY SEWER (REPLACEMENT SECTION)	
			3	3							603		6	EACH	WYE REPAIR	
											MAINTENANCE OF TRAFFIC					
											614	11000	1	LUMP	MAINTAINING TRAFFIC	
											WATER WORK					
			3	1							638	10900	4	EACH	SERVICE BOX ADJUSTED TO GRADE	
			5								638	10900	5	EACH	GATE VALVE BOX ADJUSTED TO GRADE	
			1								638	10900	1	EACH	GAS VALVE BOX ADJUSTED TO GRADE	

REVISIONS				
Δ				09-17-2012
Δ				09-17-2012
Δ				09-17-2012
Δ				09-17-2012

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
PHONE (330) 452-5731
FAX No.(330) 452-9110

BRYAN J. ASHMAN
JEROLD E. GEIB

GENERAL SUMMARY
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 8 OF 46
PROJ.# 11161

PAVEMENT SUBSUMMARY

Note: The quantities shown hereon are approximate and are subject to field adjustments.

STATION TO STATION	SIDE	DISTANCE, D	AVERAGE WIDTH, W	AREA, A	204	301	304	304	407	408	448		608		609	FOOTNOTES See below for numbered footnotes
		FEET	FEET	SQ. FT.	SUBGRADE COMPACTION	4" ASPH. CONC. BASE	4" AGGREGATE BASE	4" AGGREGATE BASE (WALK)	TACK COAT	BITUMINOUS PRIME COAT	1-3/4" ASPH. CONC. INT. CRS., TYPE 1	1-1/4" ASPH. CONC. SRF. CRS., TYPE 1	4" CONC. WALK	CURB RAMP	6" CONC. CURB CITY STD #30	
					SQ. YD.	CU. YD.	CU. YD.	CU. YD.	GAL.	GAL.	CU. YD.	CU. YD.	SQ. FT.	EACH	LIN. FT.	
HAMILTON MAINLINE																
9+75.98 TO 10+30.23	LT.&RT.	54.25	25.00	1,683.62	0.00	0.00	0.00	7.04	0.00	0.00	0.00	6.49	0.00	2	42.08	
10+30.23 TO 15+24.86	LT.&RT.	494.63	24.00	11,871.12	1,319.01	146.41	146.41	20.93	98.93	527.61	64.12	45.80	1,696.66		989.26	
15+24.86 TO 16+17.99	LT.&RT.	INTERSECTION		3,571.71	396.86	44.05	44.05	5.24	29.76	158.74	19.30	13.78	425.09	2	190.36	
16+17.99 TO 21+60.05	LT.&RT.	542.06	24.00	13,009.44	1,445.49	160.45	160.45	24.13	108.41	578.20	70.27	50.19	1,956.67		1,084.12	
21+60.05 TO 21+90.50	LT.&RT.	INTERSECTION		568.93	63.21	7.02	7.02	2.08	4.74	25.29	3.07	2.20	168.71	2	43.16	
TOTALS TO GENERAL SUMMARY							358	410	242	1,290	157	118	4,247	6	2,349	

<p>NOTES</p> <ol style="list-style-type: none"> 1. 448 ITEMS ARE TO BE PG64-22 2. 3. 4. 5. 	<p>FOOTNOTES</p> <p>a. Intersection quantities are cad measured.</p>	<p>FORMULAS</p> <p>C = A*B D = C/9 E = 0.33*C/27 F = 0.33*C/27 G = 0.33*L/27 H = 0.075*D/9 I = 0.40*D/9</p>	<p>Abbreviation Legend</p>
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REVISIONS																			
COOPER & ASSOCIATES, LLP ENGINEERS AND SURVEYORS	BRYAN J. ASHMAN	JEROLD E. GEBB	PHONE (330) 452-5731	FAX No. (330) 452-9110	1559 MARKET AVENUE NORTH CANTON, OHIO 44714	HAMILTON AVE. N.E. IMPROVEMENTS	LOCATED IN THE CITY OF CANTON, STARK COUNTY, OHIO	FOR: CITY OF CANTON	DRAWN BY: SDH	CHECKED BY: BJA	DATE: SEPTEMBER 2011	SHEET 9 OF 46	PROJ.# 11161						

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CONTACT INFORMATION

CITY OF CANTON
2436 30th ST NE
CANTON, OHIO 44705
PHONE: (330) 489-3381

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE RECONSTRUCTION OF AN EXISTING ROADWAY AND THE INSTALLATION OF A NEW STORM SEWER SYSTEM. THE TOTAL AREA OF DISTURBANCE FOR THIS PROJECT WILL BE 1.28 AC.

EROSION AND SEDIMENT CONTROL FOR THE PROJECT WILL BE ACHIEVED UTILIZING SILT FENCE AND CURB INLET PROTECTION FOR THE NEW STORM SEWER SYSTEM.

THE PRE-DEVELOPMENT RUNOFF COEFFICIENT WILL NOT CHANGE AS A RESULT OF THE CONSTRUCTION ACTIVITIES (C=0.5). THERE WILL BE A MINIMAL INCREASE IN IMPERVIOUS AREA AS A RESULT OF THE CONSTRUCTION ACTIVITY. THERE IS NO CHANGE IN PROPOSED LAND USE.

STORM WATER DISCHARGE FROM THIS PROJECT DRAINS TO THE CITY OF CANTON STORM SEWER SYSTEM AND IS SUBSEQUENTLY DISCHARGED TO AN UNNAMED TRIBUTARY OF THE MIDDLE BRANCH OF THE NIMISHILLEN CREEK.

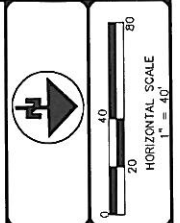
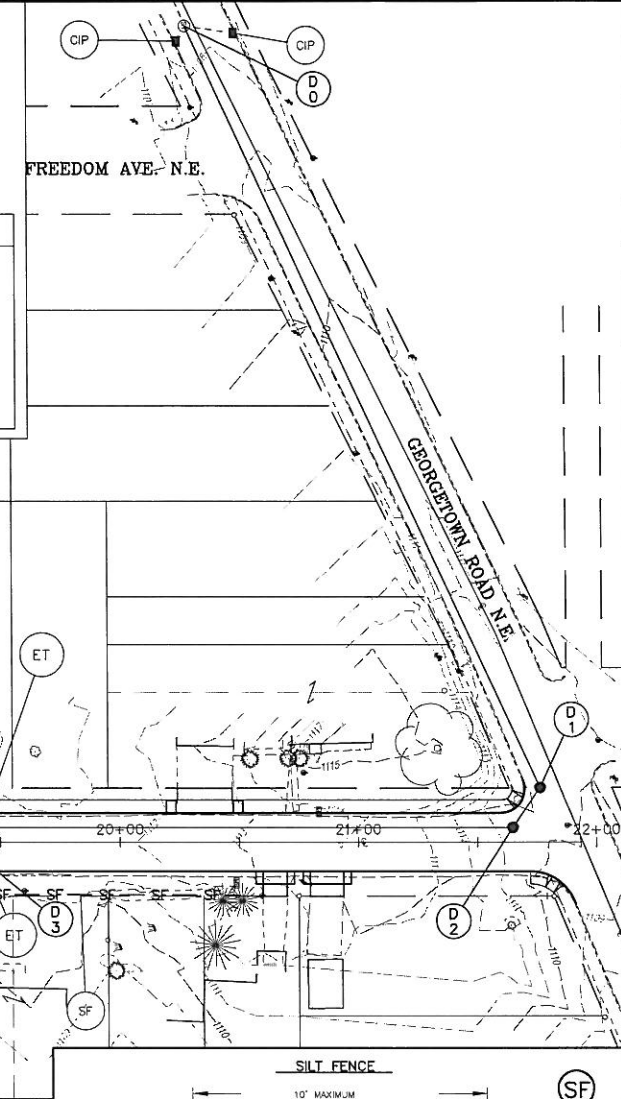
CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THAT INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

DANIEL J. MOEGLIN, PE
ENGINEER - CITY OF CANTON

LEGEND

UNIT	QTY	SYMBOL	DESCRIPTION
LIN. FEET	800	SF	ITEM SPECIAL - PERIMETER SILT FENCE
EACH	8	CIP	ITEM SPECIAL - CURB INLET PROTECTION
EACH	8	ET	ITEM SPECIAL - EXFILTRATION TRENCH SEE DETAIL SHEET 38 (L = 8')

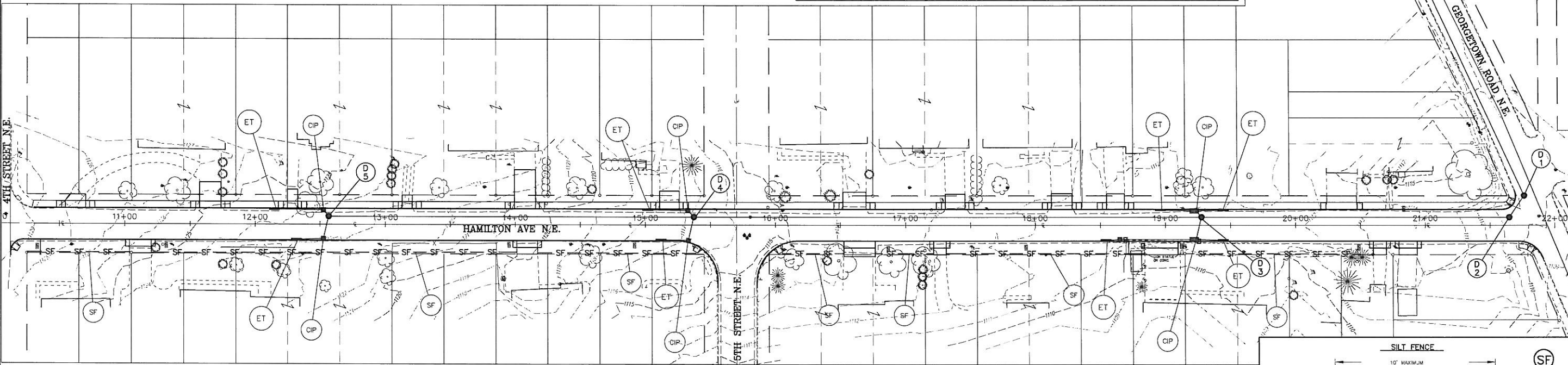


REVISIONS

NO.	DATE	BY	DESCRIPTION
1	09-27-2012	RAF	DEPARTMENTAL COMMENTS
2	09-17-2012	RAF	DEPARTMENTAL CHANGES
3	09-23-2012	RAF	CANTON ENGINEERS COMMENTS

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMAN
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PHONE (330) 452-5731
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1359 MARKET AVENUE NORTH
CANTON, OHIO 44714



STORMWATER POLLUTION PREVENTION PLAN NOTES

- CONSTRUCT IN ACCORDANCE WITH THESE PLANS AND THE MOST RECENT EDITION OF THE RAINWATER AND LAND DEVELOPMENT HANDBOOK (RWLD), PUBLISHED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES. THE IMPLEMENTATION OF EROSION AND SEDIMENT CONTROL MEASURES SHALL ALSO CONFORM TO THE REQUIREMENTS OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) AND THE STARK SOIL AND WATER CONSERVATION DISTRICT. IF CONFLICTS EXIST REGARDING THE EROSION AND SEDIMENT CONTROL PRACTICES, THE MORE RESTRICTIVE SHALL APPLY.
- TEMPORARILY STABILIZE DISTURBED AREAS THAT WILL REMAIN IDLE FOR 21 DAYS OR LONGER WITHIN 7 DAYS OF LAST DISTURBANCE OR WITHIN 2 DAYS FOR AREAS WITHIN 50 FEET OF A STREAM. PERMANENTLY STABILIZE DISTURBED AREAS WITHIN 7 DAYS OF REACHING FINAL GRADE. WHEN SEASONAL CONDITIONS PROHIBIT THE APPLICATION OF TEMPORARY OR PERMANENT SEEDING, THE AREA SHALL BE MULCHED IN ACCORDANCE WITH RWLD SPECIFICATIONS.
- PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH ITEM 659.
- TEMPORARY SEEDING SHALL BE IN ACCORDANCE WITH RWLD SPECIFICATIONS, PAGES 174-175.
- MULCHING SHALL BE IN ACCORDANCE WITH THE RWLD SPECIFICATIONS, PAGE 160.
- INSTALL ALL EROSION AND SEDIMENT CONTROL ITEMS BEFORE ANY CLEARING AND GRUBBING OR EARTHWORK IS BEGUN.
- PROTECT UNDISTURBED AREAS THROUGHOUT CONSTRUCTION. DO NOT STORE EQUIPMENT, VEHICLES OR MATERIALS IN THESE PROTECTED AREAS. DO NOT DISTURB THESE AREAS.
- OFF-SITE VEHICLE TRACKING OF SEDIMENTS SHALL BE MINIMIZED. ALL OFF-SITE TRACKING OF SEDIMENTS SHALL BE CLEANED UP AT THE END OF EACH WORK DAY.
- OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
- IMPLEMENT NON-SEDIMENT POLLUTION CONTROLS IN ACCORDANCE WITH THE SPECIFICATIONS PROVIDED ON PAGE 181 OF RWLD.
- A PRE-CONSTRUCTION MEETING IS REQUIRED WITH STARK SWCD (330-489-9764) PRIOR TO BEGINNING WORK.
- EROSION AND SEDIMENT CONTROL MUST BE INSPECTED ONCE EVERY 7 DAYS AND FOLLOWING STORM EVENTS WITH 0.5 INCH OR GREATER RAINFALL DURING A 24 HOUR PERIOD. A WRITTEN LOG OF THESE INSPECTIONS MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. THE LOG SHOULD INDICATE THE DATES OF INSPECTIONS, INSPECTOR, INSPECTION WEATHER CONDITIONS, OBSERVATIONS, ACTIONS TAKEN TO CORRECT PROBLEMS, AND THE DATE THE ACTION WAS TAKEN.
- ANY NEEDED REPAIRS OF EROSION AND SEDIMENT CONTROL MEASURES, STRUCTURES, DEVICES OR RELATED ITEMS SHALL BE MADE WITHIN 3 DAYS.

ITEM SPECIAL - CURB INLET PROTECTION

CURB INLET PROTECTION SHALL BE INSTALLED AT ALL NEW AND EXISTING DRAINAGE INLETS LOCATED WITHIN THE PROJECT LIMITS. CURB INLET PROTECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS PROVIDED ON PAGE 125 OF RAINWATER AND LAND DEVELOPMENT, 1996 EDITION, ODNR

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM SPECIAL - CURB INLET PROTECTION.

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR INSTALLATION OF CURB INLET PROTECTION.

ITEM SPECIAL - CURB INLET PROTECTION - LENGTH 8', 8 EACH

ITEM SPECIAL - PERIMETER SILT FENCE

PERIMETER SILT FENCE SHALL BE INSTALLED AS REQUIRED TO PREVENT SEDIMENT-LADEN SHEET FLOW FROM DRAINING ONTO ADJACENT PROPERTIES AND WATERWAYS. PERIMETER SILT FENCE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS PROVIDED ON PAGES 120-121 OF RAINWATER AND LAND DEVELOPMENT, 1996 EDITION, ODNR

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM SPECIAL - PERIMETER SILT FENCE.

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR INSTALLATION OF PERIMETER SILT FENCE.

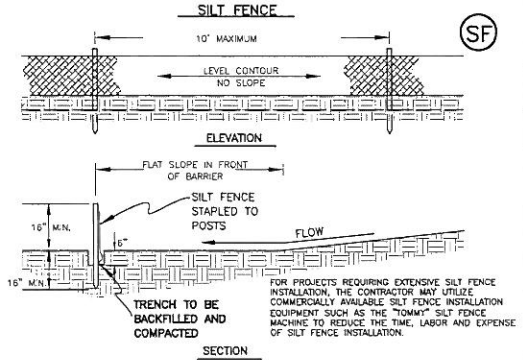
ITEM SPECIAL - PERIMETER SILT FENCE, 800 LIN. FT.

POST- CONSTRUCTION STORM WATER PRACTICES

PERMANENT EXFILTRATION TRENCHES SHALL BE USED TO CONTROL POLLUTANTS IN STORM WATER RUNOFF AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. CONSTRUCTION EXFILTRATION TRENCHES IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING WQ-1.3 (A DETAIL IS PROVIDED ON PLAN SHEET 38)

SCHEDULE OF CONSTRUCTION ACTIVITY

- MARK LIMITS OF DISTURBANCE AND INSTALL PERIMETER CONTROLS. INSTALL CONSTRUCTION ENTRANCE(S) AND PREPARE THE SUPPORT AREA.
- PROTECT SOIL STOCKPILES. CONSTRUCT SEDIMENT TRAPPING BMPs AND NECESSARY DIVERSIONS. PREPARE STREAM CROSSINGS, TEMPORARY AND PERMANENT, AS NECESSARY.
- CONTINUE CLEARING AND GRADING.
- APPLY EROSION CONTROL STABILIZATION TO GRADED AREAS TO REMAIN TEMPORARILY DORMANT.
- INSTALL UTILITIES, STORM SEWER, CURB AND GUTTER.
- APPLY AGGREGATE BASE TO ROADWAY.
- COMPLETE GRADING AND INSTALL PERMANENT SEEDING AND PLANTINGS
- COMPLETE FINAL PAVING.



FOR ADDITIONAL DETAILS SEE RAINWATER AND LAND DEVELOPMENT SPECIFICATIONS

- SPECIFICATIONS**
- SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
 - ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
 - TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
 - WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
 - WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5' (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
 - THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16" ABOVE THE ORIGINAL GROUND SURFACE.
 - THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6" DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL INSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
 - THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8" OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6" DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
 - SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
 - MAINTENANCE - SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF TOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE:
 - THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED.
 - ACCUMULATED SEDIMENT SHALL BE REMOVED, OR
 - OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIALS

- FENCE POSTS - THE LENGTH SHALL BE A MINIMUM OF 32" LONG. WOOD POSTS WILL BE 2"-BY-2" SHROUDED OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
- SILT FENCE FABRIC - SEE CHART BELOW

FABRIC PROPERTIES	VALUES	TEST METHOD
GRID TENSILE STRENGTH	90 LB. MINIMUM	ASTM D 1482
MULLER BURST STRENGTH	150 PSI MINIMUM	ASTM D 3768
SLURRY FLOW RATE	0.3 GAL./MIN./50 FT. MAXIMUM	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02113
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM D-28

STORM WATER POLLUTION PREVENTION PLAN

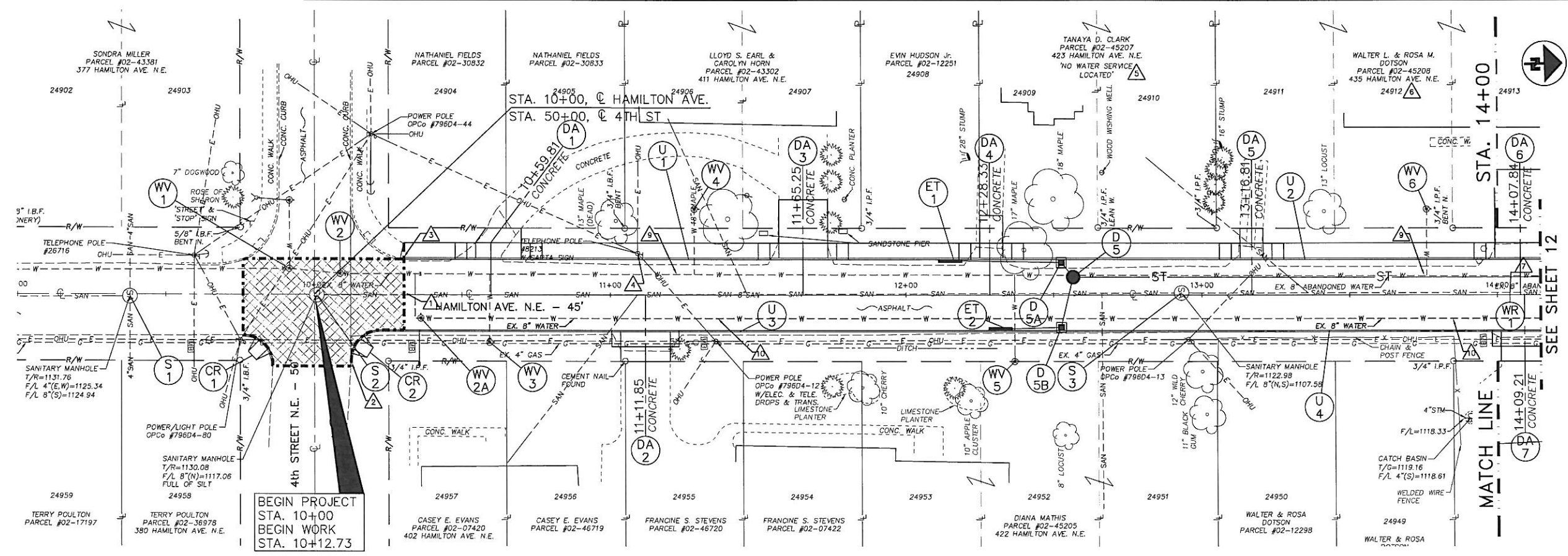
STORM WATER POLLUTION PREVENTION PLAN
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 10 OF 46
PROJ.# 11161

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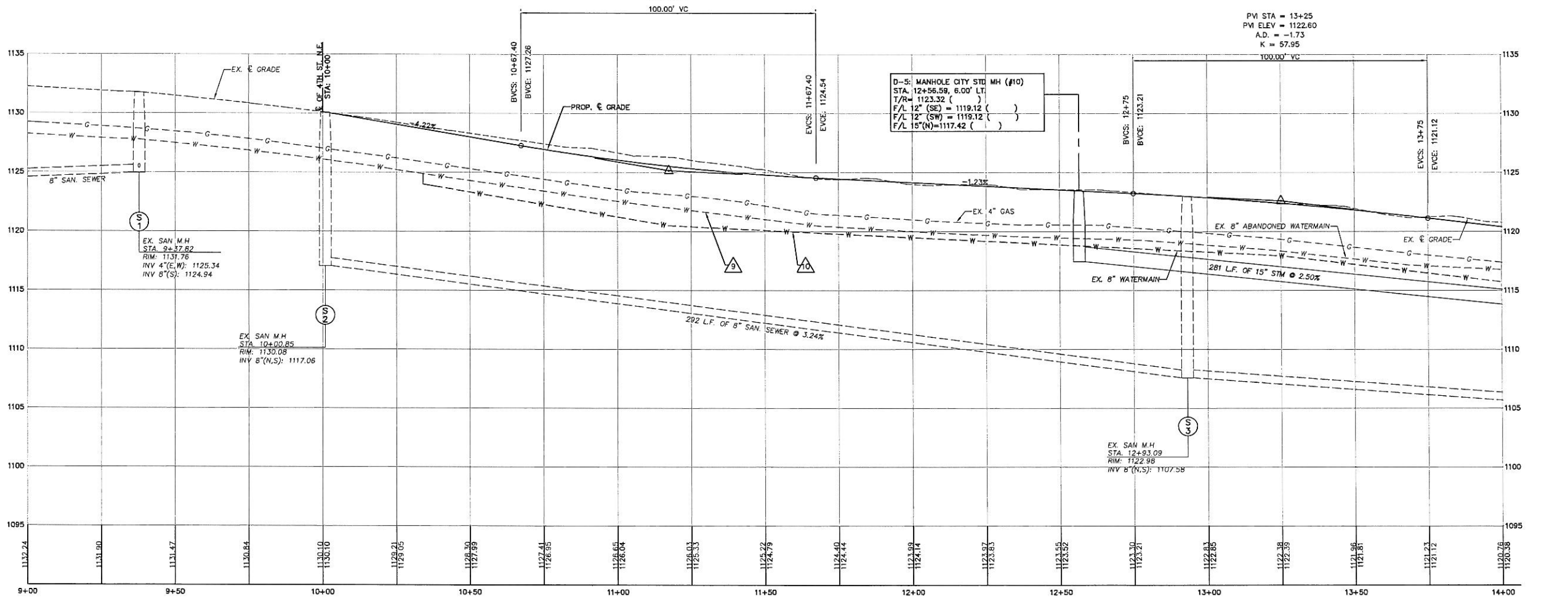
KEY NOTES:

- SAW CUT EXISTING EDGE OF PAVEMENT AT START OF PROJECT (STA. 10+30.16)
- TRANSITION TOP OF CURB FROM 2" TO 6" IN THE FIRST 2 FEET OF CURB.
- MATCH GRADE AT EXISTING EDGE OF SIDEWALK, CURB AND PAVEMENT. RECONSTRUCT SIDEWALK AND CURB AS NECESSARY OR AS DIRECTED BY CITY ENGINEER.
- EXISTING UTILITY POLE TO BE RELOCATED BY UTILITY COMPANY.
- NO WATER SERVICE RECORD PROVIDED. SERVICE BOX ADJUSTMENT ACCOUNTED FOR IN QUANTITIES.
- SANITARY LATERAL CONNECTS TO PRIVATE SEWER TO THE WEST, BEHIND HOUSE.
- EXISTING SANITARY WYE - EXCAVATE AND REPAIR BY REMOVING EXISTING WYE AND REPLACE WITH NEW WYE AND SADDLE CONNECTION.
- LIMITS OF MILL AND OVERLAY. CONTRACTOR IS TO MILL THE TOP 1 1/4" ASPHALT CONCRETE SURFACE COURSE, OVERLAY MILLED AREA PER TYPICAL SECTION.
- THE EXISTING 8" WATERLINE FROM STA 10+35 TO GEORGETOWN ST WAS ABANDONED IN FALL 2012. WHERE IMPACTED BY THE PROPOSED STORM SEWER, THE ABANDONED LINE SHALL BE REMOVED AND END OF THE LINE SHALL BE PLUGGED (THE COST OF WHICH SHALL BE INCLUDED IN THE COST FOR THE STORM SEWER).
- NEW 8" WATERLINE INSTALLED IN FALL 2012. HOUSE SERVICES WERE SHIFTED TO THE NEW LINE; HOWEVER, THEIR LOCATIONS ARE NOT KNOWN OR SHOWN.

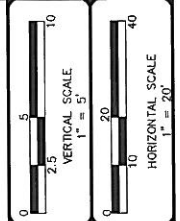


NOTES:

- FOR DRIVE DETAILS AND QUANTITIES, SEE SHEETS 25 TO 28.
- FOR CENTERLINE REFERENCES & BENCHMARKS, SEE SHEET 3.
- FOR INTERSECTION DETAILS, SEE SHEET 17.
- FOR ESTIMATED QUANTITIES, SEE SHEETS 7 TO 8.
- SAWCUT ALL EXISTING DRIVEWAYS AT THE RIGHT-OF-WAY UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR AS PRESENTED ON THIS PLAN.
- THE LOCATION OF EXISTING SANITARY SEWER LATERALS AT THE MAIN ARE BASED OFF OF RECORD INFORMATION AVAILABLE AT THE CITY ENGINEER'S OFFICE.
- FOR CONNECTION OF EXISTING DOWNSPOUTS AND OTHER RESIDENTIAL DRAIN LINES, SEE PROJECT SPECIFIC NOTE (C) ON SHEET 6 OF 45. QUANTITIES ARE PROVIDED ON SHEETS 15 AND 16 WITH REFERENCE NUMBER CALLOUTS OF "DS-#"



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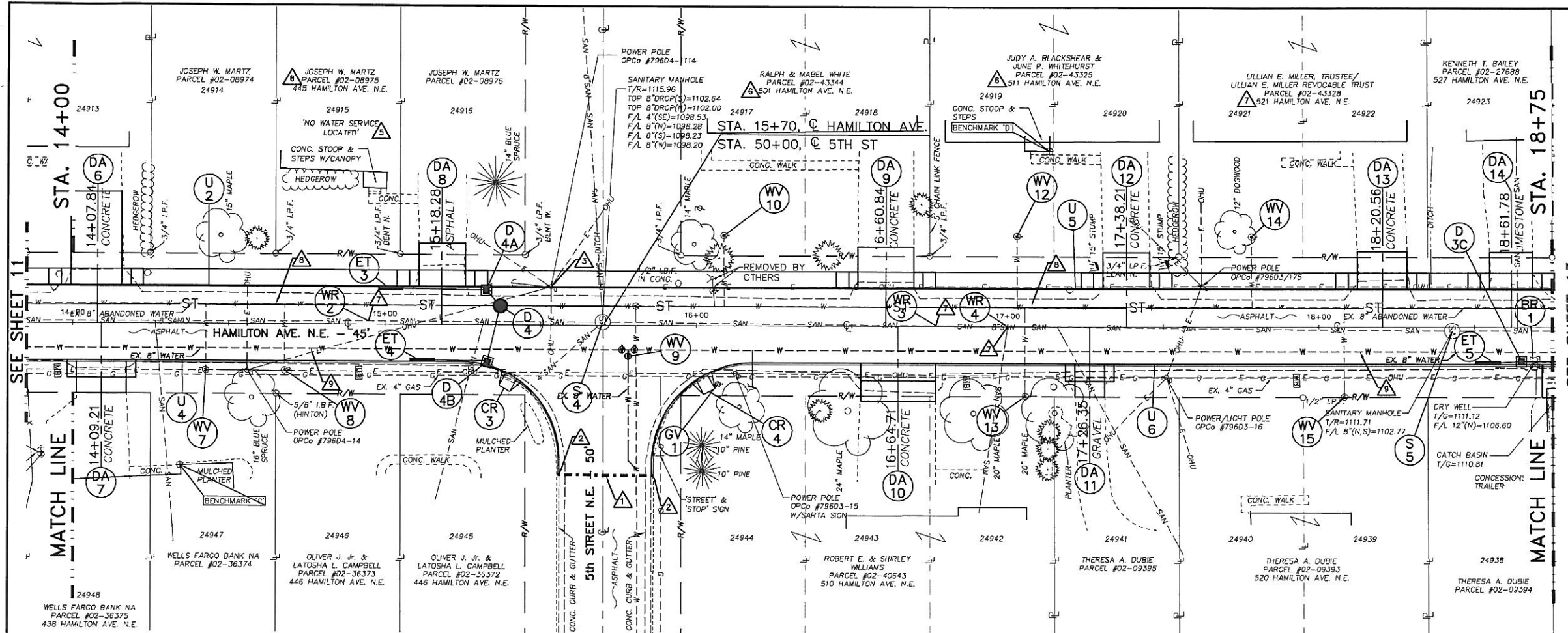
REVISIONS	DATE	BY	DESCRIPTION
1	09-27-2012	RAF	DEPARTMENTAL COMMENTS
2	09-17-2012	RAF	DEPARTMENTAL CHANGES
3	09-23-2012	RAF	CANTON ENGINEERS COMMENTS

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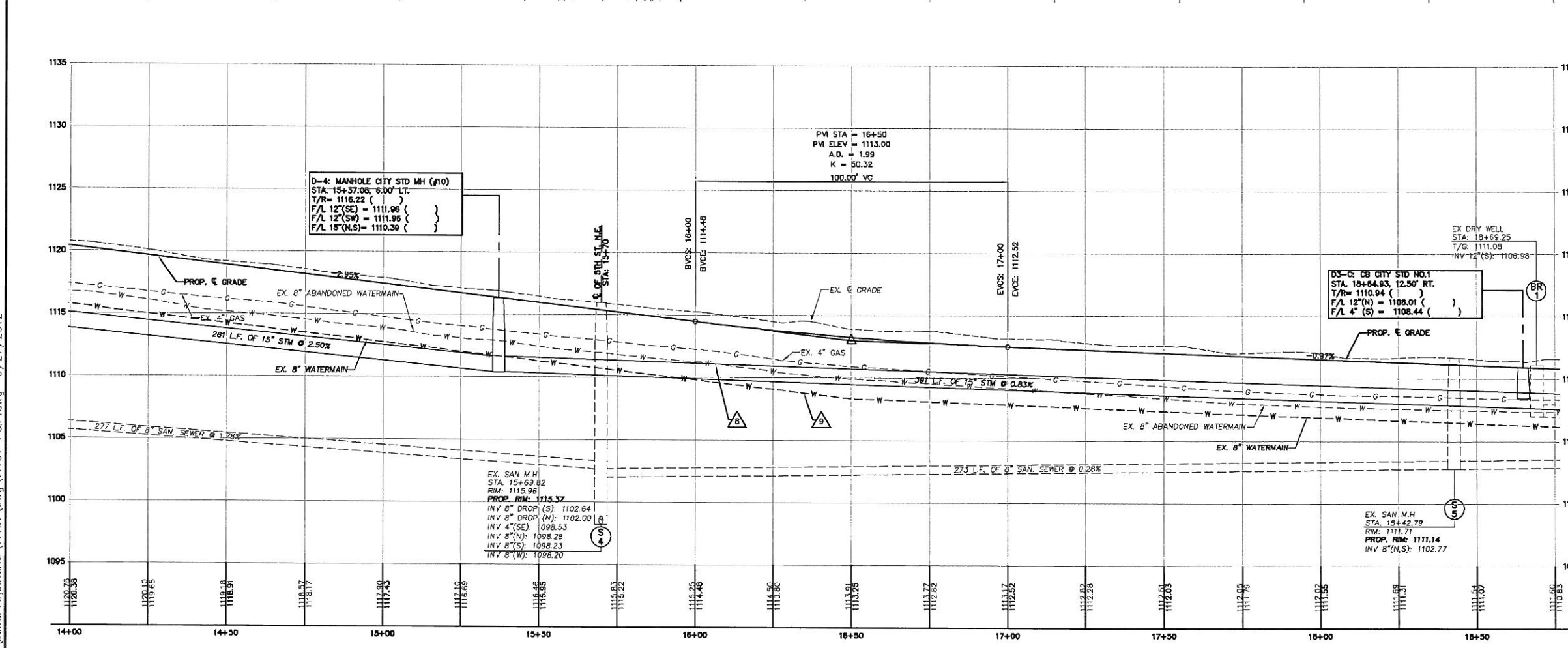


HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 11 OF 46
PROJ.# 11161



- KEY NOTES:**
- SAW CUT EXISTING EDGE OF PAVEMENT ON 5TH STREET.
 - MATCH GRADE AT EXISTING EDGE OF CURB AND PAVEMENT. RECONSTRUCT CURB AS NECESSARY OR AS DIRECTED BY CITY ENGINEER.
 - EXISTING UTILITY POLE TO BE RELOCATED BY UTILITY COMPANY.
 - NO WATER SERVICE RECORD PROVIDED. SERVICE BOX ADJUSTMENT ACCOUNTED FOR IN QUANTITIES.
 - SANITARY LATERAL CONNECTS TO PRIVATE SEWER TO THE WEST, BEHIND HOUSE.
 - SANITARY LATERAL CONNECTS TO FREEDOM AVE VIA A PRIVATE EASEMENT.
 - EXISTING SANITARY WYE - EXCAVATE AND REPAIR BY REMOVING EXISTING WYE AND REPLACE WITH NEW WYE AND SADDLE CONNECTION.
 - THE EXISTING 8" WATERLINE FROM STA 10+35 TO GEORGETOWN ST WAS ABANDONED IN FALL 2012. WHERE IMPACTED BY THE PROPOSED STORM SEWER, THE ABANDONED LINE SHALL BE REMOVED AND END OF THE LINE SHALL BE PLUGGED (THE COST OF WHICH SHALL BE INCLUDED IN THE COST FOR THE STORM SEWER).
 - NEW 8" WATERLINE INSTALLED IN FALL 2012. HOUSE SERVICES WERE SHIFED TO THE NEW LINE; HOWEVER, THEIR LOCATIONS ARE NOT KNOWN OR SHOWN.



- NOTES:**
- FOR DRIVE DETAILS AND QUANTITIES, SEE SHEETS 25 TO 28.
 - FOR CENTERLINE REFERENCES & BENCHMARKS, SEE SHEET 3.
 - FOR INTERSECTION DETAILS, SEE SHEET 17.
 - FOR ESTIMATED QUANTITIES, SEE SHEETS 7 TO 8.
 - SAWCUT ALL EXISTING DRIVEWAYS AT THE RIGHT-OF-WAY UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR AS PRESENTED ON THIS PLAN.
 - EXISTING WATER LINE TO BE ADJUSTED AT THE CANTON WATER DEPARTMENT. CONTACT THE CITY OF CANTON WATER DEPARTMENT FOR FURTHER INFORMATION.
 - THE LOCATION OF EXISTING SANITARY SEWER LATERALS AT THE MAIN ARE BASED OFF OF RECORD INFORMATION AVAILABLE AT THE CITY ENGINEER'S OFFICE.
 - FOR CONNECTION OF EXISTING DOWNSPOUTS AND OTHER RESIDENTIAL DRAIN LINES, SEE PROJECT SPECIFIC NOTE (C) ON SHEET 6 OF 46. QUANTITIES ARE PROVIDED ON SHEETS 15 AND 16 WITH REFERENCE NUMBER CALLOUTS OF "DS-#"

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMAN JEROLD E. GEB
1358 MARKET AVENUE NORTH CANTON, OHIO 44714
PHONE (330) 452-6731 FAX No. (330) 452-6110

HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON, STARK COUNTY, OHIO
FOR: CITY OF CANTON

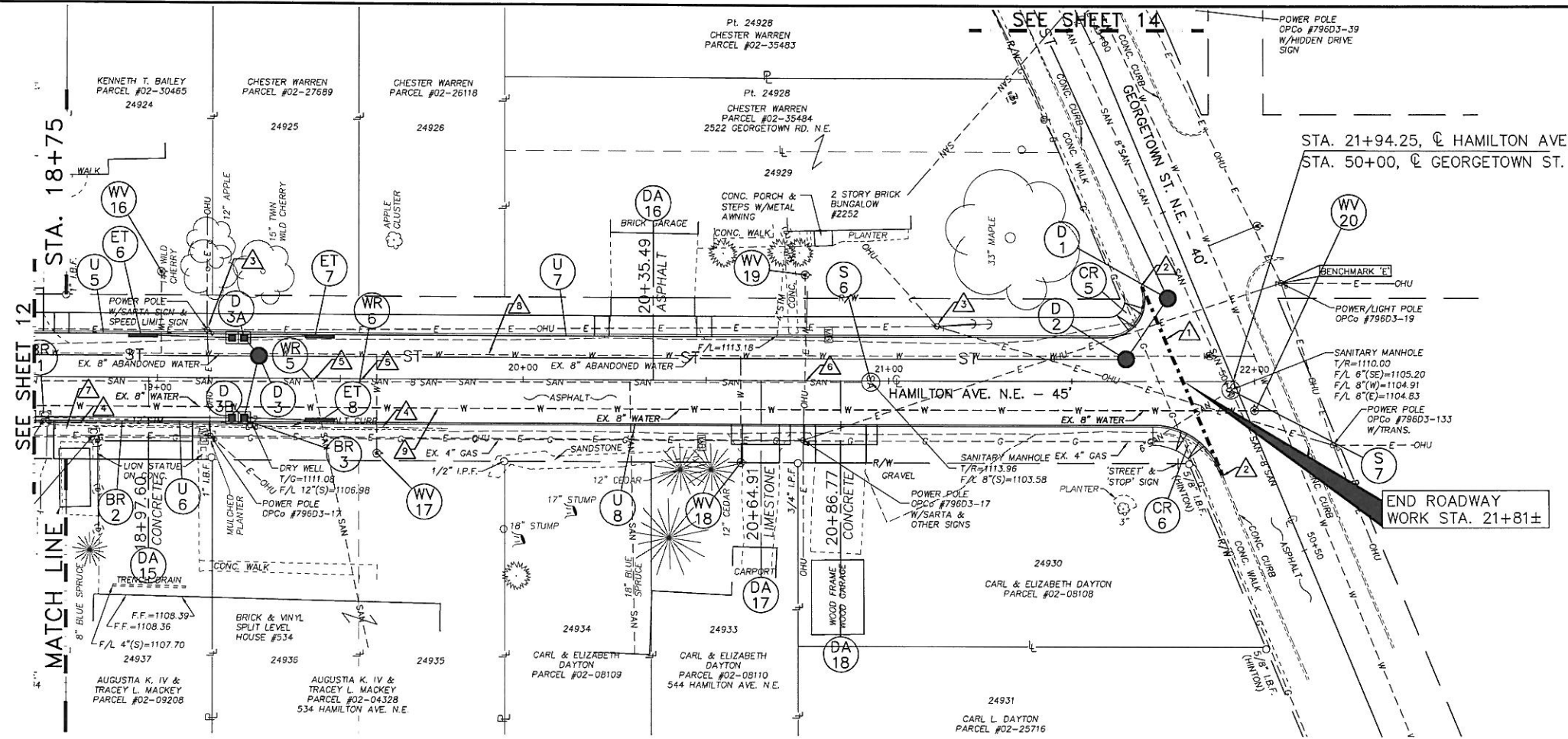
REVISIONS

NO.	DATE	DESCRIPTION
1	09-27-2012	DEPARTMENTAL COMMENTS
2	09-17-2012	DEPARTMENTAL CHANGES
3	05-23-2012	CANTON ENGINEERS COMMENTS

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 12 OF 46
PROJ.# 11161

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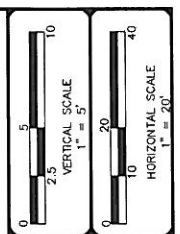
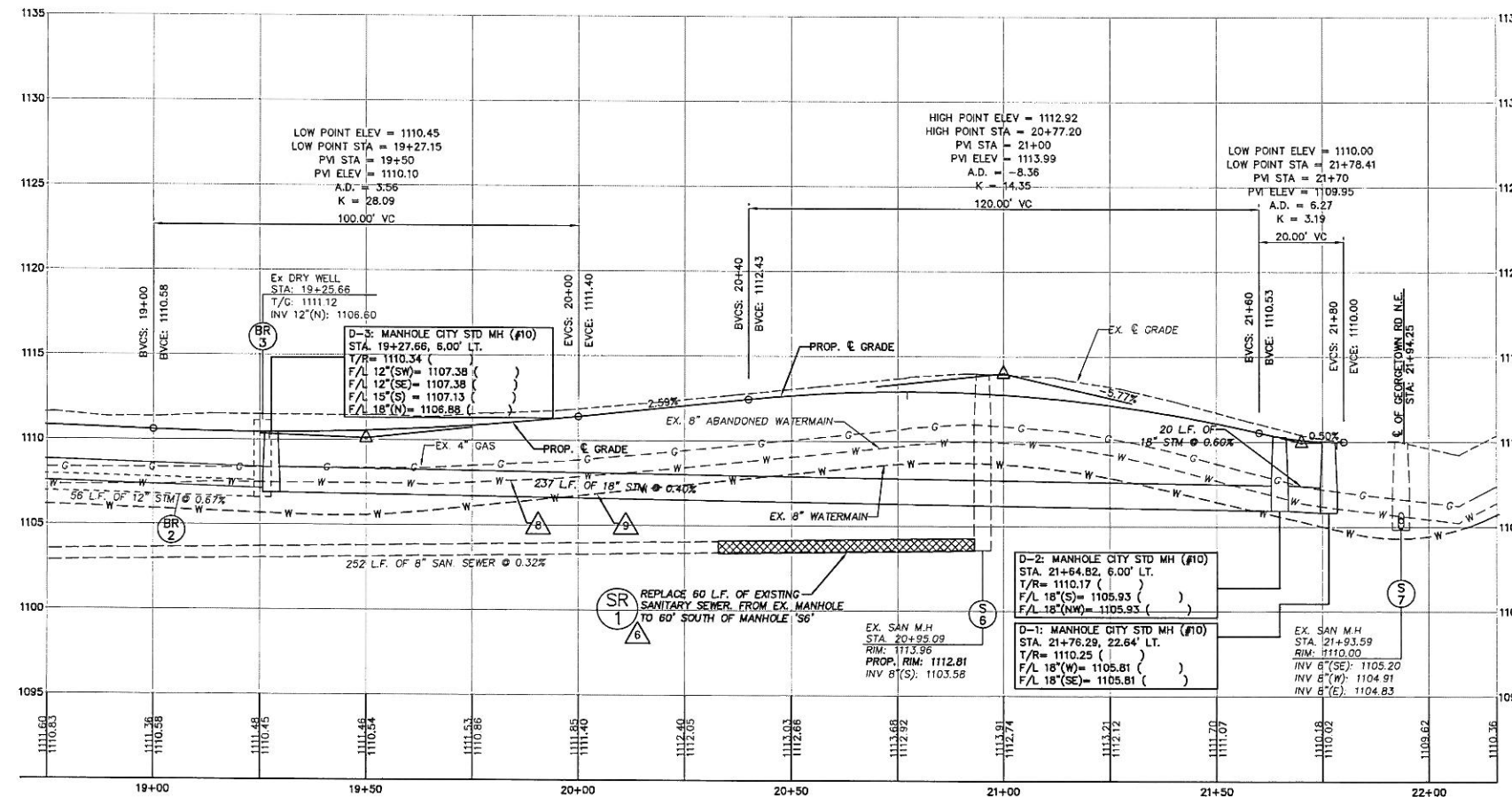


KEY NOTES: A

- SAW CUT EXISTING EDGE OF PAVEMENT AT STA. 21+80.27 (SOUTH EDGE OF PAVEMENT ON GEORGETOWN ROAD)
- MATCH GRADE AT EXISTING EDGE OF SIDEWALK, CURB AND PAVEMENT. RECONSTRUCT SIDEWALK AND CURB AS NECESSARY OR AS DIRECTED BY CITY ENGINEER.
- EXISTING UTILITY POLE TO BE RELOCATED BY UTILITY COMPANY.
- REMOVE EXISTING ASPHALT CURB ALONG THE EAST SIDE OF HAMILTON AVE AT #534. REMOVAL INCLUDED IN PRICE FOR ASPHALT PAVEMENT REMOVAL.
- EXISTING SANITARY WYE - EXCAVATE AND REPAIR BY REMOVING EXISTING WYE AND REPLACE WITH NEW WYE AND SADDLE CONNECTION.
- CONTRACTOR SHALL USE A FERROCEMENT STRONG BACK REPAIR COUPLING OR APPROVED EQUAL TO CONNECT THE EXISTING SANITARY SEWER TO THE PROPOSED SEWER REPAIR SECTION.
- EXTEND DROP CURB AND APRON TO ACCOMMODATE CONCESSIONER TRAILER PARKING ON SOUTH SIDE OF DRIVEWAY.
- THE EXISTING 8" WATERLINE FROM STA 10+35 TO GEORGETOWN ST WAS ABANDONED IN FALL 2012. WHERE IMPACTED BY THE PROPOSED STORM SEWER, THE ABANDONED LINE SHALL BE REMOVED AND END OF THE LINE SHALL BE PLUGGED (THE COST OF WHICH SHALL BE INCLUDED IN THE COST FOR THE STORM SEWER).
- NEW 8" WATERLINE INSTALLED IN FALL 2012. HOUSE SERVICES WERE SHIFTED TO THE NEW LINE; HOWEVER, THEIR LOCATIONS ARE NOT KNOWN OR SHOWN.

NOTES:

- FOR DRIVE DETAILS AND QUANTITIES, SEE SHEETS 25 TO 28.
- FOR CENTERLINE REFERENCES & BENCHMARKS, SEE SHEET 3.
- FOR INTERSECTION DETAILS, SEE SHEET 17.
- FOR ESTIMATED QUANTITIES, SEE SHEETS 7 TO 8.
- SAWCUT ALL EXISTING DRIVEWAYS AT THE RIGHT-OF-WAY UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR AS PRESENTED ON THIS PLAN.
- THE LOCATION OF EXISTING SANITARY SEWER LATERALS AT THE MAIN ARE BASED OFF OF RECORD INFORMATION AVAILABLE AT THE CITY ENGINEER'S OFFICE.
- FOR CONNECTION OF EXISTING DOWNSPOUTS AND OTHER RESIDENTIAL DRAIN LINES, SEE PROJECT SPECIFIC NOTE (C) ON SHEET 6 OF 46. QUANTITIES ARE PROVIDED ON SHEETS 15 AND 16 WITH REFERENCE NUMBER CALLOUTS OF "DS-#"



REVISIONS	DATE	BY	DESCRIPTION
1	09-27-2012	RAF	DEPARTMENTAL COMMENTS
2	09-17-2012	RAF	DEPARTMENTAL CHANGES
3	05-23-2012	RAF	CANTON ENGINEERS COMMENTS

COOPER & ASSOCIATES, LLP
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HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

PLAN & PROFILE SHEET
DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 13 OF 46
PROJ.# 11161



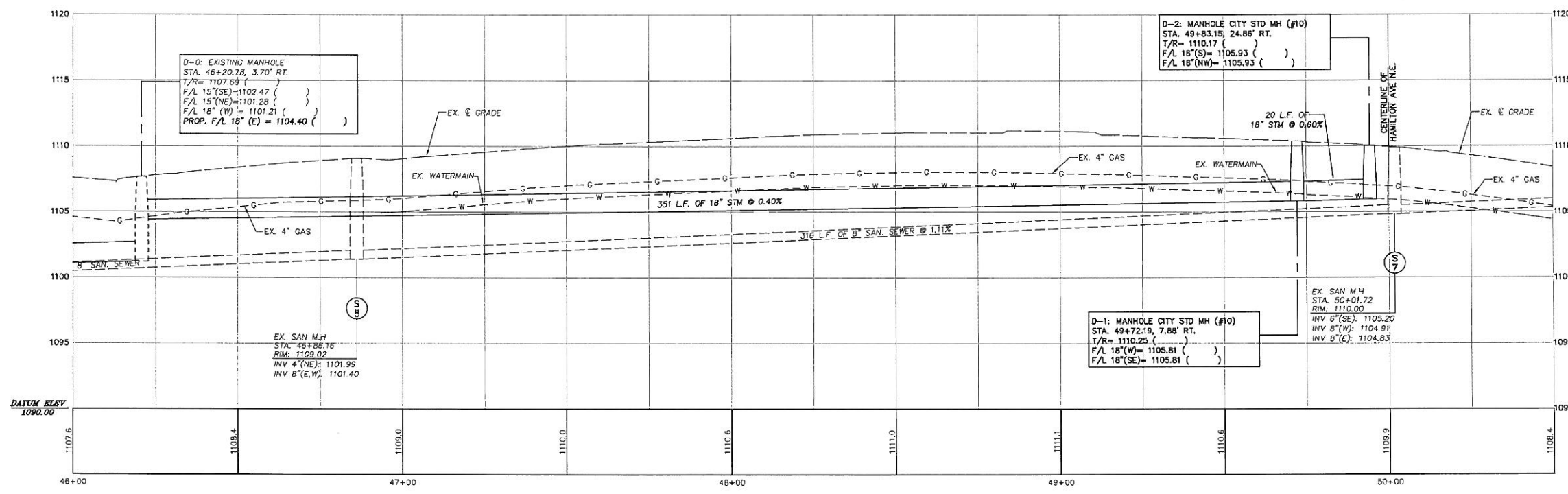
SEE SHEET 13

KEY NOTES:

1. SAW CUT EXISTING EDGE OF PAVEMENT AT STA. 21+80.27 HAMILTON AVE.
2. REFER TO CITY STANDARD DRAWING NO. 19 FOR TRENCH REQUIREMENT.
3. THE EXISTING 8" WATERLINE FROM STA 10+35 TO GEORGETOWN ST WAS ABANDONED IN FALL 2012. WHERE IMPACTED BY THE PROPOSED STORM SEWER, THE ABANDONED LINE SHALL BE REMOVED AND END OF THE LINE SHALL BE PLUGGED (THE COST OF WHICH SHALL BE INCLUDED IN THE COST FOR THE STORM SEWER).
4. NEW 8" WATERLINE INSTALLED IN FALL 2012. HOUSE SERVICES WERE SHIFTED TO THE NEW LINE; HOWEVER, THEIR LOCATIONS ARE NOT KNOWN OR SHOWN.

NOTES:

1. FOR DRIVE DETAILS AND QUANTITIES, SEE SHEETS 25 TO 28.
2. FOR CENTERLINE REFERENCES & BENCHMARKS, SEE SHEET 3.
3. FOR INTERSECTION DETAILS, SEE SHEET 17.
4. FOR ESTIMATED QUANTITIES, SEE SHEETS 7 TO 8
5. SAWCUT ALL EXISTING DRIVEWAYS AT THE RIGHT-OF-WAY UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR AS PRESENTED ON THIS PLAN.
6. EXISTING WATER LINE TO BE ADJUSTED AT THE TIME OF CONSTRUCTION BY THE CANTON WATER DEPARTMENT. CONTACT THE CITY OF CANTON WATER DEPARTMENT FOR FURTHER INFORMATION.
7. THE LOCATION OF EXISTING SANITARY SEWER LATERALS AT THE MAIN ARE BASED OFF OF RECORD INFORMATION AVAILABLE AT THE CITY ENGINEER'S OFFICE
8. THE CONTRACTOR SHALL EXCAVATE TO LOCATE ANY EXISTING UNDERDRAINS ALONG THE SOUTH SIDE OF THE GEORGETOWN SOUTH CURB. IF UNDERDRAINS ARE ENCOUNTERED THEN THE PROPOSED HAMILTON UNDERDRAINS WILL BE CONNECTED TO THE EXISTING UNDERDRAINS ON GEORGETOWN. IF NO UNDERDRAINS ARE ENCOUNTERED THE CONTRACTOR SHALL CONNECT THE HAMILTON EAST SIDE UNDERDRAIN TO STORM STRUCTURE D2 AND THE HAMILTON WEST SIDE UNDERDRAIN TO STORM STRUCTURE D1 (ALL COSTS ASSOCIATED WITH THE UNDERDRAIN CONNECTIONS SHALL BE INCLUDED IN THE COST BID FOR ODOT ITEM 605 - UNDERDRAINS.



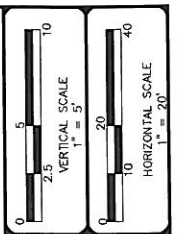
D-0: EXISTING MANHOLE
STA. 46+20.78, 3.70' RT.
T/R= 1107.69 ()
F/L 15'(SE)=1102.47 ()
F/L 15'(NE)=1101.28 ()
F/L 18'(W)= 1101.21 ()
PROP. F/L 18'(E) = 1104.40 ()

D-2: MANHOLE CITY STD MH (#10)
STA. 49+83.15, 24.88' RT.
T/R= 1110.17 ()
F/L 18'(S)= 1105.93 ()
F/L 18'(NW)= 1105.93 ()

D-1: MANHOLE CITY STD MH (#10)
STA. 49+72.19, 7.88' RT.
T/R= 1110.25 ()
F/L 18'(W)= 1105.81 ()
F/L 18'(SE)= 1105.81 ()

EX. SAN M.H.
STA. 50+01.72
R/W= 1110.00
INV 6'(SE)= 1105.20
INV 8'(W)= 1104.91
INV 8'(E)= 1104.83

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NO.	DATE	BY	REVISIONS
1	09-27-2012	RAF	DEPARTMENTAL CHANGES
2	09-17-2012	RAF	DEPARTMENTAL CHANGES
3	05-23-2012	RAF	CANTON ENGINEERS COMMENTS

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PLAN & PROFILE SHEET
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 14 OF 46
PROJ.# 11161

H:\LandProject\11161\11161-P&P.dwg 9/27/2012

Note: The quantities shown hereon are approximate and are subject to field adjustments.

PLAN & PROFILE SUBSUMMARY HAMILTON AVE.

REFERENCE NUMBER	PROFILE SHEET NUMBER	STATION / LOCATION		SIDE	202		603				604				605		638				835		CITY STANDARD		FOOTNOTES See below for numbered footnotes			
					CATCH BASIN REMOVED	12" CONDUIT, REMOVE	15" CONDUIT, TYPE B	18" CONDUIT, TYPE B	8" SANITARY SEWER REPLACED	SANITARY WYE REPAIR	STORM MANHOLE, CITY STD #1	SANITARY MANHOLE, ADJ. TO GRD.	CORE DRILL & BOOT ASSY ON EXISTING M	4" UNDER DRAIN	SERV. BOX ADJ. TO GRADE	GATE VALVE BOX ADJ. TO GRADE	EXFILTRATION TRENCH TYPE 'C' INCLUSIVE	DOWNSPOUT OUTLET STD No.23	GROUNDWATER DRAIN LINE CONNECTION STD No.24									
																				EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.		EACH	EACH	EACH
S1	11	9+37.82	RT																									
WW1	11	9+91.61	LT																									
S2	11	10+00.85	RT																									
WW2	11	10+08.64	LT																									
DS-1	11	402 HAMILTON	RT																									
WW2A	11	10+36.00	RT																									
WW3	11	10+59.37	RT																									
U1	11	10+30.23 - 12+50.93	LT										220.7															
U3	11	10+12.30 - 12+50.93	RT										239.0															
DS-2	11	411 HAMILTON	LT																									
WW4	11	11+28.49	LT																									
DS-3	11	422 HAMILTON	RT																									
ET-1	11	12+13.28	LT																									
ET-2	11	12+30.26	RT																									
WW5	11	12+36.77	RT																									
DS-4	11	423 HAMILTON	LT																									
D5	11	12+56.59	LT				281																					
S3	11	12+93.09	LT																									
U2	11 & 12	12+56.23 - 15+30.93	LT										274.7															
U4	11 & 12	12+56.23 - 15+30.93	RT										274.7															
DS-5	11	435 HAMILTON	LT																									
DS-6	11	LOT 24949, 24950	RT																									
WW6	11	13+76.16	LT																									
DS-7	11	438 HAMILTON	RT																									
WR1	12	14+04.31	LT																									
WW7	12	14+42.62	RT																									
DS-8	12	445 HAMILTON	LT																									
WW8	12	14+67.79	RT																									
WR2	12	14-94.62	LT																									
ET-3	12	15+00.18	LT																									
ET-4	12	15+10.34	RT																									
D4	12	15+37.08	LT																									
S4	12	15+69.82	LT																									
WW9	12	15+78.00	RT																									
DS-9	12	501 HAMILTON	LT																									
CV1	12	16+06.85	RT																									
U5	12 & 13	15+34.26 - 19+21.99	LT																									
U6	12 & 13	15+34.26 - 19+21.99	RT																									
WW10	12	16+08.90	LT																									
DS-10	12	510 HAMILTON	RT																									
WR3	12	16+76.89	LT																									
DS-11	12	511 HAMILTON	LT																									
TOTALS TO GENERAL SUMMARY								672					3		2	1												

NOTES
1. SEE PROJECT SPECIFIC NOTE (C) ON SHEET 6 OF 46.

Abbreviation Legend

NO.	DATE	REVISIONS

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 ENGINEERS AND SURVEYORS
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 JEROLD E. GEIB
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 FAX No.(330) 452-9110

 1393 MARKET AVENUE NORTH CANTON, OHIO 44704

PLAN & PROFILE SUBSUMMARY
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011
 SHEET: 15 OF 46
 PROJ.#: 11161

PLAN & PROFILE SUBSUMMARY HAMILTON AVE & GEORGETOWN

Note: The quantities shown hereon are approximate and are subject to field adjustments.

REFERENCE NUMBER	PROFILE SHEET NUMBER	STATION / LOCATION		SIDE	202		603				604			605			638			835			CITY STANDARD		FOOTNOTES See below for numbered footnotes			
					CATCH BASIN REMOVED	12" CONDUIT, REMOVED	15" CONDUIT, TYPE B	18" CONDUIT, TYPE B	8" SANITARY SEWER REPLACED	SANITARY WYE REPAIR	STORM MANHOLE, CITY STD #10	SANITARY MANHOLE ADJ. TO GRD.	CORE DRILL & BOOT ASSY ON EXISTING MH	4" UNDER DRAIN	HYDRANT REMOVED & RESET	SERV. BOX ADJ. TO GRADE	GATE VALVE BOX ADJ. TO GRADE	EXFILTRATION TRENCH TYPE 'C' INCLUSIVE	DOWNSPOUT OUTLET STD No.23	GROUNDWATER DRAIN LINE CONNECTION STD No.24	EACH	EACH	EACH	EACH		EACH	EACH	EACH
		FROM	TO		EA	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EA	EA	EA	LIN. FT.	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA		EA		
WR4	12	16+96.69		RT																								
WV12	12	17+03.02		LT																								
WV13	12	17+05.57		RT																								
DS-12	12	521 HAMILTON		LT																								
DS-13	12	520 HAMILTON		RT																								
WV14	12	17+78.32		LT																								
WV15	12	18+08.17		RT																								
S5	12	18+42.79		RT																								
DS-14	12	527 HAMILTON		LT																								
ET-5	12	18+52.60		RT																								
BR1	12	18+69.25		RT	1																							
BR2	13	18+69.25 - 19+25.66		RT		56.41																						
ET-6	13	18+94.39		LT																								
WV16	13	19+01.03		LT																								
DS-15	13	LOT 24925, 24926		LT																								
BR3	13	19+25.66		RT	1																							
D3	13	19+27.66		LT							237																	
ET-7	13	19+40.33		LT																								
WR5	13	19+42.40		RT																								
ET-8	13	19+44.33		RT																								
WV17	13	19+59.87		RT																								
U7	13	19+25.33 - 21+68.83		LT																								
U8	13	19+25.33 - 21+90.91		RT																								
WR6	13	19+55.28		RT																								
DS-16	13	534 HAMILTON		RT																								
DS-17	13	544 HAMILTON		RT																								
DS-18	13	2522 GEORGETOWN		LT																								
SR1	13	20+32.90 - 20+95.09		RT																								
WV18	13	20+59.41		RT																								
WV19	13	20+77.06		LT																								
S6	13	20+95.09		RT																								
D2	13	21+64.82		LT																								
D1	13	21+76.29		LT																								
S7	13	21+93.53		RT																								
WV20	13	22+00.00		RT																								
WV21	14	49+63.33		LT																								
WV22	14	48+12.31		LT																								
S8	14	46+86.16		LT																								
D0	14	46+20.78		RT																								
WV23	14	47+31.21		RT																								
WV24	14	46+93.63		LT																								
GV2	14	49+14.21		RT																								
GV3	14	46+52.29		RT																								
TOTALS TO GENERAL SUMMARY						2	56.41			608	60	3																

NOTES
1 SEE PROJECT SPECIFIC NOTE (C) ON SHEET 6 OF 46.

Abbreviation Legend

REVISIONS	DATE	BY	DESCRIPTION

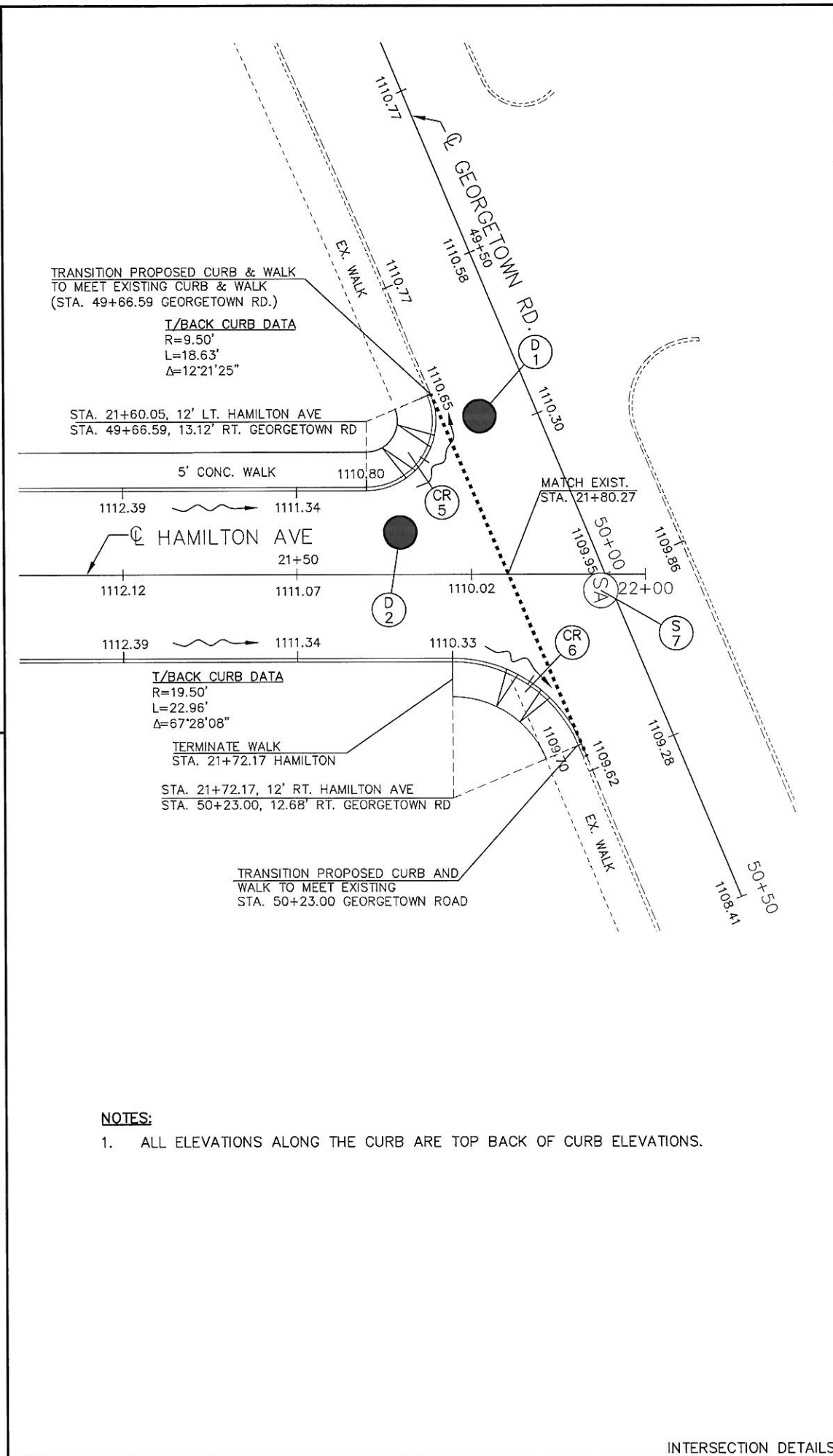
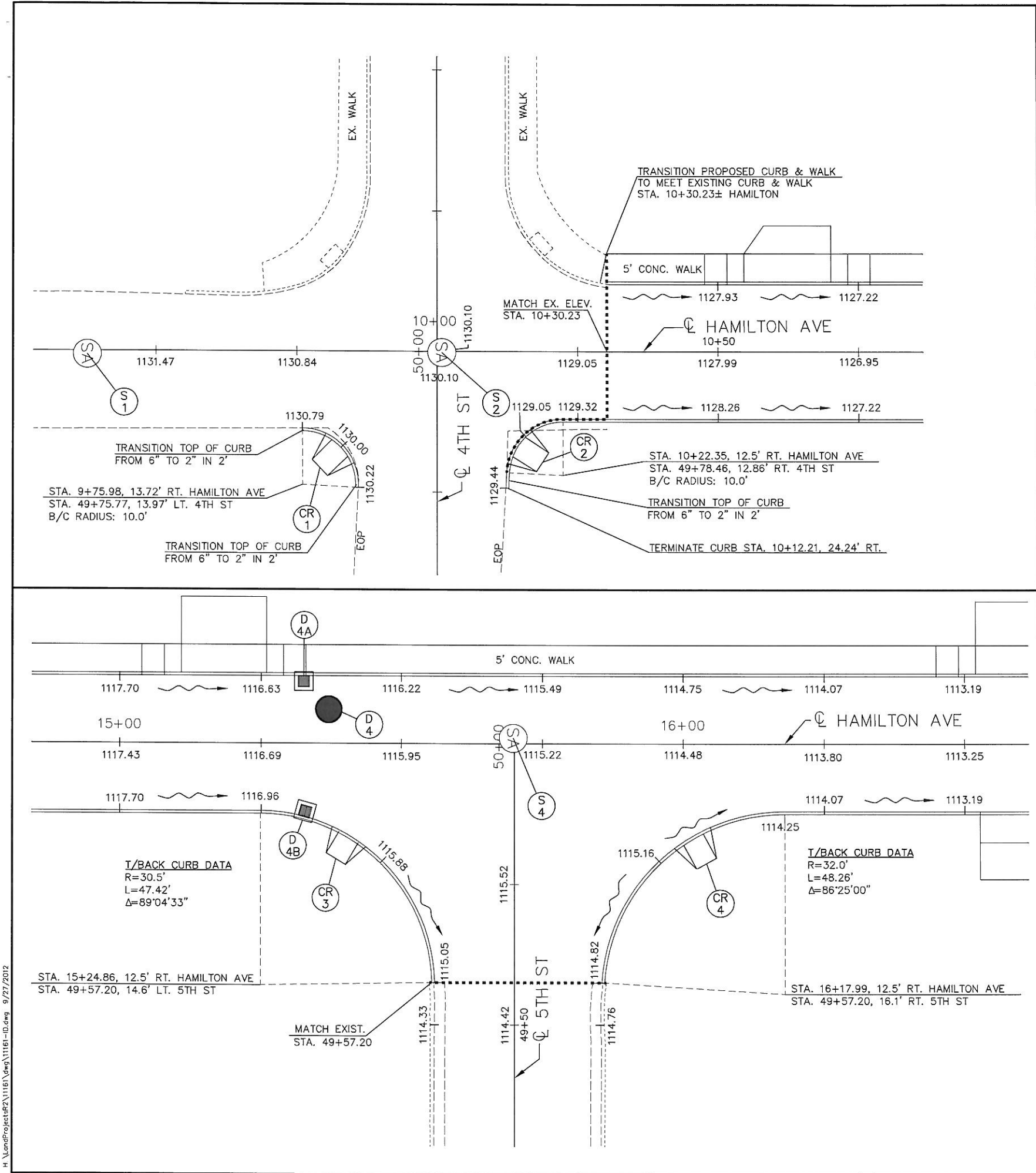
COOPER & ASSOCIATES, LLP
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1359 MARKET AVENUE NORTH
CANTON, OHIO 44714

BRYAN J. ASHMAN
JEROLD E. GEIB

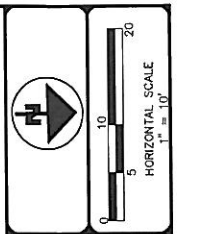
PLAN & PROFILE SUBSUMMARY
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 16 OF 46
PROJ.# 11161

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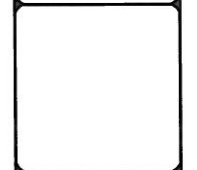


NOTES:
 1. ALL ELEVATIONS ALONG THE CURB ARE TOP BACK OF CURB ELEVATIONS.



NO.	DATE	BY	REVISIONS
1	08-27-2012	RAF	DEPARTMENTAL COMMENTS
2	09-17-2012	RAF	DEPARTMENTAL CHANGES
3	10-23-2012	RAF	CANTON ENGINEERS COMMENTS

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INTERSECTION DETAILS
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

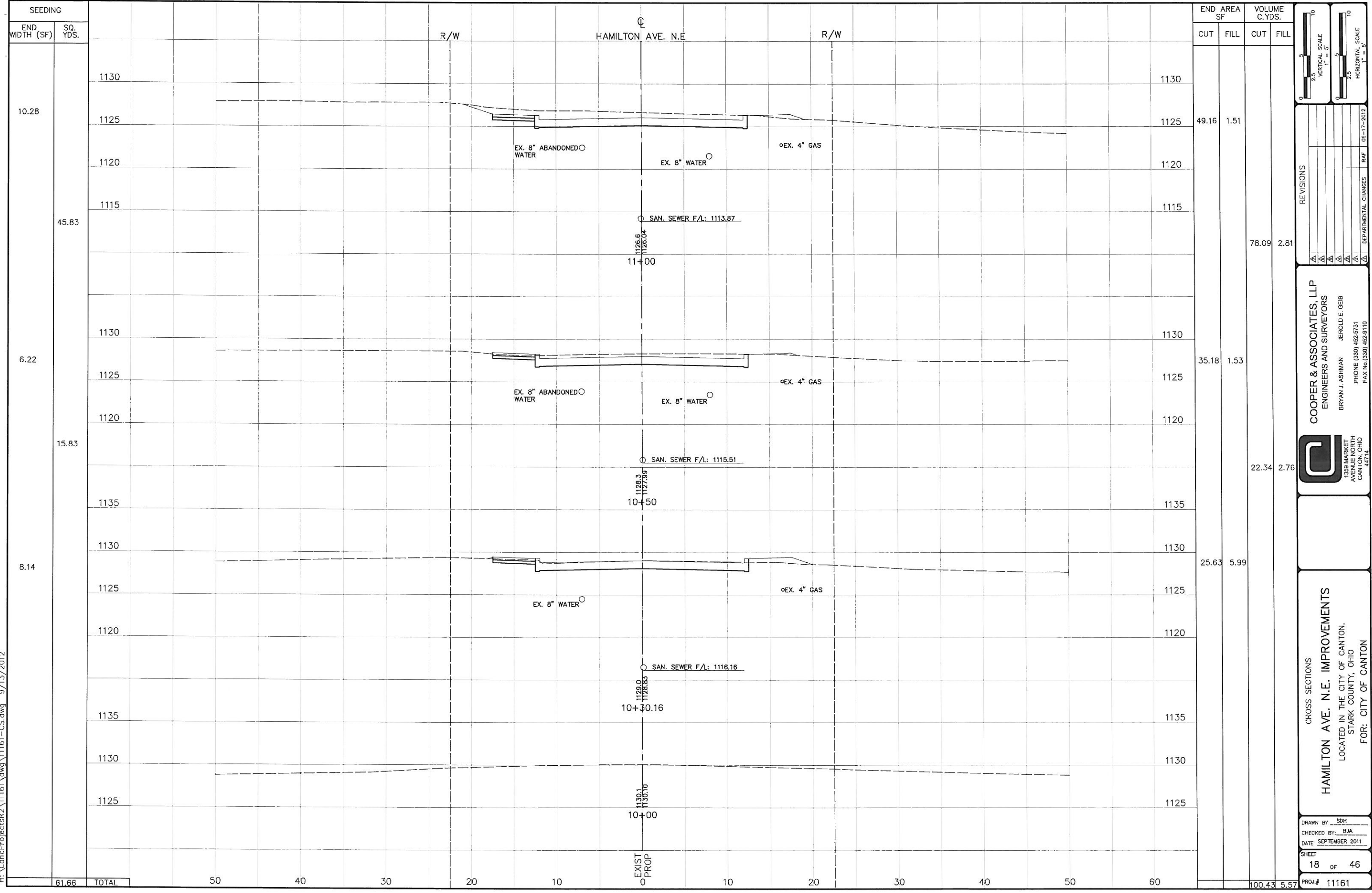
DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011

SHEET
 17 OF 46

PROJ.# 11161

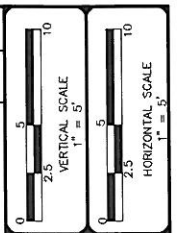
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SEEDING		END WIDTH (SF)	SQ. YDS.
CUT	FILL		
10.28			
45.83			
6.22			
15.83			
8.14			
61.66	TOTAL		

END AREA SF		VOLUME C. YDS.	
CUT	FILL	CUT	FILL
49.16	1.51		
35.18	1.53		
22.34	2.76		
25.63	5.99		
100.43	5.57	78.09	2.81



NO.	DATE	DESCRIPTION

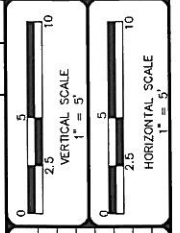
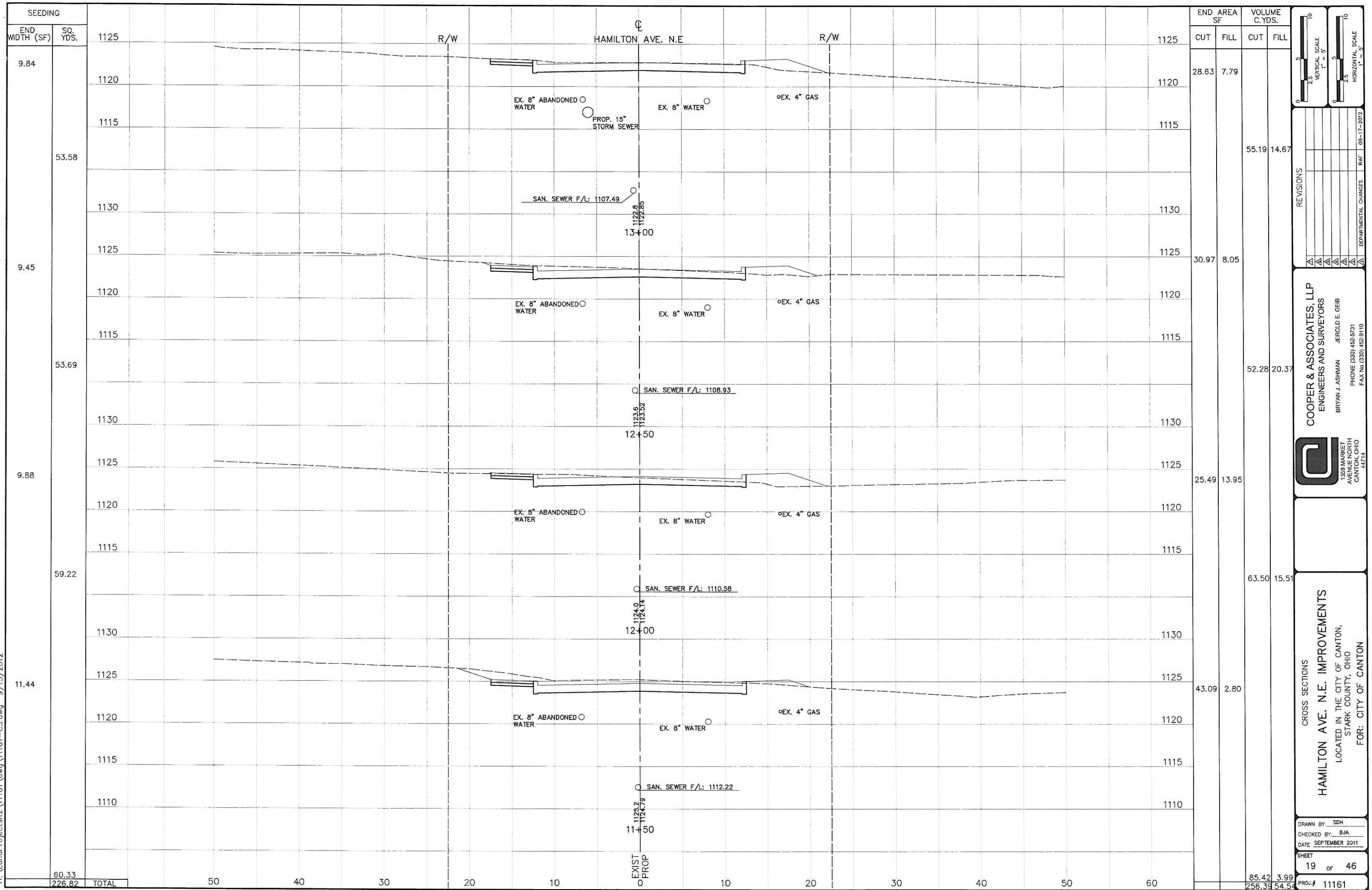
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CROSS SECTIONS
 HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011
 SHEET 18 OF 46
 PROJ.# 11161

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REVISIONS			DATE	BY	REASON

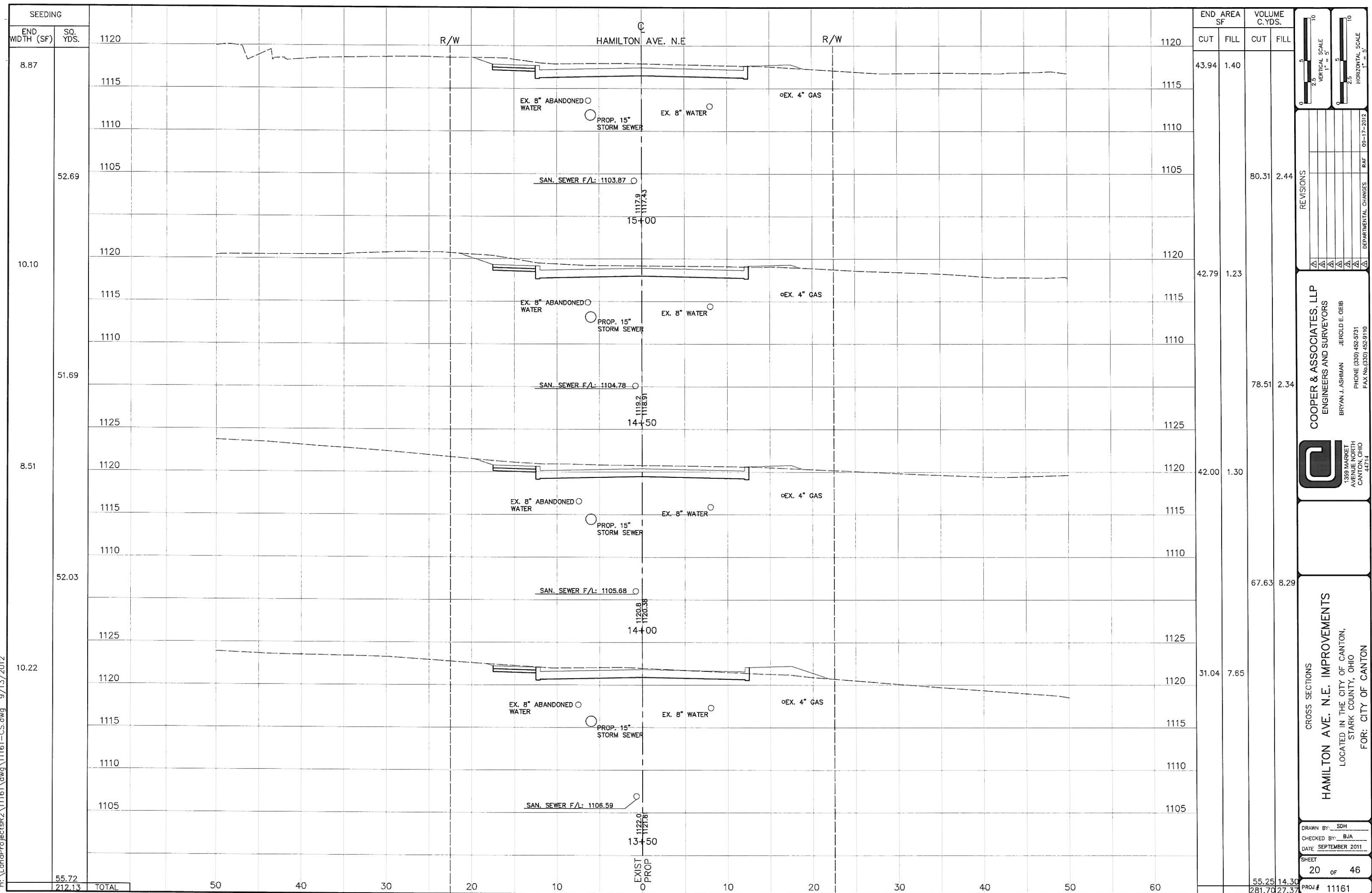
COOPER & ASSOCIATES, LLP
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C
1369 MARKET
AVENUE NORTH
CANTON, OHIO
44714

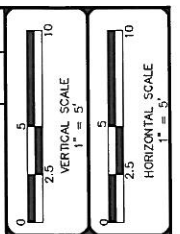
CROSS SECTIONS
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 19 OF 46
PROJ.# 11161

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STATION	SEEDING		END AREA SF		VOLUME C. YDS.	
	END WIDTH (SF)	SQ. YDS.	CUT	FILL	CUT	FILL
1120	8.87		43.94	1.40		
1115						
1110						
1105	52.69				80.31	2.44
1120	10.10		42.79	1.23		
1115						
1110						
1105	51.69				78.51	2.34
1125						
1120	8.51		42.00	1.30		
1115						
1110						
1105	52.03				67.63	8.29
1125						
1120	10.22		31.04	7.65		
1115						
1110						
1105	55.72				55.25	14.30
TOTAL	212.13				281.70	27.37



NO.	DATE	DESCRIPTION

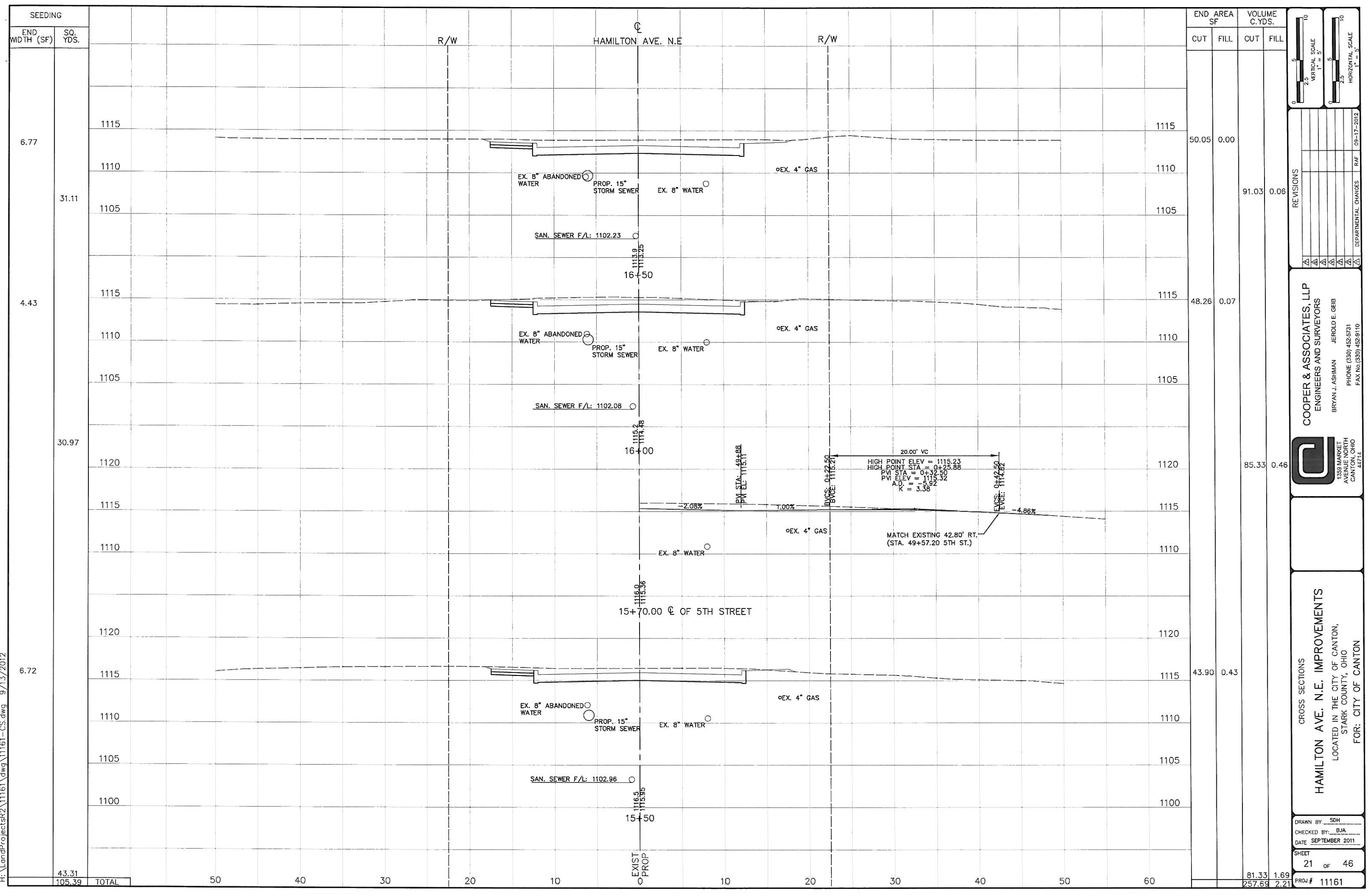
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 FAX No. (330) 452-9110

CROSS SECTIONS
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

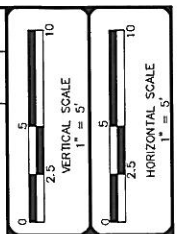
DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011

SHEET 20 OF 46
 PROJ # 11161

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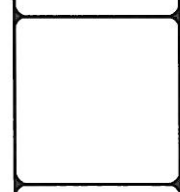


SEEDING		END AREA SF		VOLUME C. YDS.	
END WIDTH (SF)	SQ. YDS.	CUT	FILL	CUT	FILL
6.77					
31.11		50.05	0.00	91.03	0.06
4.43					
30.97		48.26	0.07	85.33	0.46
6.72					
43.31		43.90	0.43	81.33	1.69
105.39	TOTAL	50	40	257.69	2.21



NO.	DATE	REVISIONS

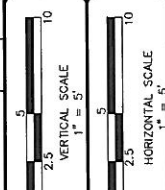
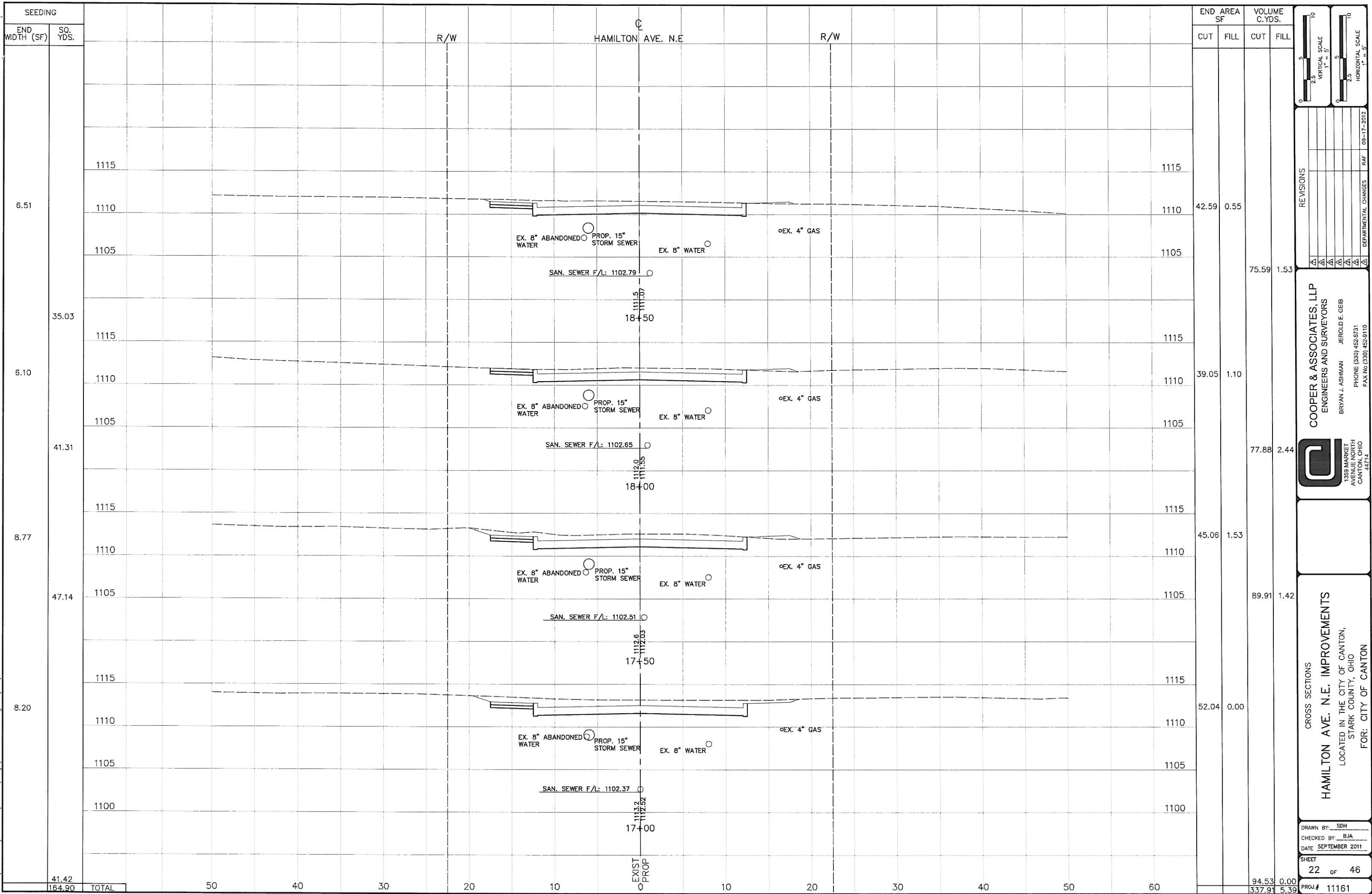
COOPER & ASSOCIATES, LLP
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 CANTON, OHIO 44715
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 FAX No (330) 452-9110



CROSS SECTIONS
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011
 SHEET 21 OF 46
 PROJ.# 11161

H:\LandProjectsR2\11161\dwg\11161-CS.dwg 9/13/2012



NO.	DATE	DESCRIPTION

COOPER & ASSOCIATES, LLP
 ENGINEERS AND SURVEYORS
 BRYAN J. ASHMAN JEROLD E. GEIB
 PHONE (330) 452-8731
 FAX No (330) 452-9110

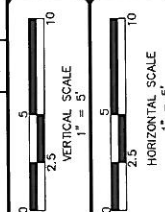
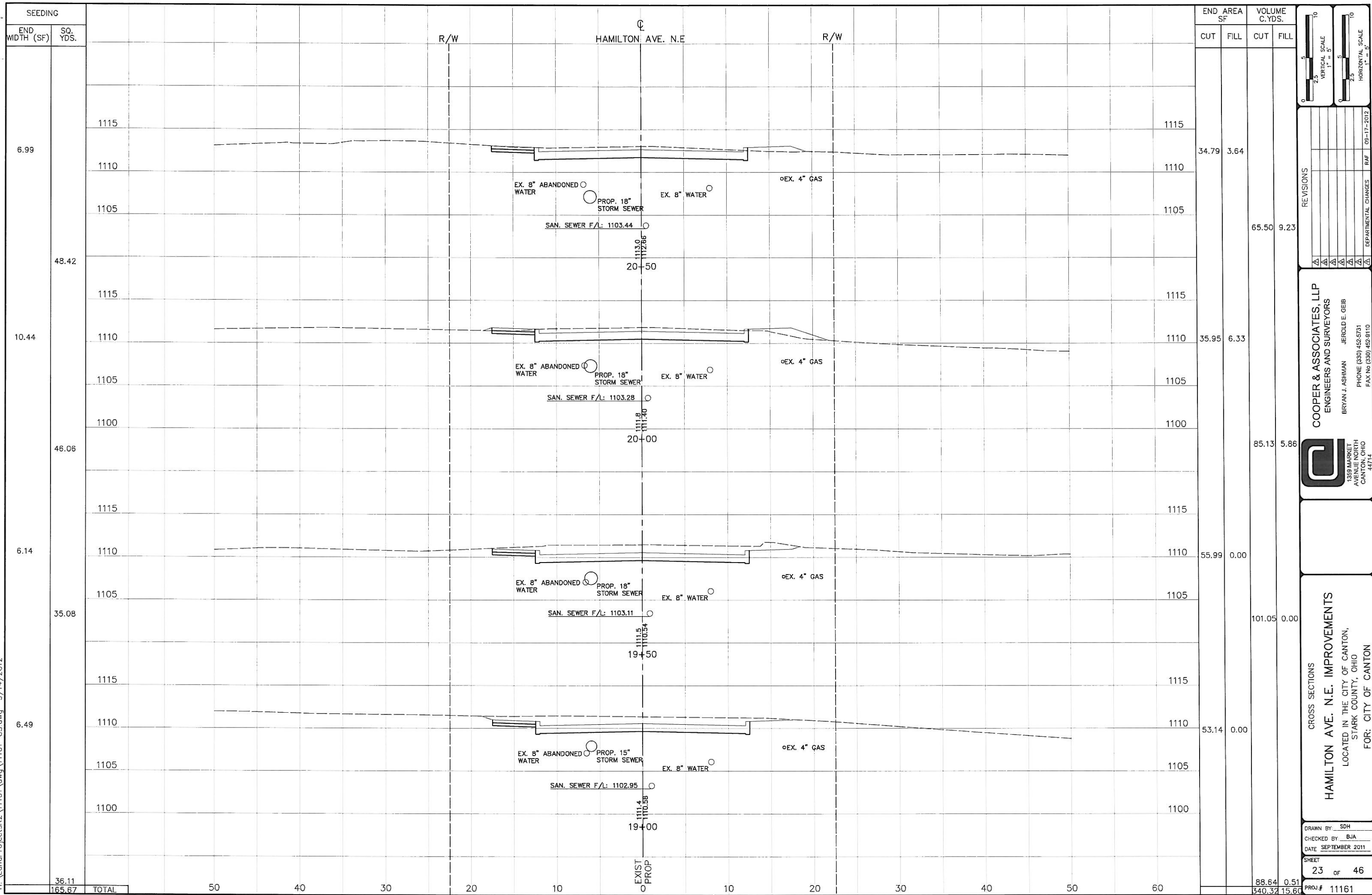


1359 MARKET AVENUE NORTH CANTON, OHIO 44714

HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON, STARK COUNTY, OHIO
 FOR: CITY OF CANTON

DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011
 SHEET 22 OF 46
 PROJ.# 11161

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COOPER & ASSOCIATES, LLP
 ENGINEERS AND SURVEYORS
 BRYAN J. ASHMAN JEROLD E. GEIB
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 FAX No (330) 452-8110

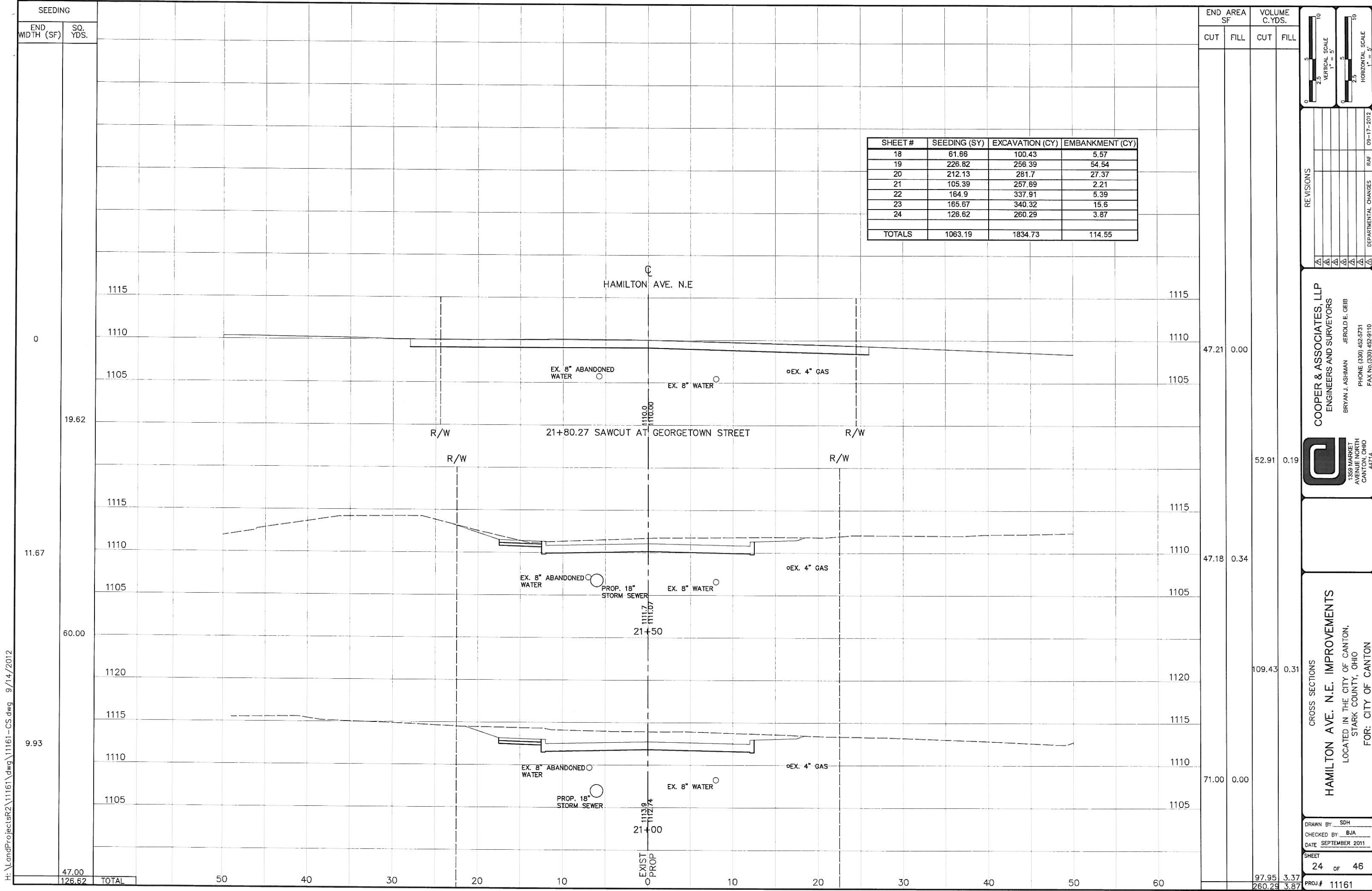


1359 MARKET AVENUE NORTH CANTON, OHIO 44714

CROSS SECTIONS
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

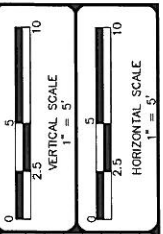
DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET: 23 OF 46
PROJ.#: 11161

SEEDING	END WIDTH (SF)	SQ. YDS.	CUT	FILL	END AREA SF	VOLUME C.YDS.
	6.99		34.79	3.64		
	48.42		65.50	9.23		
	10.44		35.95	6.33		
	46.06		85.13	5.86		
	6.14		55.99	0.00		
	35.08		101.05	0.00		
	6.49		53.14	0.00		
	36.11		88.64	0.51		
TOTAL	165.67		540.32	15.60		



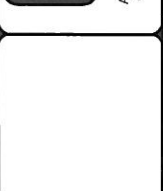
SHEET #	SEEDING (SY)	EXCAVATION (CY)	EMBANKMENT (CY)
18	61.66	100.43	5.57
19	226.82	256.39	54.54
20	212.13	281.7	27.37
21	105.39	257.69	2.21
22	164.9	337.91	5.39
23	165.67	340.32	15.6
24	126.62	260.29	3.87
TOTALS	1063.19	1834.73	114.55

SEEDING		END AREA SF		VOLUME C.YDS.	
END WIDTH (SF)	SQ. YDS.	CUT	FILL	CUT	FILL
47.00		47.21	0.00		
126.62		52.91	0.19		
		47.18	0.34		
		109.43	0.31		
		71.00	0.00		
		97.95	3.37		
		260.29	3.87		
	TOTAL				



NO.	DATE	BY	REVISIONS

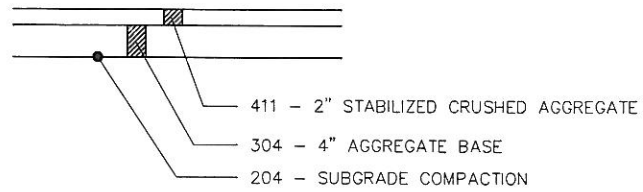
COOPER & ASSOCIATES, LLP
 ENGINEERS AND SURVEYORS
 BRYAN J. ASHMAN
 JEROLD E. GEIB
 PHONE (330) 452-5731
 FAX No. (330) 452-9110



CROSS SECTIONS
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

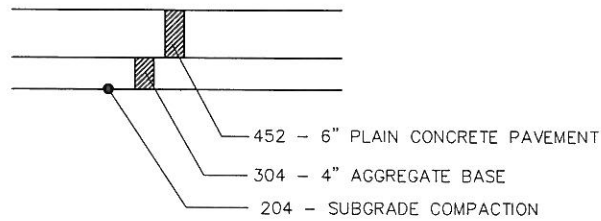
DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011
 SHEET: 24 OF 46
 PROJ.#: 11161

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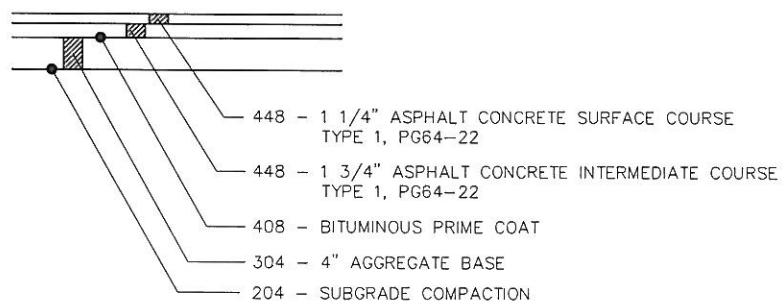
GRAVEL DRIVEWAY

N.T.S.



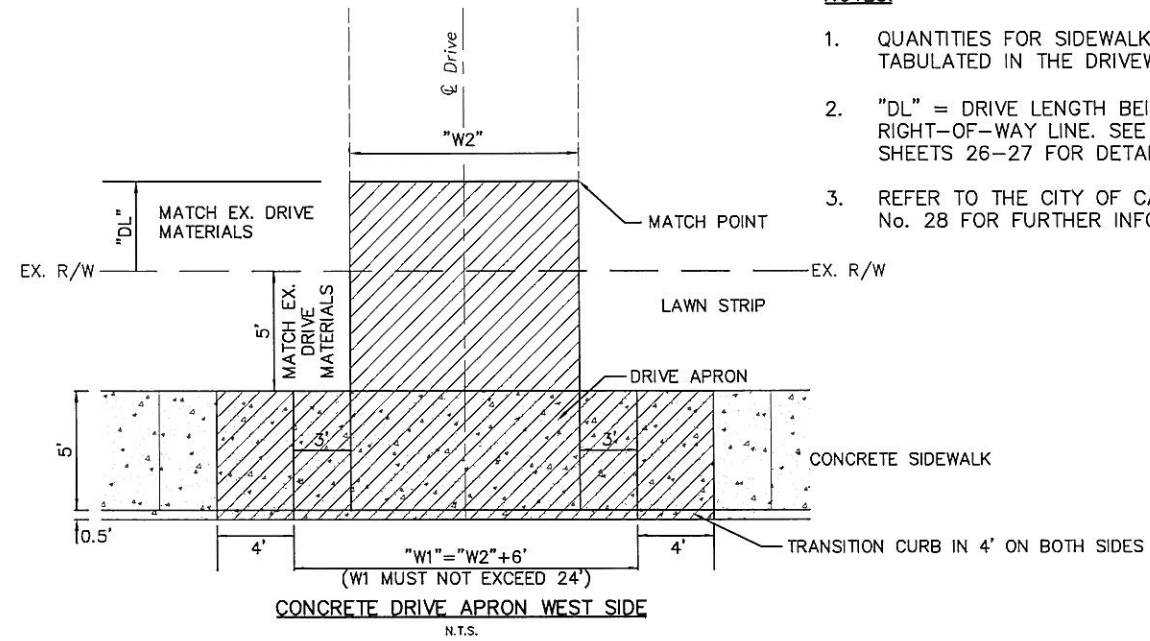
CONCRETE DRIVEWAY

N.T.S.



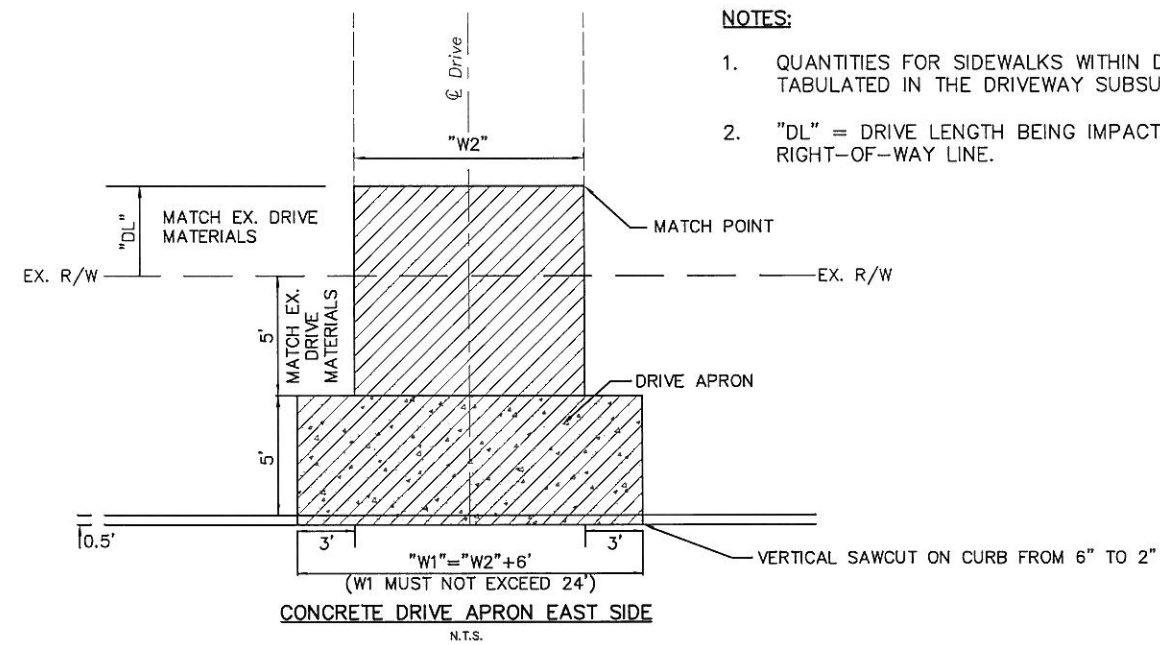
ASPHALT DRIVEWAY

N.T.S.



NOTES:

1. QUANTITIES FOR SIDEWALKS WITHIN DRIVEWAYS ARE TABULATED IN THE DRIVEWAY SUBSUMMARY.
2. "DL" = DRIVE LENGTH BEING IMPACTED BEYOND THE RIGHT-OF-WAY LINE. SEE DRIVEWAY PROFILES ON SHEETS 26-27 FOR DETAILS.
3. REFER TO THE CITY OF CANTON STANDARD DRAWING No. 28 FOR FURTHER INFORMATION.



NOTES:

1. QUANTITIES FOR SIDEWALKS WITHIN DRIVEWAYS ARE TABULATED IN THE DRIVEWAY SUBSUMMARY.
2. "DL" = DRIVE LENGTH BEING IMPACTED BEYOND THE RIGHT-OF-WAY LINE.

REVISIONS	
NO.	DESCRIPTION

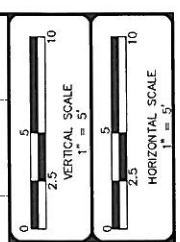
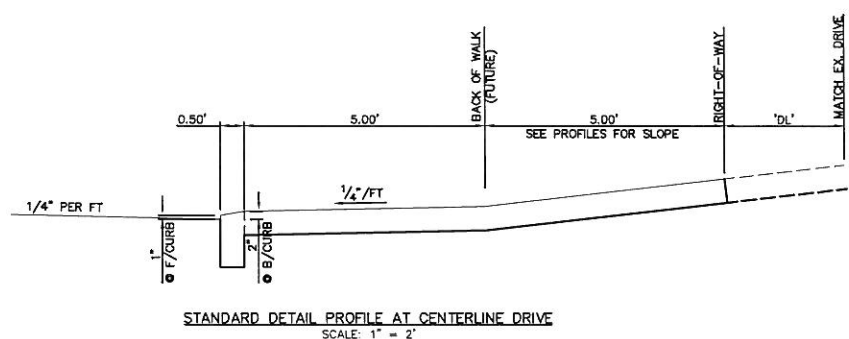
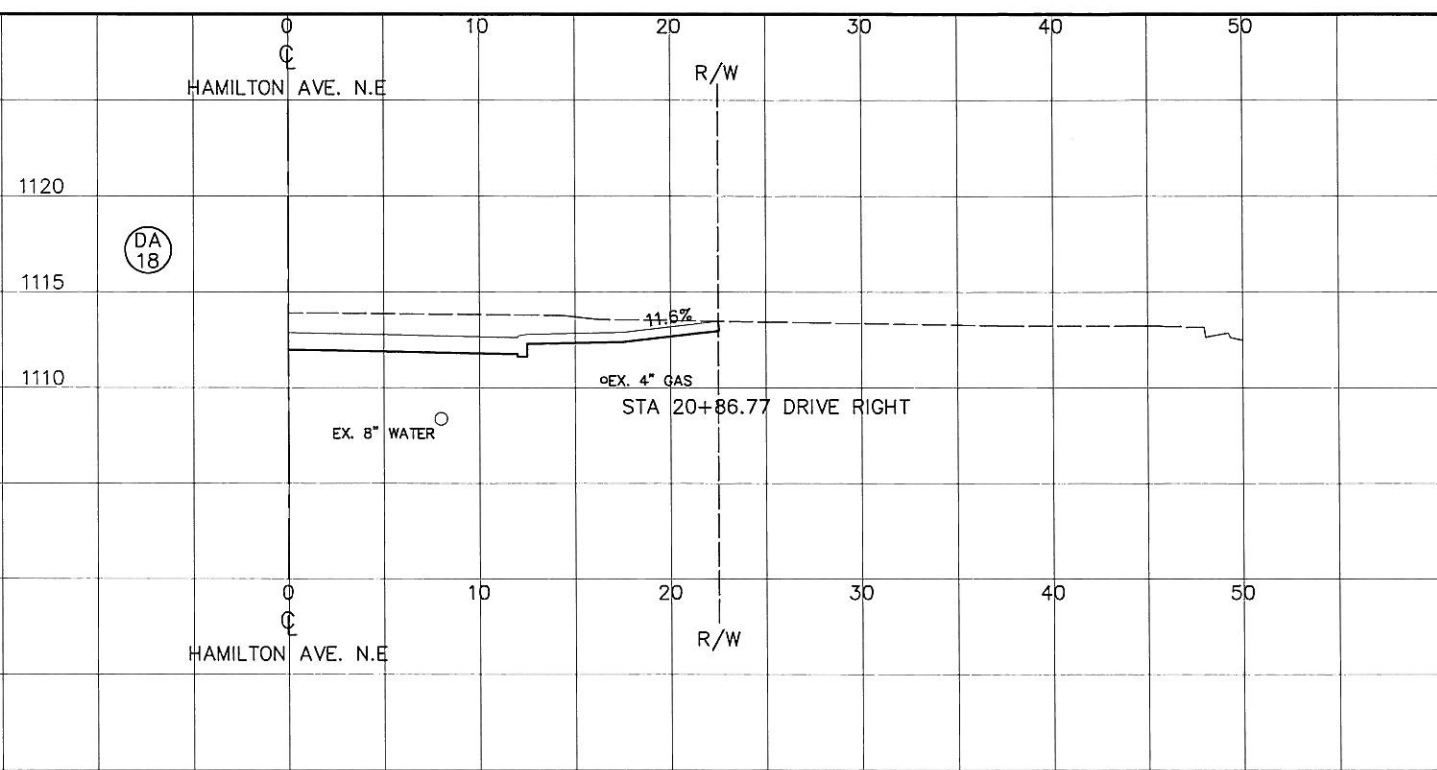
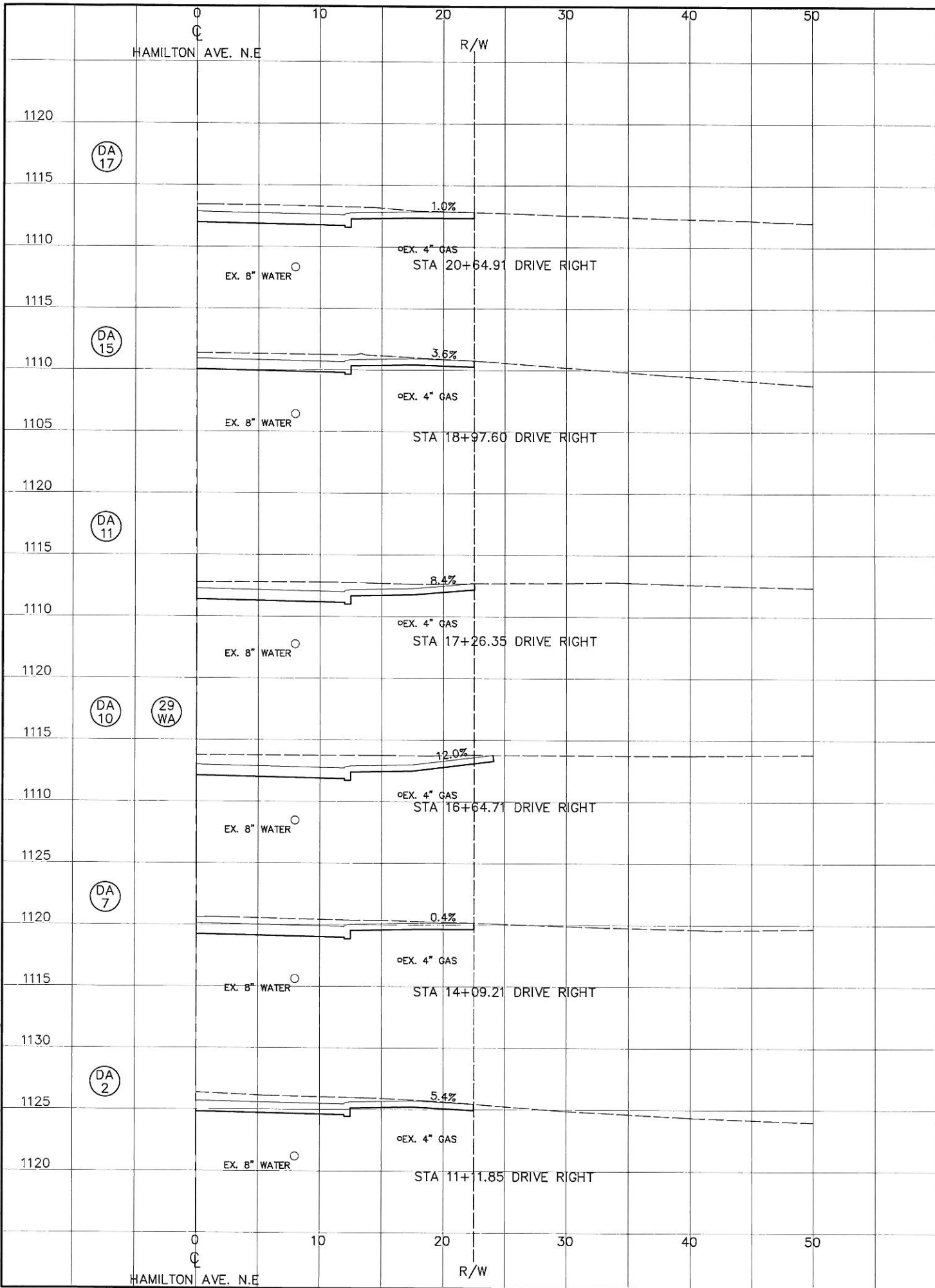
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CANTON, OHIO 44714

BRYAN J. ASHMAN
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DRIVEWAY DETAILS AND TYPICAL SECTIONS
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

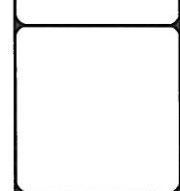
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CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 25 OF 46
PROJ.# 11161

H:\LandProjectsR2\11161\dwg\11161-CS.dwg 9/14/2012



NO.	REVISIONS	DATE	BY
1	DEPARTMENTAL CHANGES	09-17-2012	RAF
2	CANTON ENGINEERS COMMENTS	09-23-2012	RAF

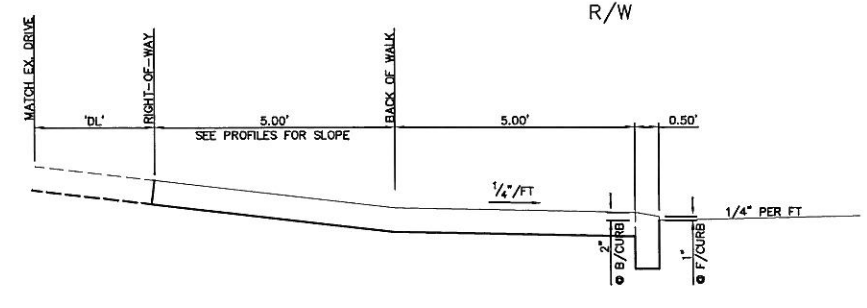
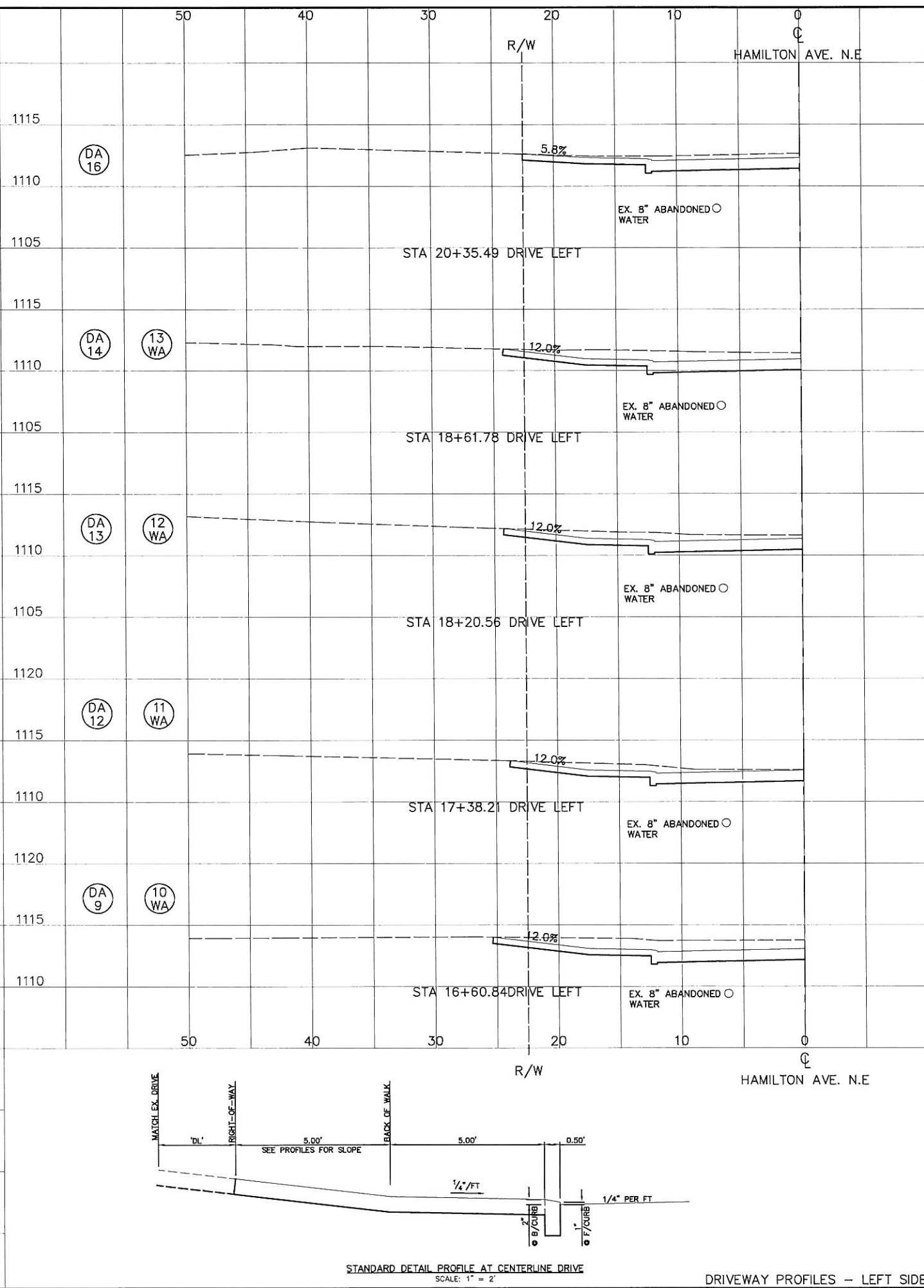
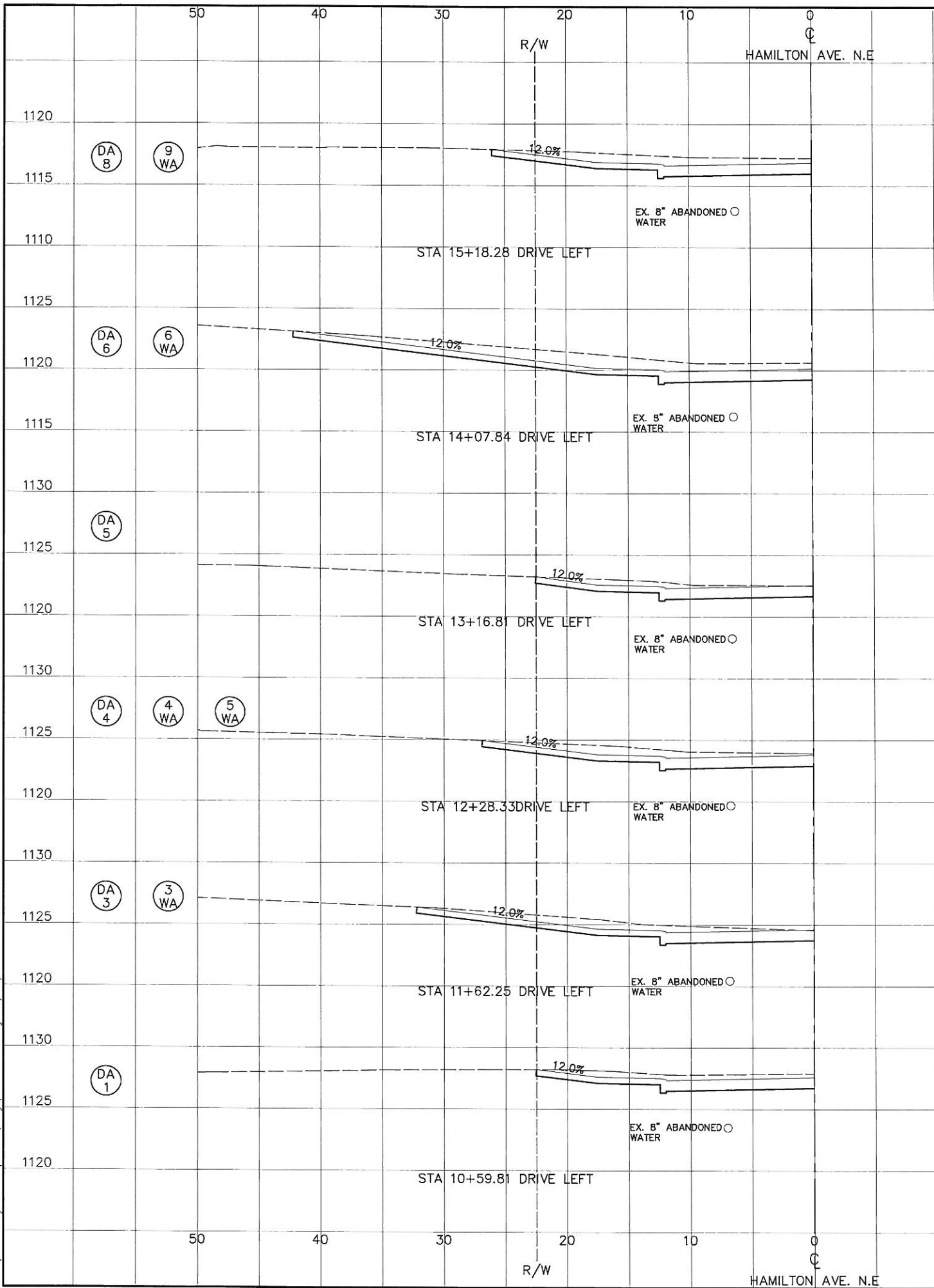
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 BRYAN J. ASHMAN JEROLD E. GEIB
 1355 MARKET AVENUE NORTH
 CANTON, OHIO 44714
 PHONE (330) 452-5731
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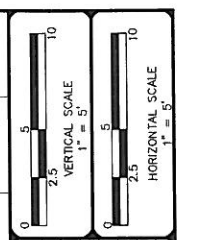
DRIVEWAY PROFILES - RIGHT SIDE
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011
 SHEET: 26 OF 46
 PROJ.# 11161

H:\LandProjectsR2\11161\dwg\11161-CS.dwg 9/14/2012

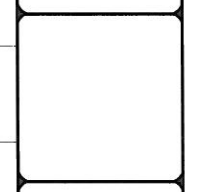


STANDARD DETAIL PROFILE AT CENTERLINE DRIVE
SCALE: 1" = 2'



NO.	DATE	REVISIONS
1	09-17-2012	DEPARTMENTAL CHANGES
2	05-23-2012	CANTON ENGINEERS COMMENTS

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FAX No (330) 452-9110



DRIVEWAY PROFILES - LEFT SIDE
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 27 OF 46
PROJ.# 11161

Note: The quantities shown hereon are approximate and are subject to field adjustments.

DRIVEWAY SUBSUMMARY

REFERENCE NUMBER	PROFILE SHEET NUMBER	STATION	SIDE	DRIVE TYPE	DRIVE ANGLE	DRIVE WIDTH "W2"	DRIVE LENGTH "DL"	APRON WIDTH "W1" <=24.0	202	203		204		304		448		452		411	FOOTNOTES						
					DEG.	FT.	FT.	FT.	PAVEMENT REMOVED	EXCAV.	EMBANK	SUBGRADE COMPACTION (WALK/APRON)	SUBGRADE COMPACTION (DRIVE)	4" AGG. BASE (WALK/APRON)	4" AGG. BASE (DRIVE)	1-1/4" ASPH. (See Note 1)	1-3/4" ASPH. (See Note 2)	6" CONC. PVT. (WALK/APRON)	6" CONC. PVT. (DRIVE)	2" CRUSHED AGGR.							
									SQ. YD.	CU. YD.	CU. YD.	SQ. YD.	SQ. YD.	CU. YD.	CU. YD.			SQ. YD.	SQ. YD.	CU. YD.							
DA-1		10+59.81	LT	CONC	50	11.9	0.0	21.4	14.36	1.8	0	16.4	6.6	1.8	0.7				16.4	6.6							
DA-2		11+11.85	RT	CONC	90	16.7	0.0	22.7	18.76	4.4	0	12.6	9.3	1.4	1.0				12.6	9.3							
DA-3		11+65.25	LT	CONC	90	16.5	9.7	22.5	38.42	3.1	0	16.9	26.9	1.9	3.0				16.9	26.9							
DA-4		12+28.33	LT	CONC	90	7.9	4.4	13.9	15.38	1.2	0	12.2	8.2	1.4	0.9				12.2	8.2							
DA-5		13+16.81	LT	CONC	90	7.8	0.0	13.8	7.32	1.3	0	12.1	4.4	1.3	0.5				12.1	4.4							
DA-6		14+07.84	LT	CONC	90	16.4	19.7	22.4	57.82	9.7	0	16.9	45.0	1.9	5.0				16.9	45.0							
DA-7		14+09.21	RT	CONC	90	16.1	0.0	22.1	18.78	4.1	0	12.3	9.0	1.4	1.0				12.3	9.0							
DA-8		15+18.28	LT	ASPH	90	15.1	3.5	21.1	23.53	2.4	0	16.1	14.2	1.8	1.6	0.5	0.7		16.1								
DA-9		16+60.84	LT	CONC	90	17.8	2.8	23.8	26.62	3.8	0	17.7	15.4	2.0	1.7				17.7	15.4							
DA-10		16+64.71	RT	CONC	90	24.0	1.6	24.0	26.68	7.4	0	13.3	17.6	1.5	2.0				13.3	17.6							
DA-11		17+26.35	RT	GRVLS	90	9.5	0.0	15.5	11.35	3.1	0	8.6	5.3	1.0	0.6				8.6		0.3						
DA-12		17+38.21	LT	CONC	90	15.1	1.3	21.1	19.92	2.1	0	16.1	10.5	1.8	1.2				16.1	10.5							
DA-13		18+20.56	LT	CONC	90	16.0	1.7	22.0	22.08	1.9	0	16.7	11.9	1.9	1.3				16.7	11.9							
DA-14		18+61.78	LT	GRVLS	90	13.8	1.7	19.8	19.3	1.6	0	15.5	10.2	1.7	1.1				15.5		0.6						
DA-15		18+97.60	RT	CONC	90	38.0	0.0	38.0	29.52	6.4	0	21.1	21.1	2.3	2.3				21.1	21.1		DRIVE APRON EXTENDED FOR TRAILER ACCESS					
DA-16		20+35.49	LT	ASPH	90	22.9	0.0	24.0	27.71	2.4	0	17.8	12.7	2.0	1.4	0.4	0.6		17.8								
DA-17		20+64.91	RT	GRVLS	90	10.1	0.0	16.1	11.23	2.7	0	8.9	5.6	1.0	0.6				8.9		0.3						
DA-18		20+86.77	RT	CONC	90	14.0	0.0	20.0	12.67	3.3	0	11.1	7.8	1.2	0.9				11.1	7.8							
TOTALS TO GENERAL SUMMARY									401	63	0	262	242	29	27			1	1			262	194		1		
												504		56						456							

- NOTES
- Asphalt Concrete Surface Course, Type 1, PG64-22
 - Asphalt Concrete Intermediate Course, Type 1, PG64-22
 - For definitions of "W1", "W2", and "DL" refer to sheet 40.
 -
 -

FOOTNOTES
1.

Driveway Material Abbreviation Legend
 ASPH Asphalt
 CONC Concrete
 GRVLS Crushed Limestone
 GRVFEA Pea Gravel

REVISIONS	DATE	BY	DESCRIPTION

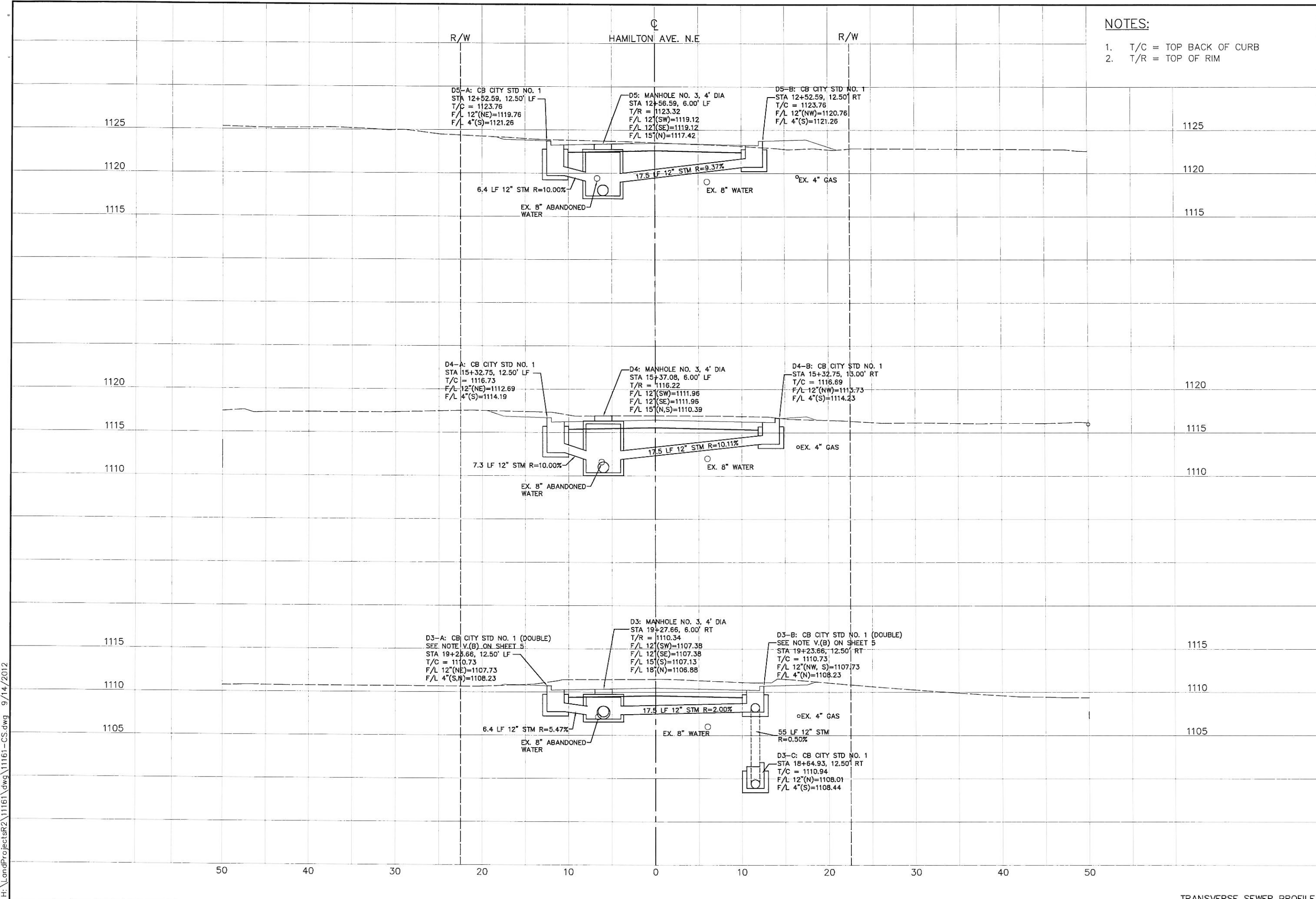
COOPER & ASSOCIATES, LLP
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JEROLD E. GEIB
PHONE (330) 452-5731
FAX No. (330) 452-9110
1359 MARKET AVENUE NORTH
CANTON, OHIO 44714

DRIVEWAY SUBSUMMARY
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET
28 OF 46
PROJ.# 11161

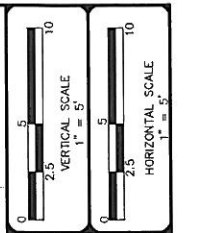
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NOTES:

1. T/C = TOP BACK OF CURB
2. T/R = TOP OF RIM



NO.	DATE	REVISIONS

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HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON

DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: SEPTEMBER 2011
 SHEET: 29 OF 46
 PROJ.#: 11161

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Note: The quantities shown hereon are approximate and are subject to field adjustments.

TRANSVERSE STORM SEWER SUBSUMMARY


REFERENCE NUMBER	PROFILE SHEET NUMBER	STATION		SIDE	202		602		604			FOOTNOTES See below for numbered footnotes
		FROM	TO		12" CONDUIT, TYPE B LIN. FT	15" CONDUIT, TYPE B LIN. FT	18" CONDUIT, TYPE B LIN. FT	CATCH BASIN, CTY. STD. #1	DOUBLE CATCH BASIN, CITY STD #	STORM MANHOLE, MH-3, 5' DIA		
D3A	29	19+23.66	19+27.66	LT.		6.4				1		
D3B	29	19+23.66	19+27.66	RT.		17.5				1		
D3C	12	18+64.93	19+23.66	RT.		55			1			
D4A	29	15+32.75	15+37.08	LT.		7.3			1			
D4B	29	15+32.75	15+37.08	RT.		17.5			1			
D5A	29	12+52.59	12+56.59	LT.		6.4			1			
D5B	29	12+52.59	12+56.59	RT.		17.5			1			
TOTALS TO GENERAL SUMMARY						127.6			5	2		

NOTES
1
2
3
4
5

FOOTNOTES
1.

Abbreviation Legend

REVISIONS		DEPARTMENTAL CHANGES	RAF



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TRANSVERSE STORM SEWER SUBSUMMARY
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET
30 OF 46
PROJ # 11161

BASIS OF BEARINGS:

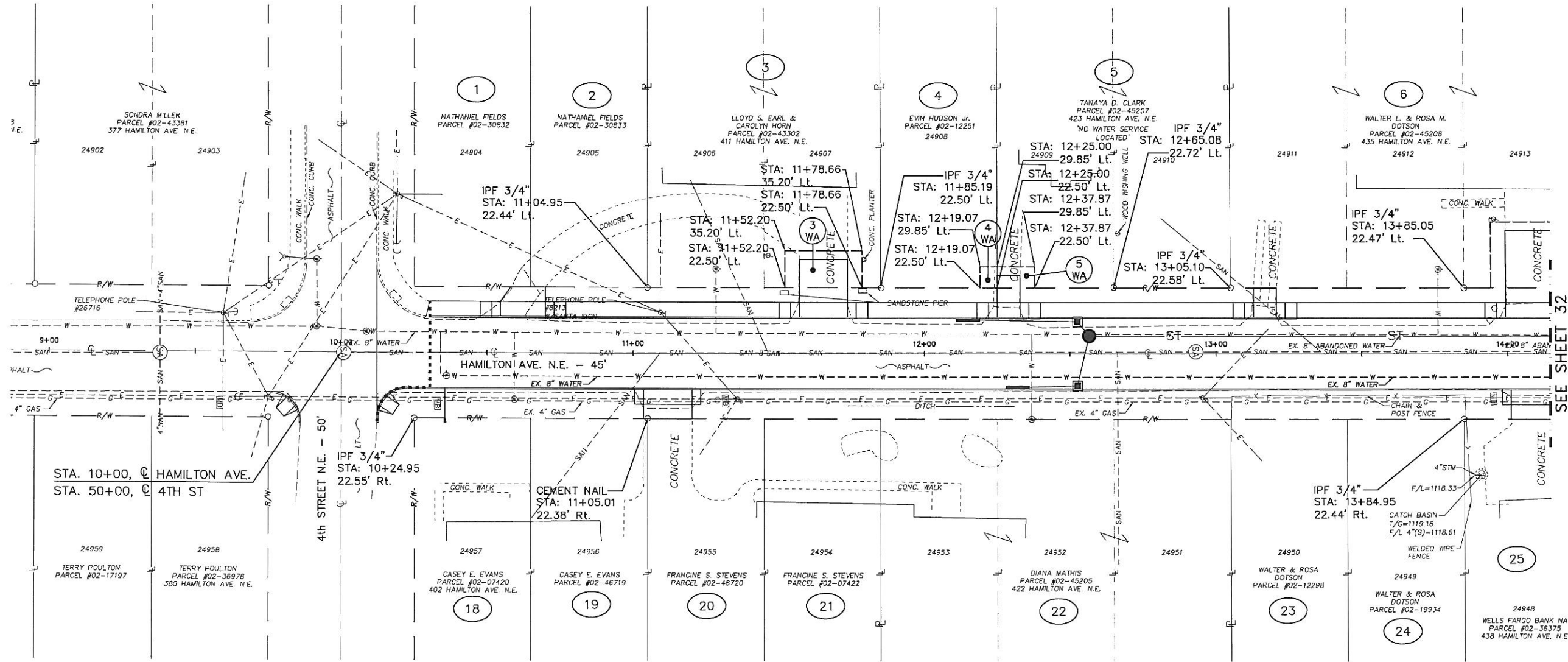
ALL BEARINGS ARE BASED ON GRID NORTH USING STARK COUNTY GEODETIC REFERENCE SYSTEM MONUMENTS DESIGNATED AS CAN030 AND CAN049. COORDINATE VALUES FOR THESE AND SEVERAL REFERENCE POINTS ARE TABULATED AS FOLLOWS:

NORTHING	EASTING	DESCRIPTION
415294.2520	2289905.7490	CAN030; ON 8TH STREET NE ABOUT 1000 WEST OF MARRIETA AVE.
412593.6090	2289829.0030	CAN049; CORNER MONUMENT ABOUT 160 NORTH OF 3RD STREET NE

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

RECORD PLATS: P.B. 69, PGS. 19, GEORGEVIEW ESTATES NO. 3
P.B. 9, PGS. 110, EASTLAND ALLOT

RIGHT-OF-WAY RECORDS: P.B. 9, PGS. 110, EASTLAND ALLOT
STARK COUNTY RECORD DEEDS
STARK COUNTY AUDITOR'S TAX MAP NO. ___
EXISTING MONUMENTS



SEE SHEET 32

ABBREVIATION LEGEND

- R/W EXISTING RIGHT-OF-WAY LINE
- P. DENOTES PLAT DISTANCE
- D. DENOTES DEED DISTANCE
- Obs. DENOTES OBSERVED DISTANCE
- CL CENTER LINE OF RIGHT-OF-WAY
- TE TEMPORARY EASEMENT
- WA WORK AGREEMENT

MONUMENT LEGEND

- ◻ EXISTING R/W MONUMENT BOX
- IRON PIN FOUND AS NOTED
- ⊙ IRON PIPE FOUND AS NOTED
- △ P.K. OR MAG NAIL FOUND



NO.	DATE	DESCRIPTION

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMAN
JEROLD E. GEBB
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FAX No. (330) 452-9110



1355 MARKET AVENUE NORTH
CANTON, OHIO 44714

RIGHT OF WAY PLAN
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 31 OF 46
PROJ.# 11161

BASIS OF BEARINGS:

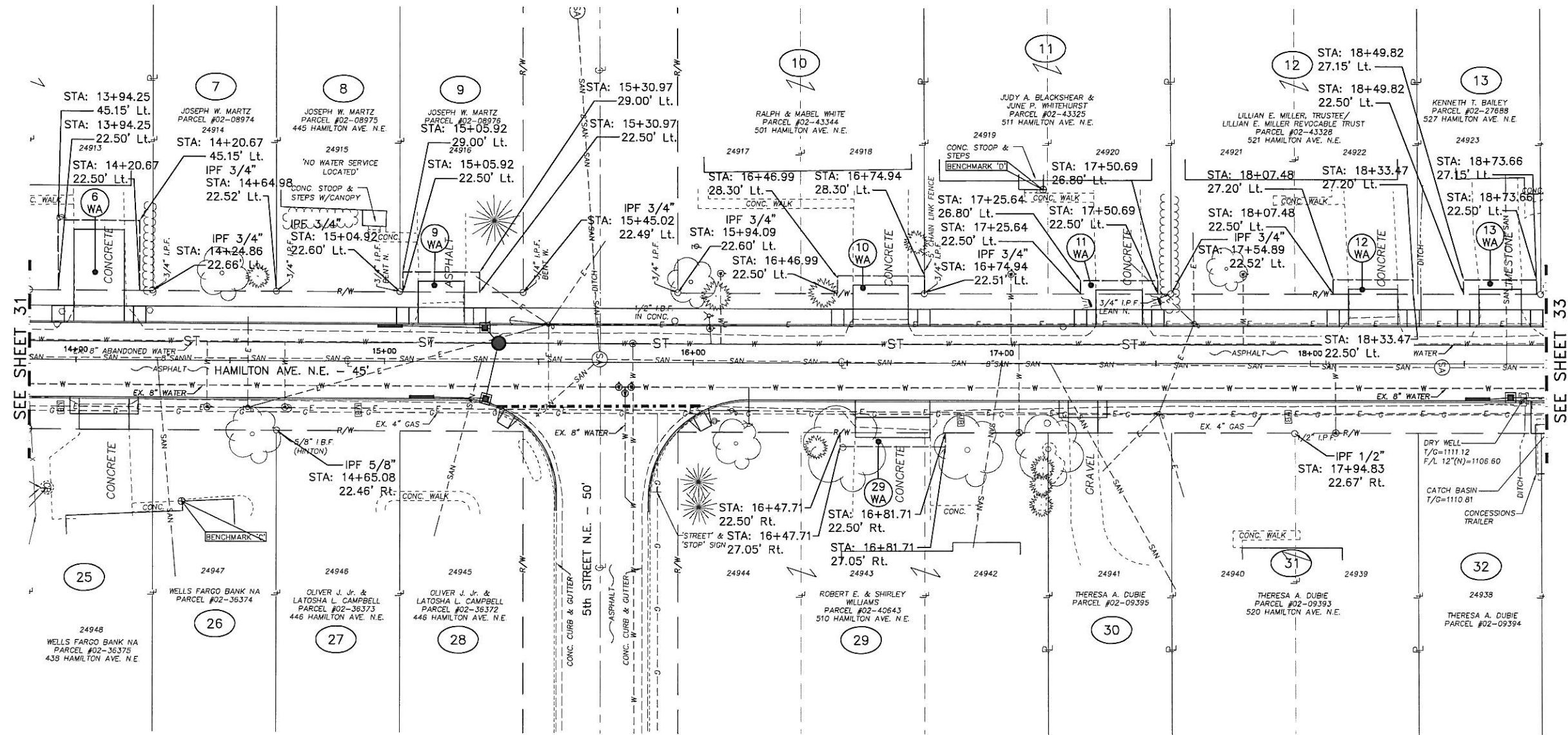
ALL BEARINGS ARE BASED ON GRID NORTH USING STARK COUNTY GEODETIC REFERENCE SYSTEM MONUMENTS DESIGNATED AS CAN030 AND CAN049. COORDINATE VALUES FOR THESE AND SEVERAL REFERENCE POINTS ARE TABULATED AS FOLLOWS:

NORTHING	EASTING	DESCRIPTION
415294.2520	2289905.7490	CAN030; ON 8TH STREET NE ABOUT 1000 WEST OF MARRIETA AVE.
412593.6090	2289829.0030	CAN049; CORNER MONUMENT ABOUT 160 NORTH OF 3RD STREET NE

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

RECORD PLATS: P.B. 69, PGS. 19, GEORGEVIEW ESTATES NO. 3
P.B. 9, PGS. 110, EASTLAND ALLOT

RIGHT-OF-WAY RECORDS: P.B. 9, PGS. 110, EASTLAND ALLOT
STARK COUNTY RECORD DEEDS
STARK COUNTY AUDITOR'S TAX MAP NO. ____
EXISTING MONUMENTS



SEE SHEET 31

SEE SHEET 33

ABBREVIATION LEGEND

- R/W EXISTING RIGHT-OF-WAY LINE
- P. DENOTES PLAT DISTANCE
- D. DENOTES DEED DISTANCE
- Obs. DENOTES OBSERVED DISTANCE
- CL CENTER LINE OF RIGHT-OF-WAY
- TE TEMPORARY EASEMENT
- WA WORK AGREEMENT

MONUMENT LEGEND

- ◻ EXISTING R/W MONUMENT BOX
- IRON PIN FOUND AS NOTED
- IRON PIPE FOUND AS NOTED
- △ P.K. OR MAG NAIL FOUND

REVISIONS

NO.	DATE	DESCRIPTION
1	09-27-2012	DEPARTMENTAL COMMENTS
2	09-17-2012	DEPARTMENTAL CHANGES
3	09-23-2012	CANTON ENGINEERS COMMENTS

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMAN JEROLD E. GEIB
PHONE (330) 462-5731
FAX NO. (330) 462-9110



1359 MARKET AVENUE NORTH CANTON, OHIO 44714

HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON, STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDI
CHECKED BY: BOA
DATE: SEPTEMBER 2011
SHEET 32 OF 46
PROJ.# 11161

H:\LandProjects\11161\dwg\11161-RoW.dwg 9/27/2012

BASIS OF BEARINGS:

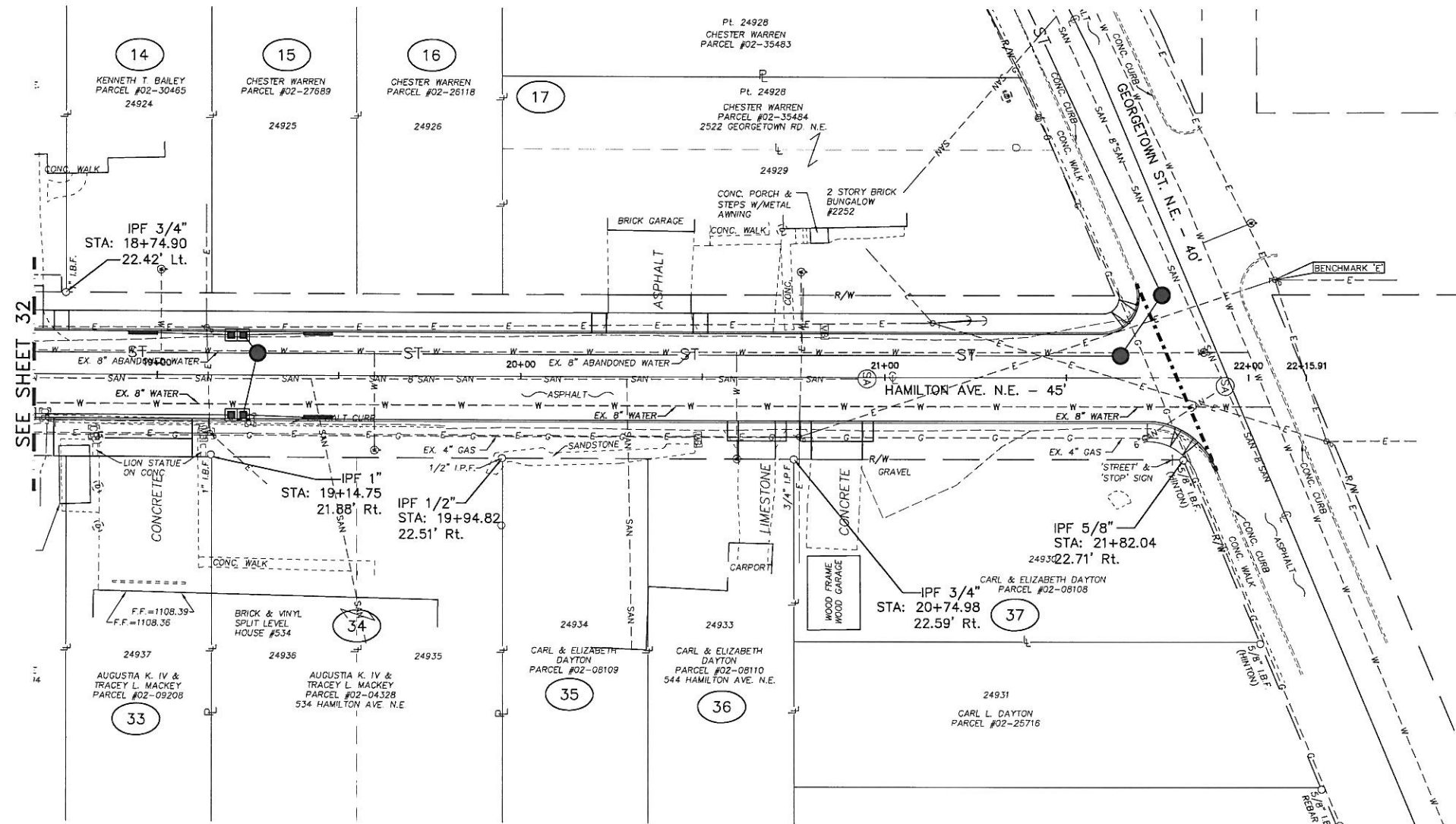
ALL BEARINGS ARE BASED ON GRID NORTH USING STARK COUNTY GEODETIC REFERENCE SYSTEM MONUMENTS DESIGNATED AS CAN030 AND CAN049. COORDINATE VALUES FOR THESE AND SEVERAL REFERENCE POINTS ARE TABULATED AS FOLLOWS:

NORTHING	EASTING	DESCRIPTION
415294.2520	2289905.7490	CAN030; ON 8TH STREET NE ABOUT 1000 WEST OF MARRIETA AVE.
412593.6090	2289829.0030	CAN049; CORNER MONUMENT ABOUT 160 NORTH OF 3RD STREET NE

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

RECORD PLATS: P.B. 69, PGS. 19, GEORGEVIEW ESTATES NO. 3
P.B. 9, PGS. 110, EASTLAND ALLOT

RIGHT-OF-WAY RECORDS: P.B. 9, PGS. 110, EASTLAND ALLOT
STARK COUNTY RECORD DEEDS
STARK COUNTY AUDITOR'S TAX MAP No. ____
EXISTING MONUMENTS

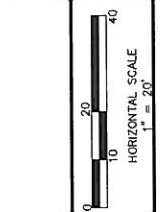


ABBREVIATION LEGEND

- R/W EXISTING RIGHT-OF-WAY LINE
- P. DENOTES PLAT DISTANCE
- D. DENOTES DEED DISTANCE
- Obs. DENOTES OBSERVED DISTANCE
- CL CENTER LINE OF RIGHT-OF-WAY
- TE TEMPORARY EASEMENT
- WA WORK AGREEMENT

MONUMENT LEGEND

- ◻ EXISTING R/W MONUMENT BOX
- IRON PIN FOUND AS NOTED
- IRON PIPE FOUND AS NOTED
- △ P.K. OR MAG NAIL FOUND



REVISIONS

NO.	DATE	BY	REVISION
1	09-17-2012	BAF	DEPARTMENTAL CHANGES
2	05-23-2012	BAF	CANTON ENGINEERS COMMENTS

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CANTON, OHIO 44714

HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

RIGHT OF WAY PLAN

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 33 OF 46
PROJ.# 11161

H:\LandProjects\R2\11161\dwg\11161-Row.dwg 9/14/2012

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
(P.R.O. = PRESENT ROAD OCCUPIES)

GRANTEE:

ALL WORK AGREEMENTS, TEMPORARY EASEMENTS AND RIGHTS-OF-WAY ACQUIRED
IN THE NAME OF THE CITY OF CANTON UNLESS OTHERWISE SHOWN.

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCT-URE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
1	NATHAN FIELDS	31	R.I. No.1997/10090056107		02-30832	4,800 S.F. .110 Ac.	0	0	0	0	NONE	4,800 S.F.			LOT NO. 24904 - CITY OF CANTON		
2	NATHAN FIELDS	31	R.I. No.1997/10090056107		02-30833	4,800 S.F. .110 Ac.	0	0	0	0	NONE	4,800 S.F.			LOT NO. 24905 - CITY OF CANTON		
3-WA	LLOYD S. EARL & CAROLYN HORN	31	R.I. No.2008/08290039180 R.I. No.2008/12290054971		02-43302	9,600 S.F. 0.220 Ac.	0	0	0	0	NONE	9,600 S.F.			LOT NO. 24906 & 24907 - CITY OF CANTON DRIVEWAY RECONSTRUCTION AND GRADING		
4-WA	EVIN HUDSON JR.	31			02-12251	4,800 S.F. .110 Ac.	0	0	0	0	NONE	4,800 S.F.			LOT NO. 24908 - CITY OF CANTON DRIVEWAY RECONSTRUCTION AND GRADING		
5-WA	TANAYA D. CLARK	31	R.I. No.2011/05040017145		02-45207	9,600 S.F. 0.220 Ac.	0	0	0	0	NONE	9,600 S.F.			LOT NO. 24909 & 24910 - CITY OF CANTON DRIVEWAY RECONSTRUCTION AND GRADING		
6-WA	WALTER L. & ROSA M. DOTSON	31	R.I. No.2002/08300069326		02-45208	14,400 S.F. 0.331 Ac.	0	0	0	0	NONE	14,400 S.F.			LOT NO. 24913 - CITY OF CANTON DRIVEWAY RECONSTRUCTION AND GRADING		
7	JOSEPH W. MARTZ	32	R.I. No.2007/03300017300		02-08974	4,800 S.F. 0.110 Ac.	0	0	0	0	NONE	4,800 S.F.			LOT NO. 24914 - CITY OF CANTON		
8	JOSEPH W. MARTZ	32	R.I. No.2007/03300017300		02-08975	4,800 S.F. 0.110 Ac.	0	0	0	0	NONE	4,800 S.F.			LOT NO. 24915 - CITY OF CANTON		
9-WA	JOSEPH W. MARTZ	32	R.I. No.2007/03300017300		02-08976	4,800 S.F. 0.110 Ac.	0	0	0	0	NONE	4,800 S.F.			LOT NO. 24916 - CITY OF CANTON DRIVEWAY RECONSTRUCTION AND GRADING		
10-WA	RALPH & MABEL WHITE	32	R.I. No.2010/08250032465		02-43344	9,600 S.F. 0.220 Ac.	0	0	0	0	NONE	9,600 S.F.			LOT NO. 24917 & 24918 - CITY OF CANTON DRIVEWAY RECONSTRUCTION AND GRADING		
11-WA	JODY A. BLACKSHEAR & JUNE P. WHITEHURST	32	R.I. No.2007/06070031399		02-43325	9,600 S.F. 0.220 Ac.	0	0	0	0	NONE	9,600 S.F.			LOT NO. 24919 & 24920 - CITY OF CANTON DRIVEWAY RECONSTRUCTION AND GRADING		

* DENOTES RIGHT OF WAY ENCROACHMENT

REVISIONS

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1359 MARKET AVENUE NORTH CANTON, OHIO 44714

SUMMARY OF ADDITIONAL RIGHT-OF-WAY
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 34 OF 46
PROJ.# 11161

H:\LandProjects\R2\11161\dwg\11161-Row.dwg 9/14/2012

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
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PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD		AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCT-URE	NET RESIDUE		TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED	
			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
23	WALTER & ROSA DOTSON	31	R.I. No.2005/11100075844		02-12298	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24950 - CITY OF CANTON		
24	WALTER & ROSA DOTSON	31	R.I. No.2005/11100075844		02-19934	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24949 - CITY OF CANTON		
25	WELLS FARGO BANK NA	32	R.I. No.2011/02280007625		02-36375	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24948 - CITY OF CANTON		
26	WELLS FARGO BANK NA	32	R.I. No.2011/02280007625		02-36374	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24947 - CITY OF CANTON		
27	OLIVER J. JR. & LATOSHA L. CAMPBELL	32	R.I. No.2006/01310005687		02-36373	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24946 - CITY OF CANTON		
28	OLIVER J. JR. & LATOSHA L. CAMPBELL	32	R.I. No.2006/01310005687		02-36372	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24945 - CITY OF CANTON		
29-WA	ROBERT E. & SHIRLEY WILLIAMS	32	R.I. No.2004/06030039618		02-40643	15,600 S.F. 0.358 Ac.	0	0	0	0	NONE		15,600 S.F.		LOT NO. 24943 - 24944 - CITY OF CANTON DRIVEWAY RECONSTRUCTION AND GRADING		
30	THERESA A. DUBIE	32	R.I. No.1999/09170071047		02-09395	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24941 - CITY OF CANTON		
31	THERESA A. DUBIE	32	R.I. No.1999/09170071047		02-09393	10,400 S.F. 0.239 Ac.	0	0	0	0	NONE		10,400 S.F.		LOT NO. 24939 & 24940 - CITY OF CANTON		
32	THERESA A. DUBIE	32	R.I. No.1984/08010020681 O.R. 232 494		02-09394	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24938 - CITY OF CANTON		
33	AUGUSTIA K. IV. & TRACEY L. MACKAY	33	R.I. No.1997/01220003121		02-09208	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24937 - CITY OF CANTON		

* DENOTES RIGHT OF WAY ENCROACHMENT

REVISIONS

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CANTON, OHIO 44714

SUMMARY OF ADDITIONAL RIGHT-OF-WAY
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 36 OF 46
PROJ.# 11161

H:\LandProjects\R2\11161\dwg\11161-RoW.dwg 9/14/2012

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE
(P.R.O. = PRESENT ROAD OCCUPIES)

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			BOOK	PAGE								LEFT	RIGHT			BOOK	PAGE
34	AUGUSTIA K. IV. & TRACEY L. MACKEY	33	R.I. No.1997/01220003121		02-04328	10,400 S.F. 0.239 Ac.	0	0	0	0	NONE		10,400 S.F.		LOT NO. 24935 & 24936 - CITY OF CANTON		
35	CARL & ELIZABETH DAYTON	33	R.I. No.1995/01060000575 O.R. 1762	383	02-08109	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24934 - CITY OF CANTON		
36	CARL & ELIZABETH DAYTON	33	R.I. No.1995/01060000575 O.R. 1762	383	02-08110	5,200 S.F. 0.119 Ac.	0	0	0	0	NONE		5,200 S.F.		LOT NO. 24933 - CITY OF CANTON		
37	CARL & ELIZABETH DAYTON	33	R.I. No.1995/01060000575 O.R. 1762	383	02-08108	5,850 S.F. 0.134 Ac.	0	0	0	0	NONE		5,850 S.F.		LOT NO. 24930 - CITY OF CANTON		

* DENOTES RIGHT OF WAY ENCROACHMENT

REVISIONS

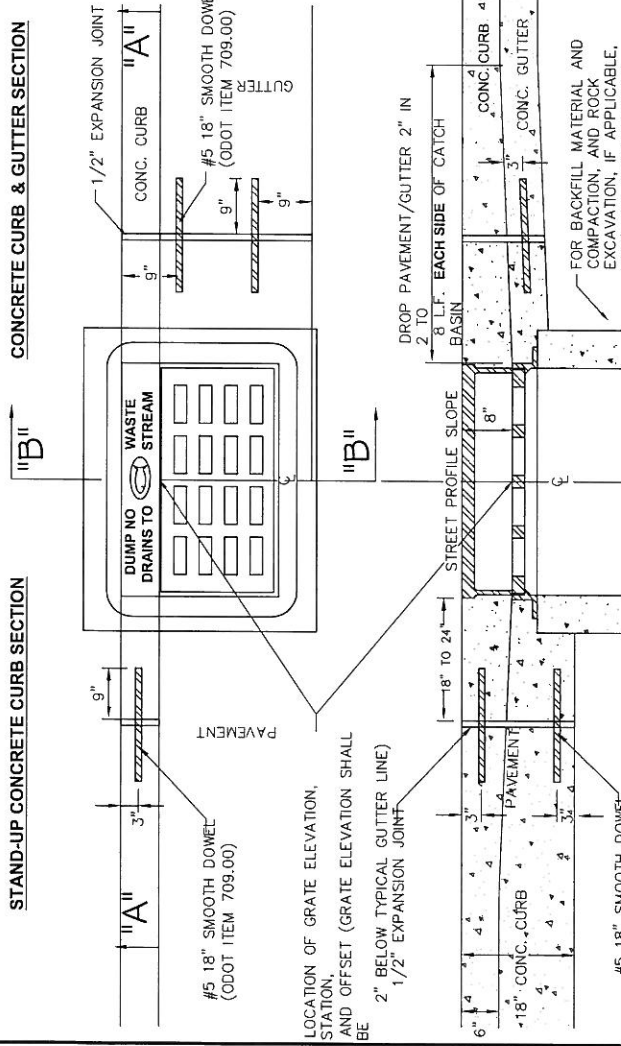
 **COOPER & ASSOCIATES, LLP**
ENGINEERS AND SURVEYORS
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HAMILTON AVE. N.E. IMPROVEMENTS
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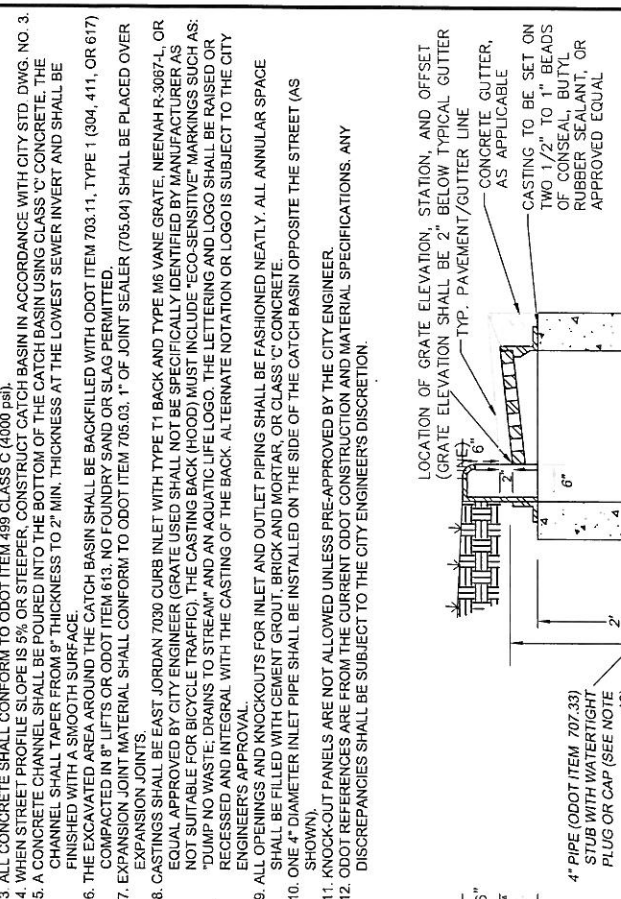
DRAWN BY: SDH
CHECKED BY: BJA
DATE: SEPTEMBER 2011
SHEET 37 OF 46
PROJ# 11161

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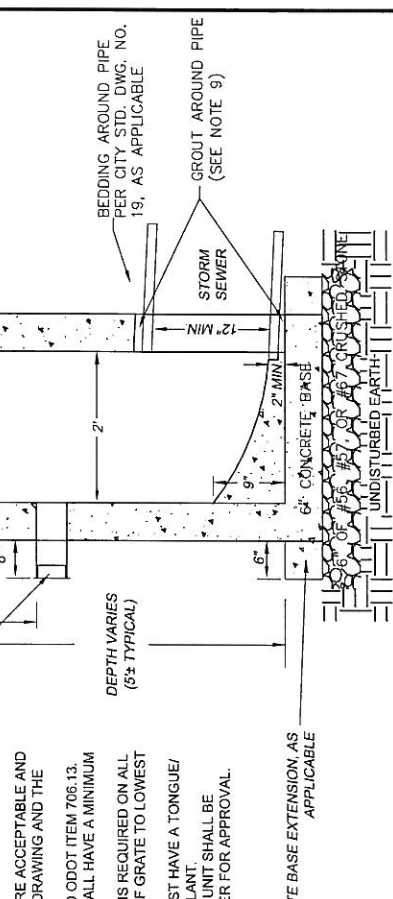
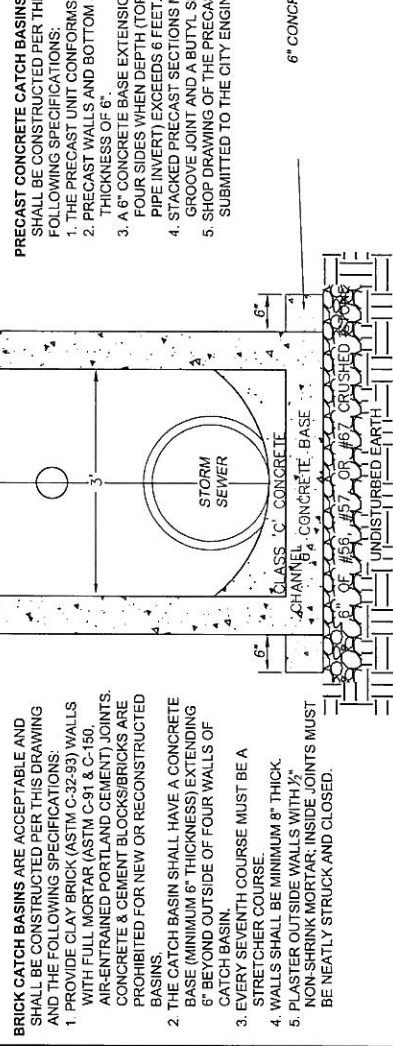
PLAN VIEW
NOT TO SCALE



STAND-UP CONCRETE CURB SECTION
NOT TO SCALE



NOTES:
1. ALL WORK SHALL CONFORM TO ODOT ITEM 604 EXCEPT AS OTHERWISE NOTED HEREIN.
2. PRECAST CONCRETE OR BRICK CATCH BASINS ARE ALLOWED AS NOTED HEREIN.
3. ALL CONCRETE SHALL CONFORM TO ODOT ITEM 499 CLASS C (4000 psi)
4. WHEN STREET PROFILE SLOPE IS 5% OR STEEPER, CONSTRUCT CATCH BASIN IN ACCORDANCE WITH CITY STD. DWG. NO. 3.
5. A CONCRETE CHANNEL SHALL BE POURED INTO THE BOTTOM OF THE CATCH BASIN USING CLASS 'C' CONCRETE. THE CHANNEL SHALL TAPER FROM 9" THICKNESS TO 2" MIN. THICKNESS AT THE LOWEST SEWER INVERT AND SHALL BE FINISHED WITH A SMOOTH SURFACE.
6. THE EXCAVATED AREA AROUND THE CATCH BASIN SHALL BE BACKFILLED WITH ODOT ITEM 703.11, TYPE 1 (304, 411, OR 617) COMPACTED IN 8" LIFTS OR ODOT ITEM 613, NO. FOUNDRY SAND, OR SIAG PERMITTED.
7. EXPANSION JOINT MATERIAL SHALL CONFORM TO ODOT ITEM 705.03, 1" OF JOINT SEALER (705.04) SHALL BE PLACED OVER EQUAL APPROVED BY CITY ENGINEER (GRATE USED SHALL NOT BE SPECIFICALLY IDENTIFIED BY MANUFACTURER AS NOT SUITABLE FOR BICYCLE TRAFFIC). THE CASTING BACK (HOOD) MUST INCLUDE "ECO-SENSITIVE" MARKINGS SUCH AS "DUMP NO WASTE, DRAINS TO STREET" AND AN AQUATIC LIFE LOGO. THE LETTERING AND LOGO SHALL BE RAISED OR RECESSED AND INTEGRAL WITH THE CASTING OF THE BACK. ALTERNATE NOTATION OR LOGO IS SUBJECT TO THE CITY ENGINEER'S APPROVAL.
8. ALL OPENINGS AND KNOCKOUTS FOR INLET AND OUTLET PIPING SHALL BE FASHIONED NEATLY. ALL ANNULAR SPACE SHALL BE FILLED WITH CEMENT GROUT, BRICK AND MORTAR, OR CLASS 'C' CONCRETE.
9. ONE 1/2" DIA. INLET PIPE SHALL BE INSTALLED ON THE SIDE OF THE CATCH BASIN OPPOSITE THE STREET (AS SHOWN).
10. KNOCKOUT PANELS ARE NOT ALLOWED UNLESS PRE-APPROVED BY THE CITY ENGINEER.
11. ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.



SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

FOR BACKFILL MATERIAL AND COMPACTATION, AND ROCK EXCAVATION, IF APPLICABLE, REFER TO CITY STANDARD DRAWING NO. 19.

PRECATCH CONCRETE CATCH BASINS ARE ACCEPTABLE AND SHALL BE CONSTRUCTED PER THIS DRAWING AND THE FOLLOWING SPECIFICATIONS:

1. THE PRECAST UNIT CONFORMS TO ODOT ITEM 706.13.
2. PRECAST WALLS AND BOTTOM SHALL HAVE A MINIMUM THICKNESS OF 6".
3. A 6" CONCRETE BASE EXTENSION IS REQUIRED ON ALL FOUR SIDES WHEN DEPTH (TOP OF GRATE TO LOWEST PIPE INVERT) EXCEEDS 6 FEET.
4. STACKED PRECAST SECTIONS MUST HAVE A TONGUE/GROOVE JOINT AND A BUTYL SEALANT.
5. SHOP DRAWING OF THE PRECAST UNIT SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.

6" CONCRETE BASE EXTENSION AS APPLICABLE

STANDARD DRAWING NO. 1
CURB INLET CATCH BASIN
SHEET 1 OF 1

APPROVED DATE: MAR. 2012

APPROVED BY: CDB, RMB, SLH

DRAWING FILE NAME: ce_01.dwg

REVISIONS	DESCRIPTION	DATE	BY

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
4436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: JAN 2012

APPROVED BY: CDB, RMB, SLH

DRAWING FILE NAME: ce_10.dwg

OFFICE OF THE CITY ENGINEER
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CITY OF CANTON STANDARD DRAWINGS
HAMILTON AVE. N.E. IMPROVEMENTS
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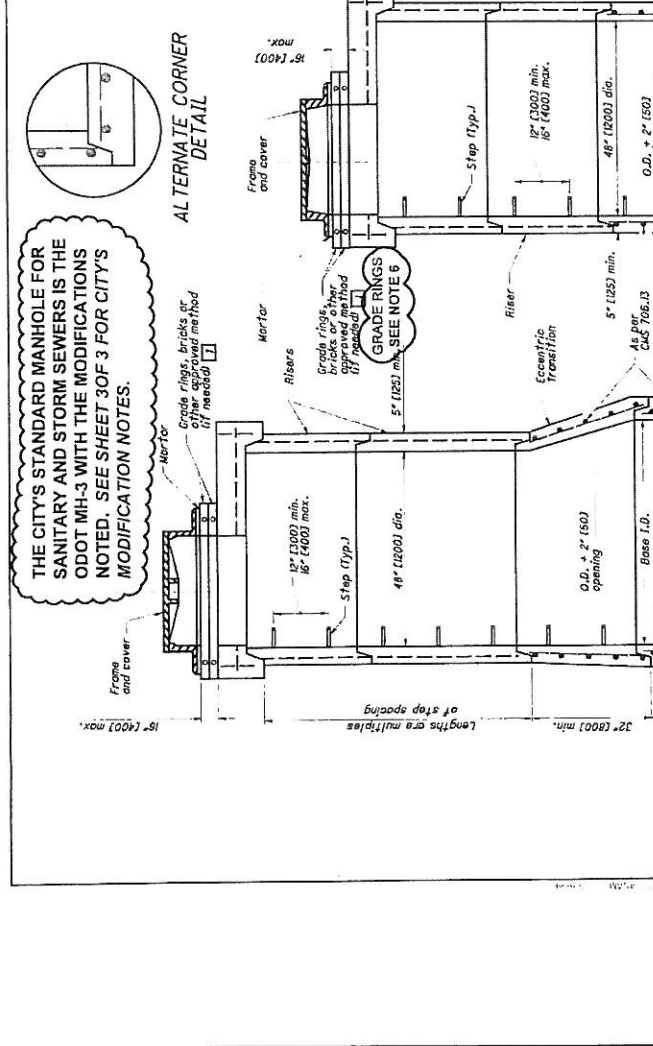
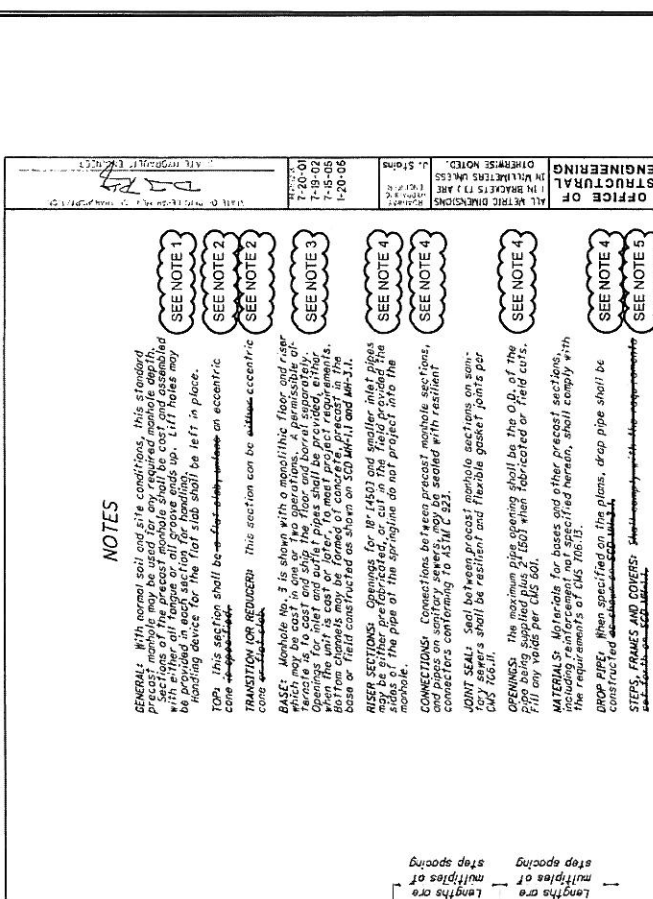
DRAWN BY: SDH
CHECKED BY: BJA
DATE: JULY 2012
SHEET 39 OF 46
PROJ # 11161

REVISIONS

NO.	DATE	DESCRIPTION

STANDARD DRAWING NO. 10
PRECAST STORM OR
SANITARY MANHOLE
SHEET 1 OF 3

COOPER & ASSOCIATES, LLP
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1359 MARKET AVENUE NORTH CANTON, OHIO 44714



THE CITY'S STANDARD MANHOLE FOR SANITARY AND STORM SEWERS IS THE ODOT MH-3 WITH THE MODIFICATIONS NOTED. SEE SHEET 30F 3 FOR CITY'S MODIFICATION NOTES.

ALTERNATE CORNER DETAIL

SECTION VIEWS OF REINFORCED PRECAST MANHOLES

FOR 30" (1500) AND SMALLER PIPE

FOR 48" (1200) PRECAST BASE

FOR 60" TO 108" (1500 TO 2750) PRECAST BASE

SEE TABLE FOR MAXIMUM PIPE SIZES

MAXIMUM PIPE SIZES

BASE I.D.	MIN. #"	MAX. PIPE SIZE
60" (1500)	5" (125)	36" (900)
72" (1800)	6" (150)	48" (1200)
84" (2100)	7" (175)	54" (1350)
96" (2400)	8" (200)	66" (1650)
108" (2700)	9" (225)	72" (1800)

LEGEND

- Accession to grade only. Approved materials are kept on file by the office for periodic management.

NOTES

- GENERAL: With recent soil and site conditions, this standard manhole may be used for any required manhole depth. Sections of the precast manhole shall be cast and assembled in place. Cast in place concrete shall be used for the top 12" of the manhole. The remaining cast in place concrete shall be left in place.
- TRANSITION FOR REDUCER: This section can be used for an eccentric base. Manhole No. 3 is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible opening for inlet and outlet pipes shall be provided, either above or below the manhole. The base of the manhole shall be constructed as shown on STD 30F 3 and MH-3.1.
- RISER SECTIONS: Openings for 18" (450) and smaller inlet pipes may be either pre-attached, or cut in the field provided the manhole is reinforced with steel. Connections between precast manhole sections, and bases on sanitary sewers, may be sealed with resilient connectors conforming to ASTM C 933.
- JOINT SEAL: Seal between precast manhole sections on sanitary sewers shall be resilient and flexible gasket joints per CDB 1601.
- OPENINGS: The maximum pipe opening shall be the O.D. of the pipe. Fill only voids per CDB 601.
- MATERIALS: Materials for bases and other precast sections, including reinforcement, not specified herein, shall comply with the requirements of CDB 106.3.
- DROP PIPE: When specified on the plans, drop pipe shall be constructed as shown on STD 30F 3.1.
- STEPS, FRAMES AND COVERS: Steps, frames and covers shall be constructed as shown on STD 30F 3.1. Top slab rebar: Reinforcing steel used within the top slab shall be epoxy coated.

STANDARD DRAWING NO. 10
PRECAST STORM OR
SANITARY MANHOLE
SHEET 1 OF 3

APPROVED DATE: JAN 2012

APPROVED BY: CDB, RMB, SLH

DRAWING FILE NAME: ce_10.dwg

OFFICE OF THE CITY ENGINEER
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4436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

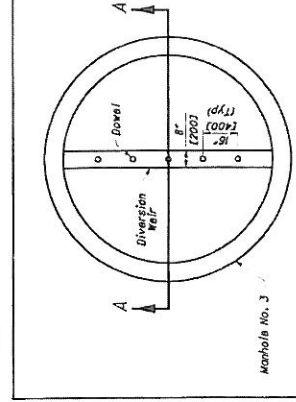
CITY OF CANTON STANDARD DRAWINGS
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REVISIONS

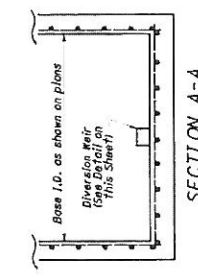
NO.	DATE	DESCRIPTION

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMAN
JEROLD E. GEBB
PHONE (330) 452-5731
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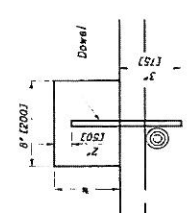
DRAWN BY: SDH
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DATE: JULY 2012
SHEET 39 OF 46
PROJ # 11161



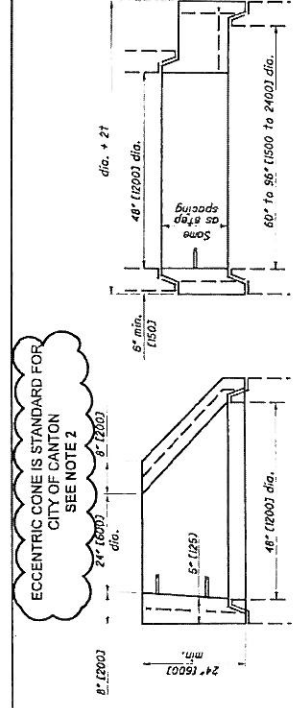
MANHOLE NO. 3 W/
BASE I.D. AND WEIR
(NTS)



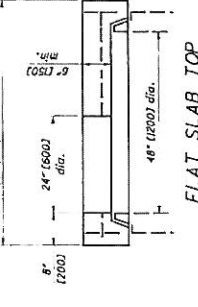
SECTION A-A
(NTS)



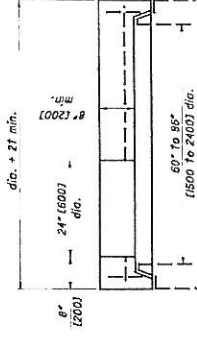
* Furnish weir height as shown in plans.
DIVERSION WEIR DETAIL
(NTS)



ALTERNATE
ECCENTRIC CONE TOP
(NTS)



FLAT SLAB TOP
ONLY IF SPECIFIED
SEE NOTE 2



FLAT SLAB TOP
ONLY IF SPECIFIED
SEE NOTE 2

FLAT SLAB TRANSITION
ONLY IF SPECIFIED
SEE NOTE 2

NOTES

MANHOLE NO. 3 W/
BASE I.D. AND WEIR - DIVERSION WEIR
STRUCTURE SHALL BE CONSTRUCTED WITH
BRICK AND MORTAR (SEE DETAIL ON THIS SHEET) OR
CONCRETE (SEE DETAIL ON THIS SHEET) WITH
A DIVERSION WEIR AS SPECIFIED ON THE PLANS.

Place diversion weir perpendicular to flow of flowing
trunk sewer. Dovel concrete or masonry units in the
diversion weir shall be set in place with mortar
and set in place in a shop-dried condition.
The diversion weir and space 18'-1400' on center across
the entire weir.

All materials and labor, including excavation and backfill,
shall be provided by the contractor for the
MANHOLE NO. 3 WITH BASE I.D. AND WEIR.

THE CITY'S STANDARD MANHOLE FOR
SANITARY AND STORM SEWERS IS THE
ODOT MH-3 WITH THE MODIFICATIONS
NOTED. SEE SHEET 30F-3 FOR CITY'S
MODIFICATION NOTES.



OFFICE OF THE CITY ENGINEER
CANTON, OHIO
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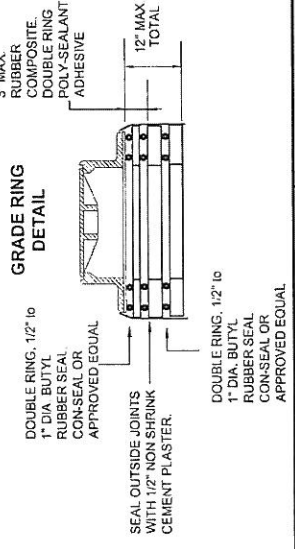
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STANDARD DRAWING NO. 10
PRECAST STORM OR
SANITARY MANHOLE
SHEET 2 OF 3

CANTON CONSTRUCTION STANDARDS NOTES FOR MODIFIED ODOT MANHOLE 3 (SCD MH-1.2)

- NOTE 1. LIFT HOLES INSIDE THE MANHOLES MUST BE SEALED WITH GROUT.
- NOTE 2. TOP AND TRANSITION SECTIONS MUST BE ECCENTRIC CONE ONLY. USE FLAT SLAB FOR SHALLOW MANHOLE APPLICATIONS OR SPECIAL CIRCUMSTANCES AS DIRECTED BY THE CITY.
- NOTE 3. 6" EXTENDED BASE IS STANDARD FOR ALL SANITARY AND STORM MANHOLES. SET MANHOLE BASE ON 6" OF AASHTO M 43 NO. 56, 57, OR 62 CRUSHED STONE SET ON UNDISTURBED EARTH.
- NOTE 4. PIPE CONNECTIONS INTO THE MANHOLES MUST NOT EXTEND INTO THE MANHOLE MORE THAN 2" AT THE SIDES OF THE PIPE AT THE SPRING-LINE OF SAID PIPE.
SANITARY CONNECTIONS
SANITARY SEWER PIPE INLETS, WITH FLOWLINES MORE THAN 2' HIGHER THAN THE CHANNEL BENCH MUST BE OUTSIDE DROP CONNECTIONS. DROP CONNECTIONS MUST BE FABRICATED AND CAST INTEGRALLY WITH THE MANHOLE SECTIONS OR INSTALLED PER CITY STANDARD DWG. 11. OUTSIDE DROP CONNECTION FOR SANITARY MANHOLES. NO INSIDE DROPS PERMITTED FOR PRIVATE SEWER CONNECTIONS. INSIDE DROP FOR CITY-OWNED SEWERS ARE SUBJECT TO THE CITY ENGINEER'S APPROVAL.
SANITARY PIPE INLETS MUST BE FLUMED OVER THE BENCH, DIRECTING FLOW INTO THE CHANNEL. USING CONCRETE AND/OR CLAY SEWER BRICK AND MORTAR.
CAST OPENINGS MUST BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 2 INCHES WITH A BUTYL RUBBER A-LOK, X-GEL GASKET, OR APPROVED EQUAL.
- NOTE 5. CORED OPENINGS MUST BE MACHINE CORED. THE OPENING SHALL BE PER PIPE-TO-MANHOLE CONNECTOR SPECS. USE "KOR-N-SEAL" FLEXIBLE PIPE-TO-MANHOLE CONNECTOR WITH STAINLESS WEDGE ASSEMBLY OR APPROVED EQUAL CONFORMING TO ASTM C-930 OR ASTM C-923.
STORM CONNECTION
OPENINGS FOR STORM PIPE INLETS MAY BE CAST OR MACHINE CORED. OPENINGS SHALL NOT EXCEED THE O.D. OF PIPE + 2" MAKE WATER-TIGHT JOINTS WITH NON-SHRINK CEMENT OR CLASS 'C' CONCRETE APPLIED FROM INSIDE AND OUTSIDE OF MANHOLE.
STEPS SHALL BE 1/2" STEEL REINFORCED POLYPROPYLENE STEPS 12" W X 5-3/4" BY AMERICAN STEP CO., INC. OR APPROVED EQUAL, MEETING ASTM 478.
FRAMES AND COVER SHALL CONFORM WITH CITY OF CANTON STD. DWG. NO. 12.

- NOTE 6. GRADE RINGS FOR NEW MANHOLES MAY BE PRECAST CONCRETE, RUBBER COMPOSITE, OR CLAY BRICK AND MORTAR. CONCRETE BRICK IS NOT PERMITTED.
HEIGHT OF GRADE RINGS COLLECTIVELY SHALL NOT EXCEED 12".
PRECAST CONCRETE GRADE RINGS MUST BE REINFORCED CLASS 'C' CONCRETE AND CONNECTED USING TWO CONCENTRIC RINGS OF 1/2" TO 1" BEADS OF BUTYL RUBBER SEALANT CON-SEAL OR APPROVED EQUAL. SEAL OUTSIDE JOINTS WITH 1/2" NON SHRINK CEMENT PLASTER.
RUBBER COMPOSITE GRADE RINGS MUST BE "INFRA-RISER" BY EJIW OR APPROVED EQUAL, AND CONNECTED USING TWO PARALLEL BEADS OF POLY-SEALANT ADHESIVE PER MANUFACTURER RECOMMENDATION. RUBBER COMPOSITE GRADE RINGS HEIGHT MUST NOT EXCEED 3" AND MUST BE PLACED DIRECTLY UNDER MANHOLE FRAME.
BRICK AND MORTAR RINGS MUST BE BELDEN BRICK, FINE GRIND, ASTM C32-90, OR APPROVED EQUAL WITH HIGH STRENGTH, AIR ENTRAINED MORTAR. SEAL OUTSIDE JOINTS WITH 1/2" NON SHRINK CEMENT PLASTER.
USE TWO PARALLEL 3/4" BEADS OF BUTYL RUBBER SEALANT CON-SEAL OR APPROVED EQUAL, BETWEEN GRADE RINGS OF DIFFERENT MATERIAL AND BETWEEN GRADE RINGS AND MANHOLE FRAME.
FOR BACKFILL MATERIAL AND COMPACTION, AND ROCK EXCAVATION, IF APPLICABLE, REFER TO CITY STD. DWG. NO. 19.
SANITARY MANHOLES TO BE TESTED ACCORDING TO CITY ENGINEER'S SPECIFICATION 04-01 (NEGATIVE AIR PRESSURE TEST).



OPTIONAL MANHOLE BID ITEMS

ITEM	QTY.	UNIT	DESCRIPTION	OPTION "A"
604		Y.F.	MH WATERPROOFING, COAL TAR, A.P.P.	

IF REQUESTED BY THE CITY ENGINEER, OR SPECIFIED IN THE PLAN, THE CONTRACTOR SHALL PROVIDE UNIT PRICE FOR WATERPROOFING THE EXTERIOR OF DESIGNATED MANHOLES. THIS ITEM IS "CITY OPTIONAL" AND THE PRICE IS PAID PER VERTICAL FOOT OF EACH MANHOLE WATERPROOFED AS DIRECTED BY THE ENGINEER. THIS OPTION IS A CONTINGENCY BID ITEM UNLESS SPECIFIED OTHERWISE.
APPLY IN THE FIELD A COAL TAR EPOXY TO THE OUTSIDE OF THE MANHOLE PER MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS FROM THE TOP OF THE EXTENDED BASE TO THE BOTTOM OF THE MANHOLE COVER CASTING.

ITEM	QTY.	UNIT	DESCRIPTION	OPTION "B"
604		EACH	NEW MH, POLYMER LINING, A.P.P.	
604		Y.F.	EXISTING MH, POLYMER LINING, A.P.P.	

IF REQUESTED BY THE CITY ENGINEER, OR SPECIFIED IN THE PLAN, THE CONTRACTOR SHALL PROVIDE UNIT PRICE FOR CORROSION RESISTANT POLYMER LININGS AS DESIGNATED. THIS ITEM IS "CITY OPTIONAL" AND THE PRICE IS PAID PER VERTICAL FOOT OR PER EACH MANHOLE LINED AS DIRECTED BY THE ENGINEER. THE UNIT COST FOR THIS ITEM INCLUDES ALL COSTS FOR LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR SUPPLYING AND INSTALLING THE LININGS INCLUDING THE COST FOR BYPASSING EXISTING SEWER FLOWS FOR THE DURATION OF THE INSTALLATION AND CURING TIME AS SPECIFIED. THIS OPTION IS INCLUDED AS A CONTINGENCY BID ITEM UNLESS SPECIFIED OTHERWISE.
APPLY IN THE FIELD A CORROSION RESISTANT POLYMER LINING (PLASITE 5371 BY CARBOLINE OR APPROVED EQUAL) TO THE INSIDE OF THE NEW OR EXISTING MANHOLE PER MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS, APPLY FROM THE TOP OF THE BENCH TO THE BOTTOM OF THE MANHOLE COVER CASTING.
FOR EXISTING MANHOLES, PRIOR TO POLYMER LINING APPLICATION, RESTORE INSIDE WALLS AS PER LINING MANUFACTURER'S RECOMMENDATIONS OR AS DIRECTED BY THE CITY ENGINEER.

THE CITY'S STANDARD MANHOLE FOR SANITARY AND STORM SEWERS IS THE ODOT MH-3 WITH THE MODIFICATIONS NOTED.

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STANDARD DRAWING NO. 10
PRECAST STORM OR
SANITARY MANHOLE
SHEET 3 OF 3

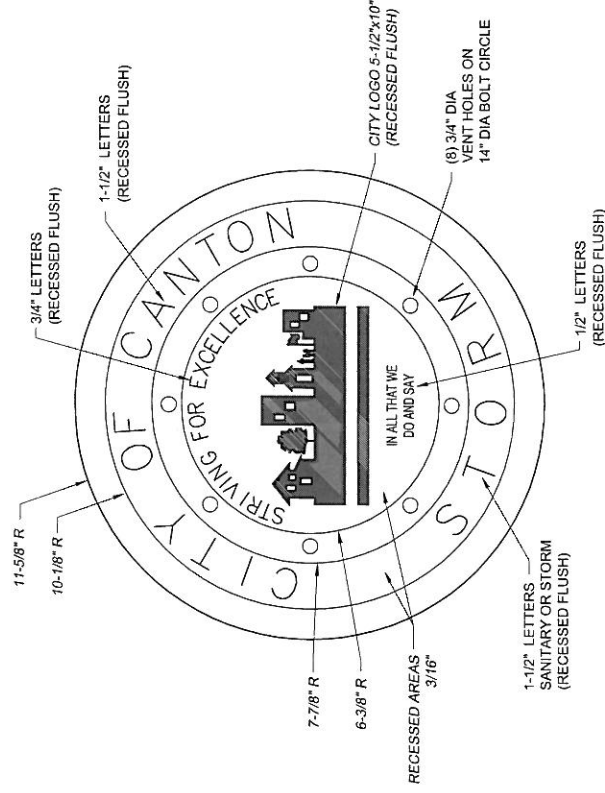
CITY OF CANTON STANDARD DRAWINGS
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON



COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
BRYAN J. ASHMAN
JEROLD E. GEIB
PHONE (330) 452-5731
FAX No. (330) 452-9110

NO.	DATE	REVISIONS

TOP OF MANHOLE COVER



NOTES:

- COVER AND FRAME TO BE CAST OF GRAY IRON IN COMPLIANCE WITH ASTM SPEC. ASTM A-48 CLASS 35 CASTINGS SHALL BE OF THE HEAVY DUTY RATING.
- EAST JORDAN 1850 B COVER (PRODUCT NO. 185028) AND 1850 FRAME, OR NEENAH R-1654 FRAME AND LID, OR EQUAL APPROVED BY CITY ENGINEER.
- MACHINE BEARING SURFACES BETWEEN LID AND FRAME.
- CONTACT CITY ENGINEER FOR CAD DRAWING OF CITY LOGO.

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STANDARD DRAWING NO. 12
MANHOLE COVER
 SHEET 1 OF 1

NOTES:

- BEDDING:**
 MATERIALS SHALL BE AASHTO M 43 (NO. 66, 67, OR 67) CRUSHED STONE. NO ALTERNATES UNLESS APPROVED BY THE CITY ENGINEER. PRIVATE UTILITIES MAY TYPICALLY PROVIDE ALTERNATIVE BEDDING MATERIAL AS APPROVED BY THE CITY ENGINEER.

PIPE TYPE	MIN. WIDTH	TYP.	MAX. WIDTH
NON-RIGID PIPE (PVC, HDPE, CMP, ALUMINUM)	PIPE I.D. x 1.25 + 1'-0"		PIPE O.D. + 2'-0"
RIGID PIPE (CONC., VIT. CLAY, DUCTILE IRON)	PIPE I.D. x 1.33		PIPE O.D. + 2'-0"

CENTER PIPE HORIZONTALLY WITHIN BEDDING AREA. ANY DEVIATION TO TYPICAL BEDDING REQUIREMENTS ARE SUBJECT TO THE DISCRETION OF THE CITY ENGINEER.

THE BEDDING LIMITS SHOWN APPLY IN ALL CASES EXCEPT FOR WHEN PIPE MANUFACTURER SPECIFIES A BEDDING WIDTH DIFFERENT FROM THAT SHOWN AND THE CITY ENGINEER PERMITS SAME.

- BACKFILL:**
BACKFILL WITHIN THE PUBLIC STREET R/W:
 MATERIALS SHALL BE ODOT 703.11, TYPE 1; GRANULAR MATERIAL (304, 411, or 617 AGGREGATE GRADATION) OR TYPE 2; GRANULAR MATERIAL OR ODOT 613, LOW STRENGTH MORTAR; DEVIATIONS FROM THIS ARE AS FOLLOWS:
 A) NO FOUNDRY SAND OR SLAG IS PERMITTED.
 B) ALTERNATE GRANULAR MATERIAL SHALL BE PERMITTED ONLY WITH THE SUPPLEMENTAL APPROVAL OF THE CITY ENGINEER. TO PETITION FOR SUCH SUPPLEMENTAL APPROVAL, THE DEVELOPER/CONTRACTOR SHALL SUBMIT IN WRITING THE FOLLOWING:
 * SOURCE OF THE ALTERNATE BACKFILL MATERIAL.
 * GRADATION REPORT IN ACCORDANCE WITH AASHTO T 11 AND T 27.
 * PROCTOR CURVE ANALYSIS IN ACCORDANCE WITH ASTM D 698.
 * PROPOSED COMPACTION METHOD.
 THE CITY ENGINEER RESERVES THE RIGHT TO REFUSE ANY ALTERNATE BACKFILL MATERIAL, REGARDLESS OF APPROVAL OF SIMILAR MATERIAL ON A PREVIOUS PROJECT.
 THE CITY ENGINEER FURTHER RESERVES THE RIGHT TO REFUSE ANY ALTERNATE BACKFILL MATERIAL THE CITY FINDS NOT CONSISTENT WITH THE APPROVED SOURCE, GRADATION REPORT, PROCTOR REPORT, OR COMPACTION METHOD.
 C) ODOT 703.11, TYPE 2, OR ALTERNATE MATERIALS ARE NOT PERMITTED WITHIN 4 FEET OF THE TRENCH SURFACE, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

BACKFILL OUTSIDE OF THE PUBLIC STREET R/W:
 FOLLOW MATERIAL AND METHODS FOR BACKFILL IN ACCORDANCE WITH ODOT 603.

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STANDARD DRAWING NO. 19
UTILITY TRENCH REQUIREMENTS
 SHEET 1 OF 2

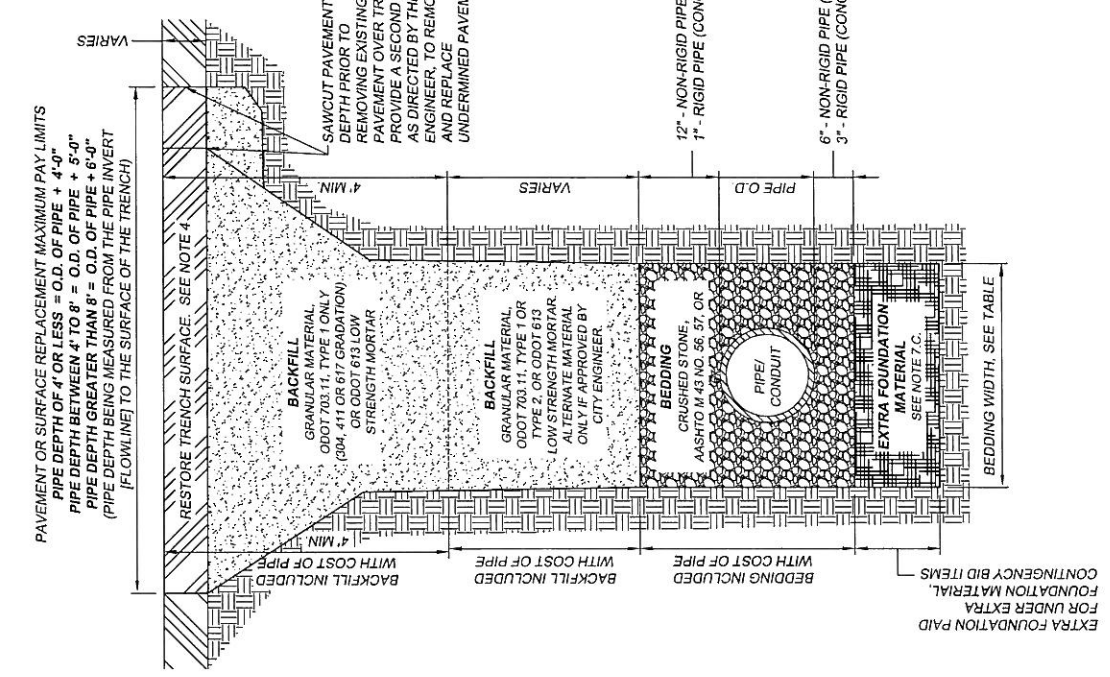
NOTES: (CONTINUED)

- COMPACTION:**
 ALL BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 12-INCHES LOOSE DEPTH AND COMPACTED BY APPROVED MECHANICAL MEANS. JETTING IS NOT APPROVED WITHOUT THE CITY ENGINEER'S APPROVAL. BUCKET COMPACTION MUST BE SUPPLEMENTED WITH VIBRATION OR TAMPING EQUIPMENT AS DIRECTED. ANY MODIFICATIONS TO THESE REQUIREMENTS MUST BE APPROVED BY THE CITY ENGINEER.

- SURFACE:**
 TRENCHES SHALL BE TOPPED WITH 4" OF ODOT 304 LIMESTONE OR ASPHALT GRINDINGS WITHIN EXISTING STREET PAVEMENTS WHEN THE STREET WILL BE OPENED TO VEHICULAR TRAFFIC PRIOR TO PAVEMENT REPLACEMENT. THE TRENCH TOPPING MATERIAL SHALL BE ROLLED OR OTHERWISE COMPLETED FLUSH WITH THE ADJOINING PAVEMENT.
 STREET RESTORATION:
 CONCRETE OR ASPHALT STREET PAVEMENT SHALL BE REPLACED IN ACCORDANCE WITH CITY STD. DWG. NO. 32. BRICK OR ASPHALT-BRICK COMPOSITE STREET PAVEMENT SHALL BE REPLACED IN ACCORDANCE WITH CITY STD. DWG. NO. 31.

- RESTORATION:**
 SIDEWALK, CURB, AND DRIVEWAY RESTORATION:
 DRIVEWAY SURFACES SHALL BE REPLACED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF CANTON SPECIFICATIONS FOR THE CONSTRUCTION, REPAIR, AND REPLACEMENT OF SIDEWALKS, CURBS, AND DRIVEWAYS. AND CITY STD. DWG. NOS. 28 THRU 33.
 LAWN RESTORATION:
 LAWN SURFACES SHALL BE REPLACED WITH A MINIMUM OF 4" TOPSOIL, SEEDED, AND MULCHED. SEED MIX SHALL CONFORM TO ADJOINING LAWN GRASS.
 12" - NON-RIGID PIPE (PVC, HDPE, CMP, ALUMINUM)
 1" - RIGID PIPE (CONCRETE, VITRIFIED CLAY, OR DUCTILE IRON)

- CONSTRUCTION METHODS FOR BEDDING AND BACKFILL SHALL CONFORM WITH ODOT 603. UNLESS STATED OTHERWISE HEREIN**
- ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.**



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 LOCATED IN THE CITY OF CANTON,
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NO.	DATE	DESCRIPTION
1	6/2/2012	CDB

NO.	DATE	DESCRIPTION
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NOTES: (CONTINUED)

7. **PAY LIMITS**
 - A) **BEDDING AND BACKFILL IS INCLUDED IN WITH THE COST OF PIPE** UNLESS BID OTHERWISE.
 - B) **PAVEMENT RESTORATION:** THE WIDTH MEASUREMENT OVER THE TRENCH FOR PAVEMENT RESTORATION SHALL NOT EXCEED THE OUTSIDE DIAMETER (O.D.) OF PIPE PLUS A SET MEASUREMENT DEPENDENT ON DEPTH OF PIPE. AREA MEASUREMENTS AT MANHOLE AND CATCH BASIN STRUCTURES SHALL NOT EXCEED THE AREA OF THE BASE OF THE STRUCTURE + 3'-0" OFFSET AREA AROUND THE STRUCTURE'S BASE.
 - C) **EXTRA FOUNDATION MATERIAL:**

WHEN IN THE OPINION OF THE CITY ENGINEER, SUITABLE MATERIALS ARE ENCOUNTERED WHICH ARE UNSUITABLE FOR BEDDING FOUNDATION, SAID MATERIAL SHALL BE REMOVED BY THE CONTRACTOR TO BE REPLACED WITH SUITABLE MATERIAL.

FOR CITY PROJECTS, THE PAYABLE WIDTH OF THE EXTRA FOUNDATION MATERIAL SHALL NOT EXCEED THE LESSER OF THE APPLICABLE MINIMUM OR MAXIMUM TYPICAL BEDDING WIDTH, AS NOTED ON SHEET 1 OF STD. DWG. NO. 19. THE CONTRACTOR SHALL BE PAID FOR OVER-EXCAVATION AND BEDDING FOUNDATION MATERIAL UNDER THE CONTINGENCY BID ITEMS FOR EXTRA FOUNDATION MATERIAL.

FOR PRIVATE WORK, ALL COSTS ARE AT THE OWNER'S EXPENSE.

EXTRA FOUNDATION MATERIAL, OPTION A, B, C, & D, MAY BE USED IN ANY COMBINATION AS DIRECTED BY THE CITY ENGINEER:

 - OPTION A. CRUSHED STONE, AASHTO M 43 NO. 1 AND/OR 2
 - OPTION B. CRUSHED STONE, AASHTO M 43 NO. 56, 57, OR 67
 - OPTION C. ODOT 703.11, TYPE 1 (304, 411 OR 617 GRADATION)
 - OPTION D. TENSAR GEOGRID T1100, OR APPROVED EQUAL EXTRA FOUNDATION MATERIAL, CONTINGENCY BID ITEMS

ITEM	QTY.	UNIT	DESCRIPTION
603	C.Y.	EXTRA FOUNDATION, OPTION A (#1, #2, STONE)	
603	C.Y.	EXTRA FOUNDATION, OPTION B (#56, 57, 67, STONE)	
603	C.Y.	EXTRA FOUNDATION, OPTION C (304, 411, 617)	
603	S.F.	EXTRA FOUNDATION, OPTION D (GEOGRID)	

NOTES: (CONTINUED)

8. **EXCAVATION OF ROCK OR BURIED/ABANDONED CONCRETE STRUCTURE REMOVAL**

EXCAVATION FOR NEW MANHOLES AND CATCH BASINS, UNLESS OTHERWISE SPECIFIED OR SHOWN ON CONSTRUCTION PLANS, SHALL BE MEASURED BETWEEN VERTICAL PLANES ONE (1) FOOT BEYOND THE OUTSIDE EDGE OF THE FOUNDATION OF THE STRUCTURES ON ALL SIDES AND PARALLEL THERETO, AND FROM THE SURFACE OF THE ROCK TO THE BOTTOM OF THE ROCK OR THE NEXT LINES OF THE BOTTOM OF THE STRUCTURES PLUS THE DEPTH OF THE BASE MATERIAL, USE THE MEASUREMENT WHICH IS LESSER.

EXCAVATION FOR NEW PIPES, UNLESS OTHERWISE SPECIFIED OR SHOWN ON CONSTRUCTION PLANS, SHALL BE MEASURED BETWEEN TRENCH WALLS (NOT TO EXCEED PIPE O.D. + 18", AND FROM THE SURFACE OF THE ROCK TO THE BOTTOM OF THE ROCK OR THE BOTTOM OF THE PIPE BEDDING, USE THE MEASUREMENT WHICH IS LESSER.

EXCAVATION OF BURIED AND ABANDONED CONCRETE STRUCTURES SHALL BE MEASURED IN THE SAME MANNER AS ROCK REMOVAL.

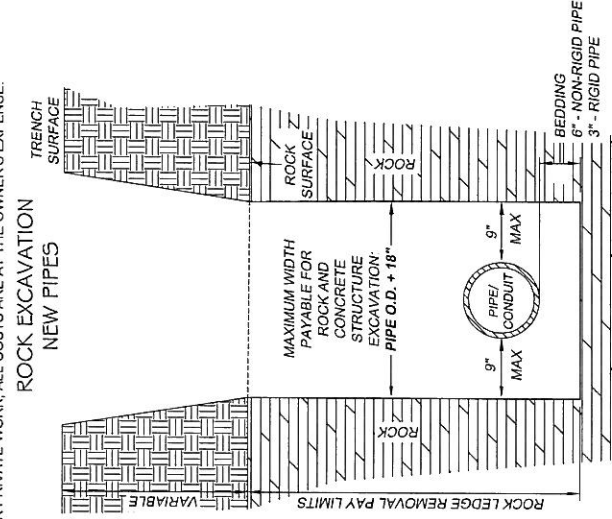
FOR CITY PROJECTS, THE CONTRACTOR SHALL BE PAID FOR ROCK REMOVAL AND CONCRETE STRUCTURE REMOVAL UNDER THE CONTINGENCY BID ITEMS FOR ROCK OR CONCRETE STRUCTURE REMOVAL. IF A CONTINGENCY BID ITEM IS NOT INCLUDED IN THE BID PROPOSAL, THE CONTRACTOR MAY SUBMIT A PROPOSAL (PRIOR TO WORK BEING STARTED) TO THE CITY ENGINEER FOR REVIEW AND APPROVAL.

FOR PRIVATE WORK, ALL COSTS ARE AT THE OWNERS EXPENSE.

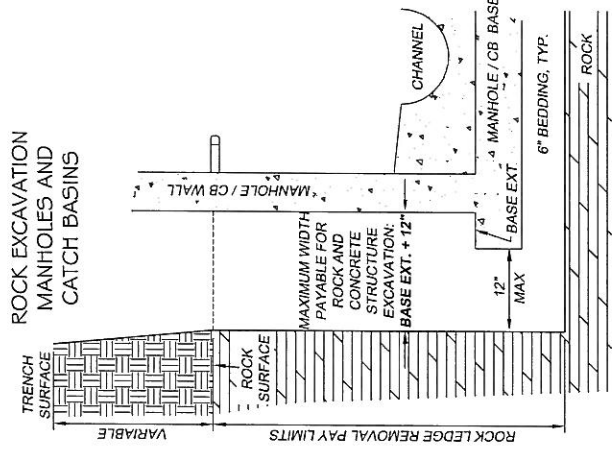
ROCK AND BURIED & ABANDONED CONCRETE STRUCTURE REMOVAL, CONTINGENCY BID ITEMS

ITEM	QTY.	UNIT	DESCRIPTION
603		C.Y.	ROCK REMOVAL
603		C.Y.	CONCRETE STRUCTURE REMOVAL

ROCK EXCAVATION NEW PIPES



ROCK EXCAVATION MANHOLES AND CATCH BASINS



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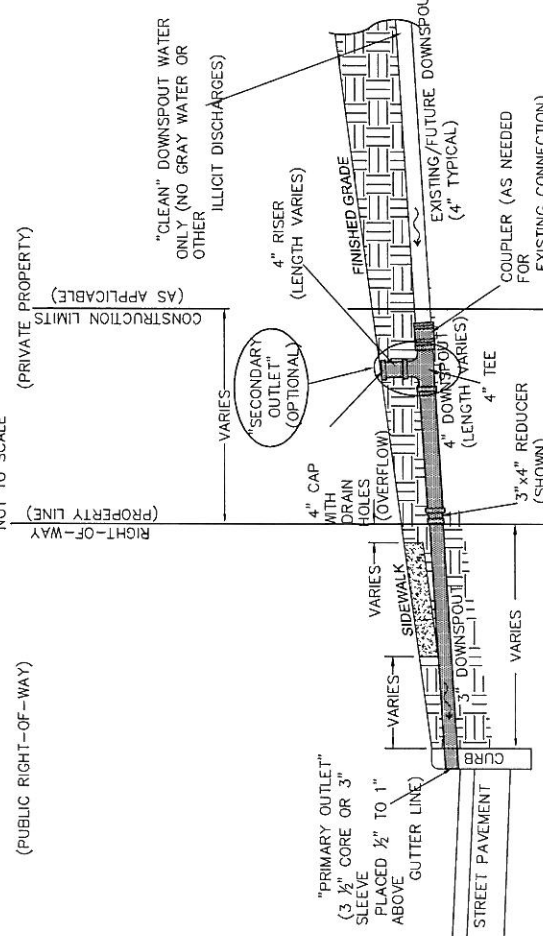
**STANDARD DRAWING NO. 19
UTILITY TRENCH REQUIREMENTS**
SHEET 2 OF 2



PLAN VIEW
NOT TO SCALE



PROFILE VIEW
NOT TO SCALE



ITEMS, MATERIALS, AND QUANTITIES PER RESIDENTIAL DOWNSPOUT OUTLET

ITEM	MATERIAL TYPE	QUANTITY	UNIT
3" DOWNSPOUT	PVC SCH. 40 (707.43 OR 707.45)	VARIES	FT.
3" CAP (AS NEEDED)	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	1	EACH
3"x4" REDUCER (AS NEEDED)	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	1	EACH
4" DOWNSPOUT (AS NEEDED)	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	VARIES	FT.
4" TEE (OPTIONAL), CONTINGENCY	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	1	EACH
4" CAP WITH DRAIN HOLES (OPTIONAL), CONTINGENCY	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	VARIES	FT.
COUPLER (AS NEEDED)	NEOPRENE WITH STAINLESS STEEL CLAMPS	1	EACH

- NOTES:**
1. FOR CITY PROJECTS: WHERE THERE ARE EXISTING DOWNSPOUTS WITHIN CONSTRUCTION LIMITS, CONTRACTOR SHALL INSTALL 3" DOWNSPOUT WITHIN PUBLIC RIGHT-OF-WAY AS DIRECTED OR AS INDICATED ON PLANS. AS NEEDED, CONTRACTOR SHALL INSTALL A 3"x4" REDUCER, 4" DOWNSPOUT, AND COUPLER TO CONNECT TO EXISTING DOWNSPOUTS. THE SECONDARY OUTLET (TEE, RISER, 4" CAP WITH HOLES) IS OPTIONAL AND SHALL BE CONSTRUCTED ONLY AS DIRECTED. IF DOWNSPOUT CONTAINS GROUNDWATER FLOWS, SEE NOTE 11. APPROPRIATE QUANTITIES, PAY ITEMS, AND NOTES SHALL BE PROVIDED ON THE CONSTRUCTION PLANS.
 2. DOWNSPOUT WITHIN PUBLIC RIGHT-OF-WAY IS REQUIRED WHERE APPLICABLE. THE CONFIGURATION, ITEMS, AND MATERIALS SHOWN FOR NEW SUBDIVISIONS AND PRIVATE WORK: HOMEOWNER/BUILDER IS RESPONSIBLE FOR CONSTRUCTING DOWNSPOUT OUTLET. THE 3" DOWNSPOUT WITHIN PUBLIC RIGHT-OF-WAY ARE RECOMMENDED UNLESS OTHERWISE REQUIRED BY THE CITY ENGINEER AS A CONDITION FOR ISSUING APPLICABLE PERMITS. IF DOWNSPOUT CONTAINS GROUNDWATER FLOWS, SEE NOTE 11.
 3. ALL ITEMS EXCEPT THE 3" DOWNSPOUT SHALL BE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY.
 4. CONTRACTOR SHALL INSTALL A CONTROL POINT IN THE SIDEWALK OVER THE DOWNSPOUT. THE THICKNESS OF THE CONCRETE SIDEWALK OVER THE DOWNSPOUT SHALL NOT BE LESS THAN 2" OR A STEEL TROUGH OR TRENCH DRAIN MAY BE USED AS APPROVED BY THE CITY ENGINEER.
 5. ALL PIPE AND COMPONENTS OF DOWNSPOUT SYSTEM ARE PRIVATELY OWNED AND MAINTAINED.
 6. THE FOLLOWING DISCHARGE CONDITIONS APPLY:
 - A. DOWNSPOUT SHALL NOT DIRECTLY DISCHARGE OVER ANY PUBLIC SIDEWALK OF THE CITY (REF. CODIFIED ORDINANCE 1335.01)
 - B. NUISANCE IS CAUSED BY DOING SO (REF. CODIFIED ORDINANCE 903.02).
 - C. DOWNSPOUT DISCHARGES SHALL NOT CONTAIN ANY GRAY WATER OR OTHER ILLICIT DISCHARGES.
 7. A "STREET OPENING PERMIT" IS REQUIRED FROM THE ENGINEERING DEPARTMENT FOR ANY EXCAVATION WITHIN CITY RIGHT-OF-WAY OR OTHER CITY-OWNED PROPERTY (REF. CODIFIED ORDINANCE CHAPTER 809).
 8. A "SEWER CONNECTION PERMIT" IS REQUIRED FROM THE ENGINEERING DEPARTMENT FOR ANY DIRECT OR INDIRECT CONNECTION OF A PIPE TO A CITY-OWNED SEWER, CATCH BASIN, OR MANHOLE.
 9. MODIFICATIONS TO THE CONFIGURATION, ITEMS, AND MATERIALS SHOWN MAY BE ALLOWED OR REQUIRED BY THE CITY ENGINEER. FOR DOWNSPOUTS THAT ARE DIRECTED TO DISCHARGE TOWARD A CITY STREET OR DRAINAGE SYSTEM, SEE CITY STD. DWG. NO. 22.
 10. FOR DOWNSPOUTS THAT ARE DIRECTED TO DISCHARGE TOWARD A CITY STREET OR DRAINAGE SYSTEM, SEE CITY STD. DWG. NO. 22.
 11. DOWNSPOUTS SHALL BE GROUNDCONNECTED TO CATCH BASIN OR MANHOLE IF POSSIBLE. IN LIEU OF CURB OUTLET PERMITS MUST BE OBTAINED FROM THE CITY ENGINEERING DEPARTMENT AND THE WORK MUST BE INSPECTED.
 - B. IF CATCH BASIN OR MANHOLE IS UNAVAILABLE BUT STORM SEWER IS AVAILABLE FOR DOWNSPOUT PRIMARY OUTLET DIRECT CONNECTION, CONSTRUCT DOWNSPOUT OUTLET PER CITY STANDARD DRAWING NO. 24.
 - C. IF NO STORM SEWER, CATCH BASIN, OR MANHOLE IS AVAILABLE FOR DIRECT CONNECTION, DOWNSPOUT OUTLET MAY BE CONSTRUCTED PER THIS DRAWING CONTINGENT UPON SATISFYING ALL STATED DISCHARGE CONDITIONS.

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APPROVED DATE: MAR. 2012

APPROVED BY: CDB, RMB, SLH

DRAWING FILE NAME: ce_23.dwg

REVISIONS	DESCRIPTION	DATE	BY
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**STANDARD DRAWING NO. 23
DOWNSPOUT OUTLET (CURBED STREET)**
SHEET 1 OF 1



CITY OF CANTON STANDARD DRAWINGS

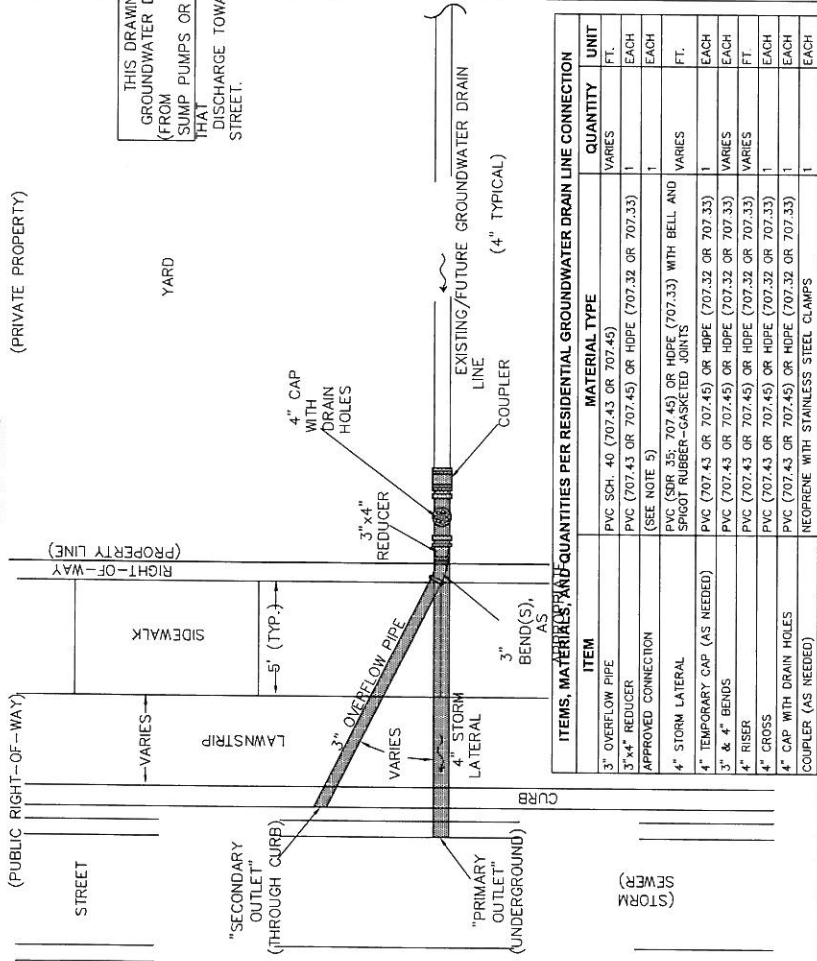
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
PHONE (330) 452-5731
FAX No. (330) 452-9110
BRYAN J. ASHMAN
JEROLD E. GEBB

REVISIONS	DEPARTMENTAL COMMENTS	DATE	BY
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PLAN VIEW

NOT TO SCALE



ITEM	MATERIAL TYPE	QUANTITY	UNIT
3" OVERFLOW PIPE	PVC SCH. 40 (707.43 OR 707.45)	VARIES	FT.
3"x4" REDUCER	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	1	EACH
APPROVED CONNECTION	(SEE NOTE 5)	1	EACH
4" STORM LATERAL	PVC (SPR. 35; 707.45) OR HDPE (707.33) WITH BELL AND SPOUT RUBBER-GASKETED JOINTS	VARIES	FT.
4" TEMPORARY CAP (AS NEEDED)	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	1	EACH
3" & 4" BEND(S)	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	VARIES	FT.
4" RISER	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	VARIES	FT.
4" CROSS	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	1	EACH
4" CAP WITH DRAIN HOLES	PVC (707.43 OR 707.45) OR HDPE (707.32 OR 707.33)	1	EACH
COUPLER (AS NEEDED)	NEOPRENE WITH STAINLESS STEEL CLAMPS	1	EACH

NOTES:

- FOR CITY PROJECTS, ONE GROUNDWATER DRAIN LINE CONNECTION SHALL BE PROVIDED FOR EACH LOT AS DIRECTED BY THE CITY ENGINEER. APPROPRIATE QUANTITIES, PAY ITEMS, AND NOTES SHALL BE PROVIDED ON THE CONSTRUCTION PLANS.
- FOR NEW SUBDIVISIONS, ONE GROUNDWATER DRAIN LINE CONNECTION SHALL BE PROVIDED FOR EACH LOT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. THE CONTRACTOR/DEVELOPER SHALL PROVIDE APPROVED CONNECTION FOR PRIMARY OUTLET, 4" STORM LATERAL, AND 4" TEMPORARY CAP ONLY. THE LOCATION OF THE 4" TEMPORARY CAP SHALL BE INDICATED BY A STAKE IN THE GROUND LOCATED VERTICALLY ABOVE THE CAP AND CLEARLY MARKED SHOWING STORM LATERAL DEPTH, APPROPRIATE SKETCHES, AND NOTES SHALL BE PROVIDED ON THE CONSTRUCTION PLANS. REMAINING PORTIONS OF CONFIGURATION ARE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER. THE CONTRACTOR/DEVELOPER SHALL BE RESPONSIBLE FOR THE COST OF THE PRIVATE WORK. THE CONFIGURATION SHOWN IS RECOMMENDED UNLESS OTHERWISE INDICATED BY THE DEVELOPER'S EXPENSE CONDITION FOR ISSUING APPLICABLE PERMITS OR ADDRESSING RESIDENTIAL GROUNDWATER DISCHARGES DEEMED TO BE A PUBLIC NUISANCE BY THE CITY ENGINEER. ALL MATERIALS AND WORK SHALL BE AT THE OWNER'S EXPENSE.
- FOR NEW OR VACANT LOTS, THE LOCATION OF THE GROUNDWATER DRAIN LINE CONNECTION SHOULD BE NEAR THE LOWEST CORNER OF THE LOT ALONG THE FRONTAGE. EXCEPTIONS MAY BE APPROVED BY THE CITY ENGINEER.
- ALL PIPE AND COMPONENTS OF GROUNDWATER DRAIN LINE SYSTEM ARE PRIVATELY OWNED AND MAINTAINED.
- THE PRIMARY OUTLET PREFERRED CONNECTION IS TO THE BACK OF A CATCH BASIN OR STORM MANHOLE (WHEN AVAILABLE ALONG FRONTAGE) AND SHALL BE MADE BY AN APPROVED CORE-AND-SEAL BOOT. FOR PRIMARY OUTLET DIRECT CONNECTION TO STORM

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APPROVED DATE: MAR. 2012
 APPROVED BY: CDB, RMB
 DRAWING FILE NAME: ce_24.dwg

REVISIONS	DESCRIPTION	DATE	BY
REVISIONS		6/4/12	CDB
REVISIONS		7/24/12	CDB

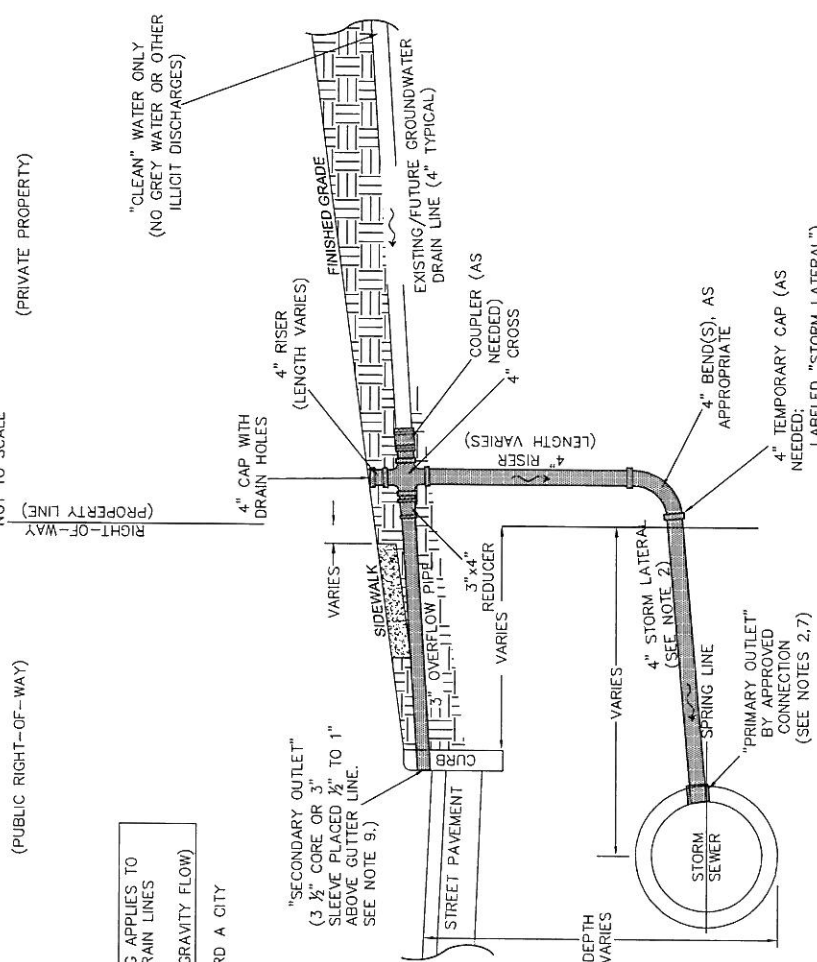
STANDARD DRAWING NO. 24

GROUNDWATER DRAIN LINE CONNECTION

SHEET 1 OF 1

PROFILE VIEW

NOT TO SCALE



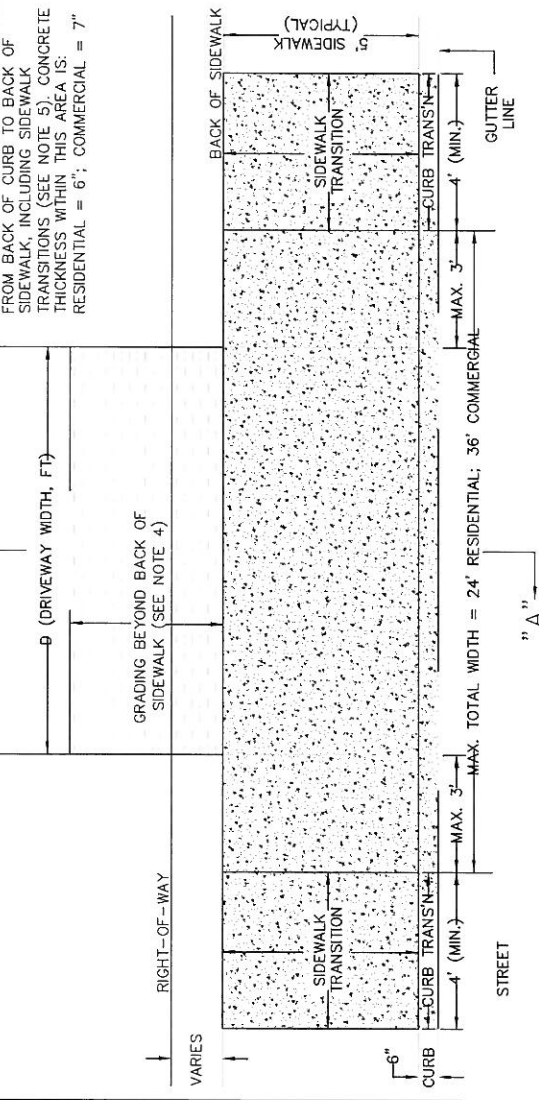
NOTES:

- SEWER, CONNECT 4" STORM LATERAL ABOVE SPRING LINE OF STORM SEWER USING APPROVED WYE OR TEE. A SADDLE, OR CORE-AND-SEAL BOOT CONNECTION AS APPROVED BY THE CITY ENGINEER USING APPROVED MATERIALS MAY BE MODIFIED TO DISCHARGE DIRECTLY TO A DITCH OR CREEK IF AVAILABLE IN LIEU OF A STORM SEWER, CATCH BASIN, OR MANHOLE.
- ONLY THE 3" OVERFLOW PIPE AND THE 4" STORM LATERAL SHALL BE WITHIN PUBLIC RIGHT-OF-WAY. ALL REMAINING ITEMS TO BE LOCATED OUTSIDE OF THE PUBLIC RIGHT-OF-WAY.
- WHEN SIDEWALK IS PRESENT/PROPOSED AND WHEN THE 3" OVERFLOW PIPE WILL BE WITHIN THE CONCRETE OF THE SIDEWALK, THE CONTRACTOR SHALL INSTALL A CONTROL JOINT IN THE SIDEWALK OVER SAID PIPE. THE THICKNESS OF THE CONCRETE SIDEWALK OVER THE DOWNSPOUT SHALL NOT BE LESS THAN 2".
- IF CURB IS NOT AVAILABLE FOR SECONDARY OUTLET, CONSTRUCT SECONDARY OUTLET TO DISCHARGE OVERLAND PER CITY STANDARD DRAWING NO. 22.
- A "STREET OPENING PERMIT" IS REQUIRED FROM THE ENGINEERING DEPARTMENT FOR ANY EXCAVATION WITHIN CITY RIGHT-OF-WAY OR OTHER CITY-OWNED PROPERTY (REF. CODIFIED ORDINANCE CHAPTER 909).
- SEWER CONNECTIONS TO BE APPROVED BY THE ENGINEERING DEPARTMENT FOR ANY DIRECT OR INDIRECT CONNECTION OF PIPE TO EXISTING STORM SEWER.
- MODIFICATIONS TO THE CONFIGURATION, ITEMS, AND MATERIALS SHOWN MAY BE ALLOWED OR REQUIRED BY THE CITY ENGINEER.
- FOR OUTLET CONFIGURATIONS OF DOWNSPOUTS THAT DO NOT DISCHARGE GROUNDWATER, SEE CITY STD. DWGS. NO. 22 AND 23.



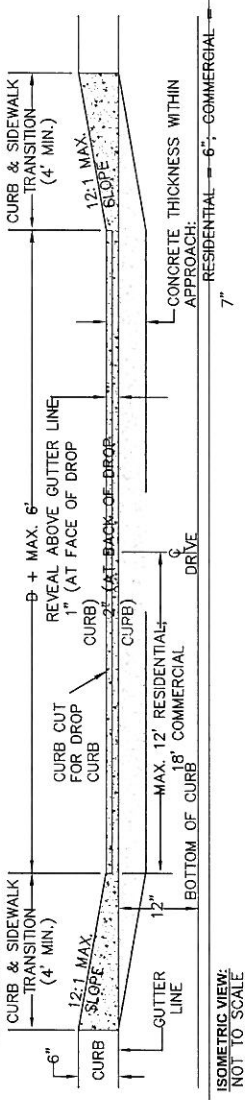
PLAN VIEW

NOT TO SCALE



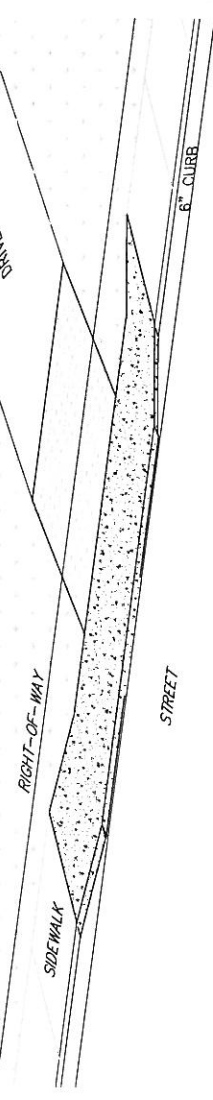
PROFILE VIEW (ALONG CURB)

NOT TO SCALE



ISOMETRIC VIEW:

NOT TO SCALE

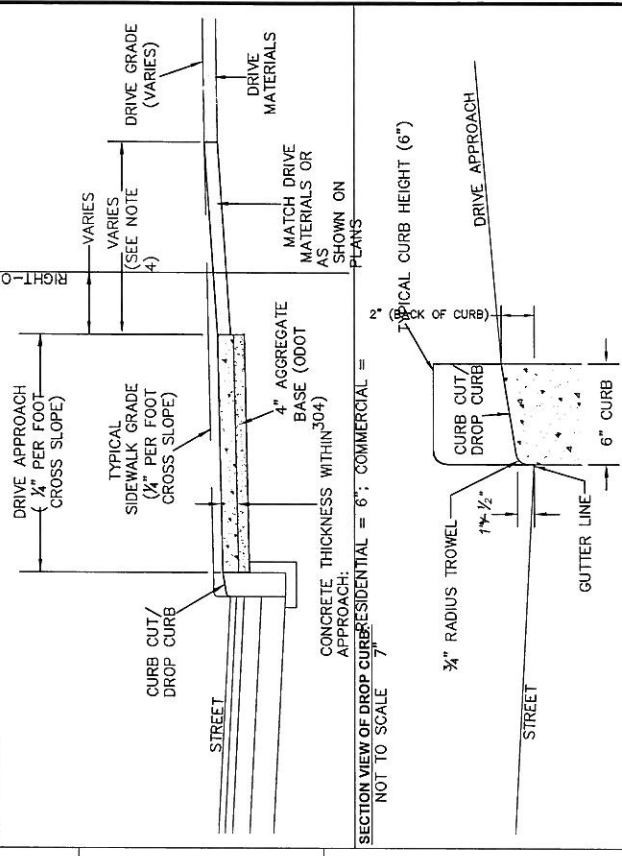


NOTES:

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

SECTION A-A:

NOT TO SCALE



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APPROVED DATE: MAR. 2012
 APPROVED BY: CDB, RMB, SLH
 DRAWING FILE NAME: ce_28.dwg

REVISIONS	DESCRIPTION	DATE	BY
REVISIONS	NOTE MODIFICATIONS	4/10/12	CDB
REVISIONS	MINOR FORMAT EDIT	6/4/12	CDB
REVISIONS	NOTE MODIFICATIONS	7/23/12	CDB

STANDARD DRAWING NO. 28

DRIVE APPROACH WITH SIDEWALK AGAINST CURB

SHEET 1 OF 1

DRAWN BY: SDH
 CHECKED BY: BJA
 DATE: JULY 2012

SHEET 43 OF 46
 PROJ. # 11161

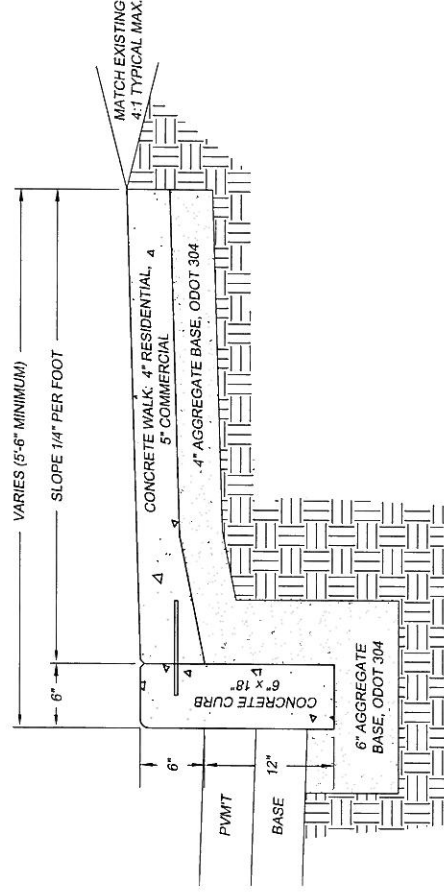
CITY OF CANTON STANDARD DRAWINGS
HAMILTON AVE. N.E. IMPROVEMENTS
 LOCATED IN THE CITY OF CANTON,
 STARK COUNTY, OHIO
 FOR: CITY OF CANTON



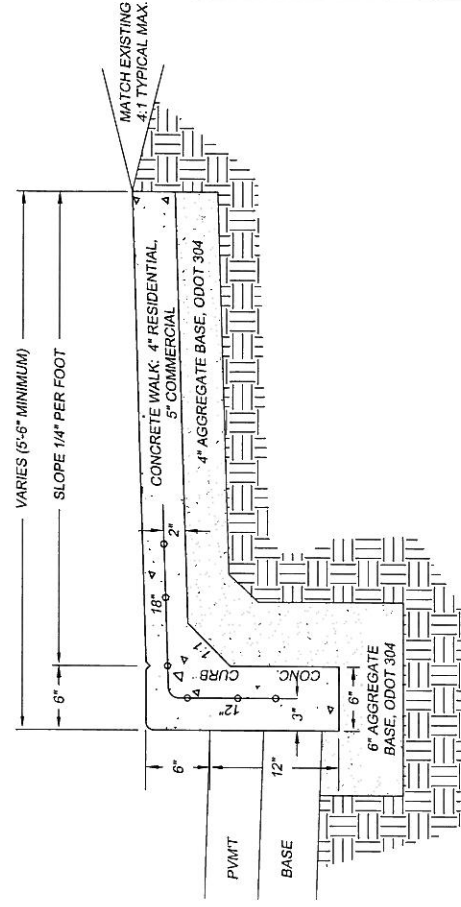
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 1359 MARKET AVENUE NORTH CANTON, OHIO 44714

REVISIONS	DEPARTMENTAL COMMENTS	RAF

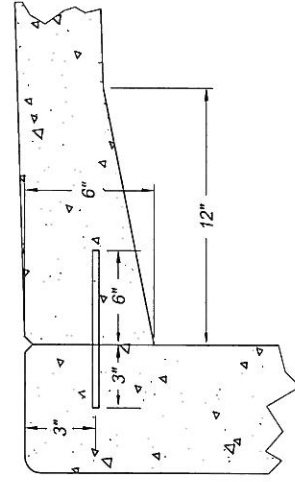
**TYPE A
CONCRETE WALK
ADJACENT TO CURB**



**TYPE B
INTEGRAL CONCRETE
WALK AND CURB**



DETAIL "A"



NOTES:

1. CURB AND WALK CONSTRUCTION MUST TO CONFORM TO ODOT 609 AND 608, CITY STANDARD DRAWING 30, AND THE CURRENT CITY OF CANTON SPECIFICATIONS FOR THE CONSTRUCTION, REPAIR, AND REPLACEMENT OF SIDEWALKS, CURBS, AND DRIVEWAYS.
2. CONCRETE MATERIAL FOR CURB AND WALK MUST BE ODOT 489 CLASS 'C' CONCRETE WITH LIMESTONE AGGREGATE.
3. NO FOUNDRY SAND OR SLAG PERMITTED IN AGGREGATE BASE, ODOT 304.
4. CONCRETE WALK REPLACED OR INSTALLED ADJACENT TO EXISTING CONCRETE CURB MUST BE DOWELED TO THE EXISTING CURB, UNLESS DETERMINED OTHERWISE BY THE CITY ENGINEER.
5. CURB CONTRACTION JOINT MUST BE SPACED 10 FEET TYPICALLY; WALK CONTRACTION JOINTS MUST BE SPACED 5 FEET TYPICALLY, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. CURB EXPANSION JOINTS MUST BE INSTALLED AT CURB INLET CATCH BASIN AND AT ANY OTHER RIGID STRUCTURES. CURB EXPANSION AND CONTRACTION JOINTS MUST BE DOWELED WITH TWO (2) #5 THRU #8 SMOOTH BARS, 18" LONG, EXTENDING 9" INTO EACH CURB.
6. ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.



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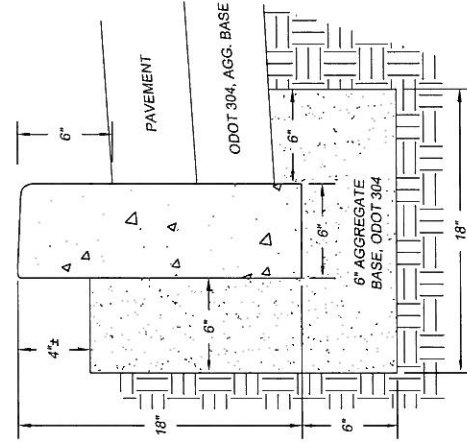
APPROVED DATE: MARCH 2012
APPROVED BY: CDB, RMB
DRAWING FILE NAME: ce_29.dwg

**STANDARD DRAWING NO. 29
COMBINED CURB & WALK**

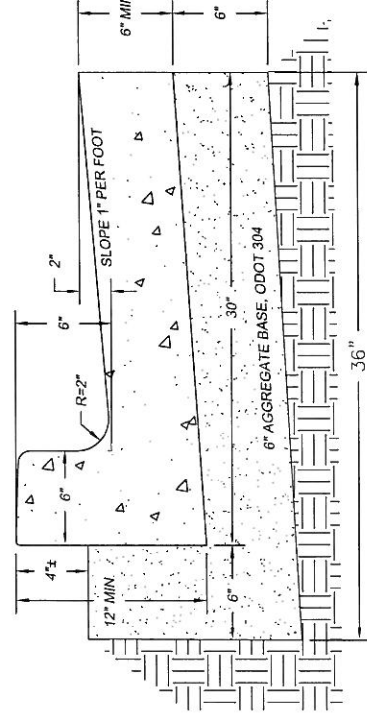
SHEET 1 OF 1

REVISIONS	
DESCRIPTION	DATE BY

**CANTON TYPE 1
STANDARD CONCRETE CURB**



**CANTON TYPE 2
STANDARD CONCRETE COMBINED
CURB & GUTTER**



NOTES:

1. CURB CONSTRUCTION MUST TO CONFORM TO ODOT 609 AND THE CURRENT CITY OF CANTON SPECIFICATIONS FOR THE CONSTRUCTION, REPAIR, AND REPLACEMENT OF SIDEWALKS, CURBS, AND DRIVEWAYS.
2. CONCRETE MATERIAL FOR CURB AND WALK MUST BE ODOT 489 CLASS 'C' CONCRETE WITH LIMESTONE AGGREGATE.
3. NO FOUNDRY SAND OR SLAG PERMITTED IN AGGREGATE BASE, ODOT 304.
4. CURB CONTRACTION JOINT MUST BE SPACED 10 FEET TYPICALLY; WALK CONTRACTION JOINTS MUST BE SPACED 5 FEET TYPICALLY, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. CURB EXPANSION JOINTS MUST BE INSTALLED AT CURB INLET CATCH BASIN AND AT ANY OTHER RIGID STRUCTURES. CURB EXPANSION AND CONTRACTION JOINTS MUST BE DOWELED WITH TWO (2) #5 THRU #8 SMOOTH BARS, 18" LONG, EXTENDING 9" INTO EACH CURB.
5. CONCRETE WALK REPLACED OR INSTALLED ADJACENT TO EXISTING CONCRETE CURB MUST BE DOWELED TO THE EXISTING CURB, UNLESS DETERMINED OTHERWISE BY THE CITY ENGINEER (SEE CITY STD. DWG. 29).
6. ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.
7. ODOT CURB TYPE 6 AND TYPE 2 (ODOT STD CONST. DWG. BP-5.1) ARE ACCEPTABLE OPTIONS RESPECTIVELY TO CITY STANDARD CURB TYPE 1 AND 2 FOR NEW ROADWAY OR CITY PROJECTS, AS APPROVED BY THE CITY ENGINEER. WHEN A CANTON CURB TYPE ABUTS AN ODOT CURB TYPE, THE CONTACTOR MUST TRANSITION THE CURB FACE AND TOP TO MATCH THE EXISTING CURB FACE AND TOP WITHIN A 4' LENGTH, BUT NOT LESS THAN 1' LENGTH.



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APPROVED DATE: MAR 2012
APPROVED BY: RMB
DRAWING FILE NAME: ce_30.dwg

REVISIONS	
DESCRIPTION	DATE BY

**STANDARD DRAWING NO. 30
CONCRETE CURB AND
COMBINED CURB & GUTTER**

SHEET 1 OF 1

DRAWN BY: SDH
CHECKED BY: BJA
DATE: JULY 2012
SHEET: 44 OF 46
PROJ.#: 11161

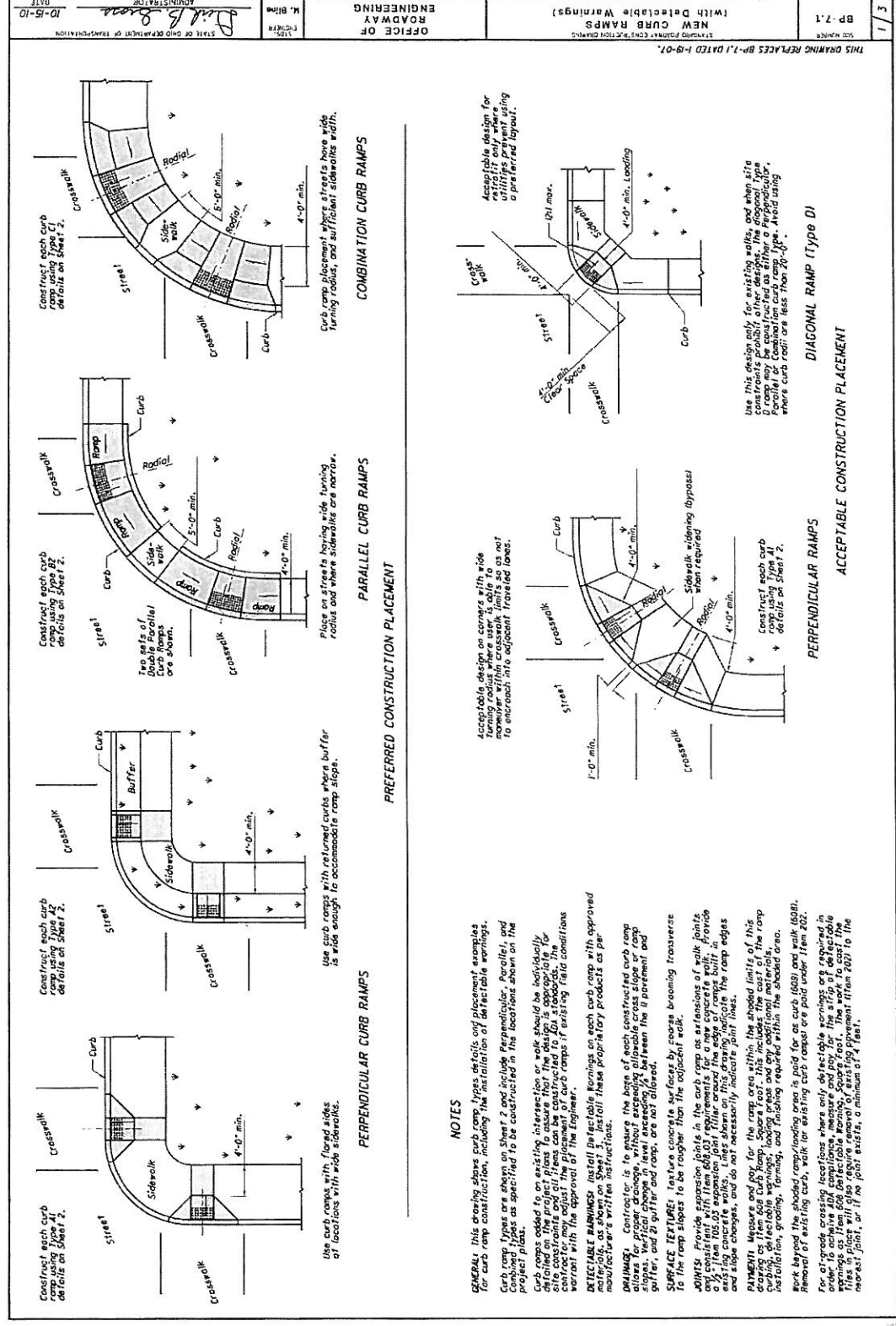
CITY OF CANTON STANDARD DRAWINGS
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
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BRYAN J. ASHMAN
JEROLD E. GEIB

REVISIONS	
NO.	DESCRIPTION

DEPARTMENTAL COMMENTS: RAF 09-27-2012



THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED.
SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

NOTES

GENERAL: This drawing shows curb ramp types, details and placement examples for curb ramp construction, including the installation of detectable warnings. Curb ramp types are shown on sheets 2 and 3 include Perpendicular, Parallel, and Combined types as specified to be constructed in the locations shown on the project plans.

PERPENDICULAR CURB RAMPS: Use curb ramps with flared sides at locations with wide sidewalks.

PARALLEL CURB RAMPS: Use curb ramps with returned curbs where a buffer is wide enough to accommodate ramp slope.

PERPENDICULAR CURB RAMPS: Construct each curb ramp using Type A1 details on sheet 2.

PARALLEL CURB RAMPS: Construct each curb ramp using Type B2 details on sheet 2.

COMBINATION CURB RAMPS: Curb ramp placement where streets have wide turning radius, and sufficient sidewalk width.

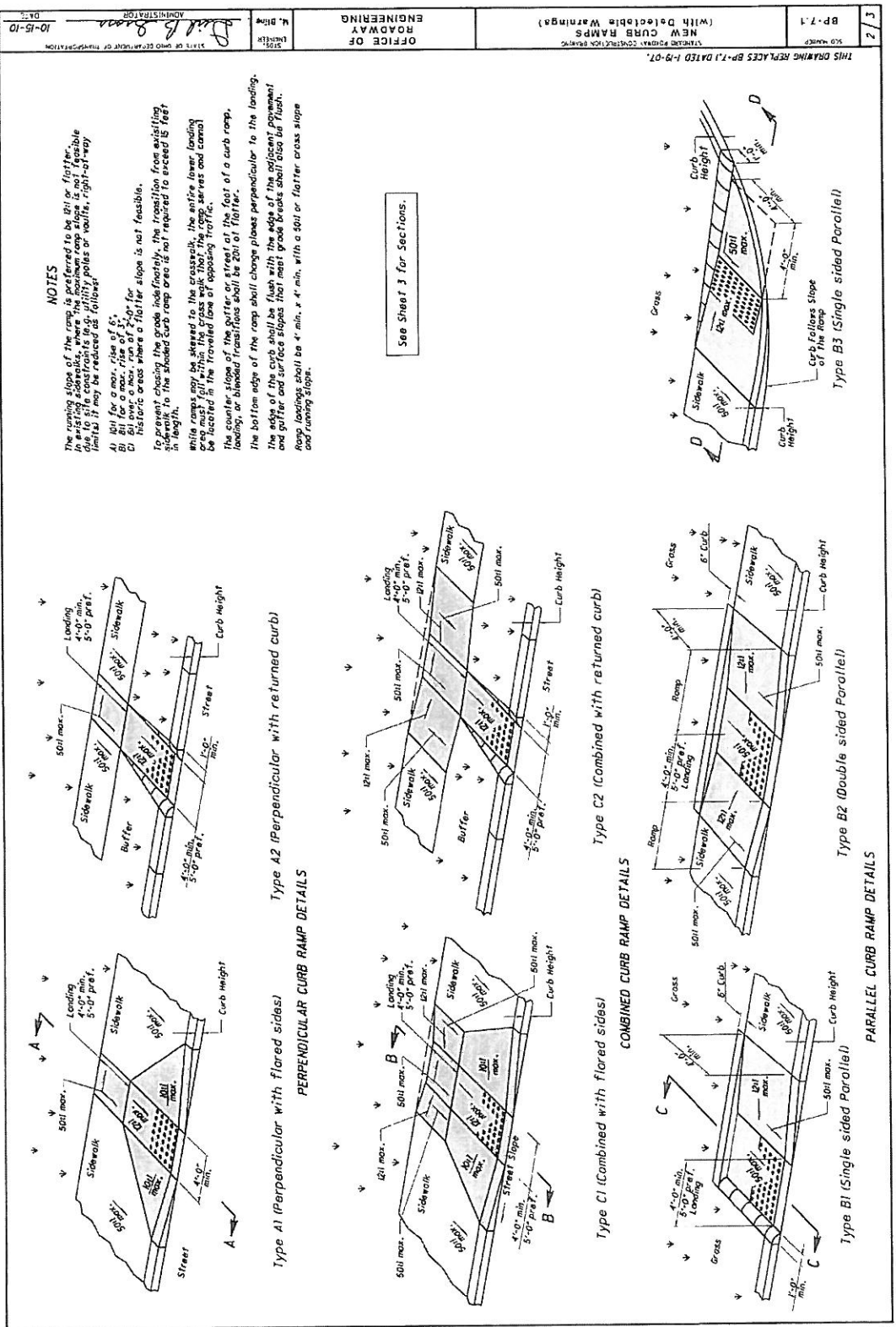
DIAGONAL RAMP (Type D): Use this design only for existing streets, and when site conditions are such that a ramp may be constructed as either a perpendicular, parallel or combination curb ramp type. Avoid using where curb radii are less than 24'-0".

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STANDARD DRAWING NO. 33
WHEEL CHAIR RAMP
SHEET 1 OF 4

REVISIONS	DATE	BY
	6/28/12	RMB

APPROVED DATE: MAY 2012
APPROVED BY: RMB
DRAWING FILE NAME: ce_33.dwg



THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED.
SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

NOTES

The turning slope of the ramp is preferred to be 4:1 or flatter, but due to site constraints (e.g. utility poles or vaults, right-of-way limits) it may be reduced as follows:

- A) 4:1 for a max. rise of 6".
- B) 5:1 for a max. rise of 7'-0" for historic areas where a flatter slope is not feasible.
- C) 6:1 for a max. rise of 8'-0" for historic areas where a flatter slope is not feasible.

To prevent changing the grade, the transition from existing sidewalk to the ramp shall be made as follows: the existing lower landing, or bladed transition shall be 20" of flatter.

The bottom edge of the ramp shall change planes perpendicular to the landing.

The edge of the curb shall be flush with the edge of the adjacent pavement and gutter and surface slopes that meet grade breaks shall also be flush.

Ramp landings shall be 4' min. x 4' min. with a 4:1 or flatter cross slope and turning slope.

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STANDARD DRAWING NO. 33
WHEEL CHAIR RAMP
SHEET 2 OF 4

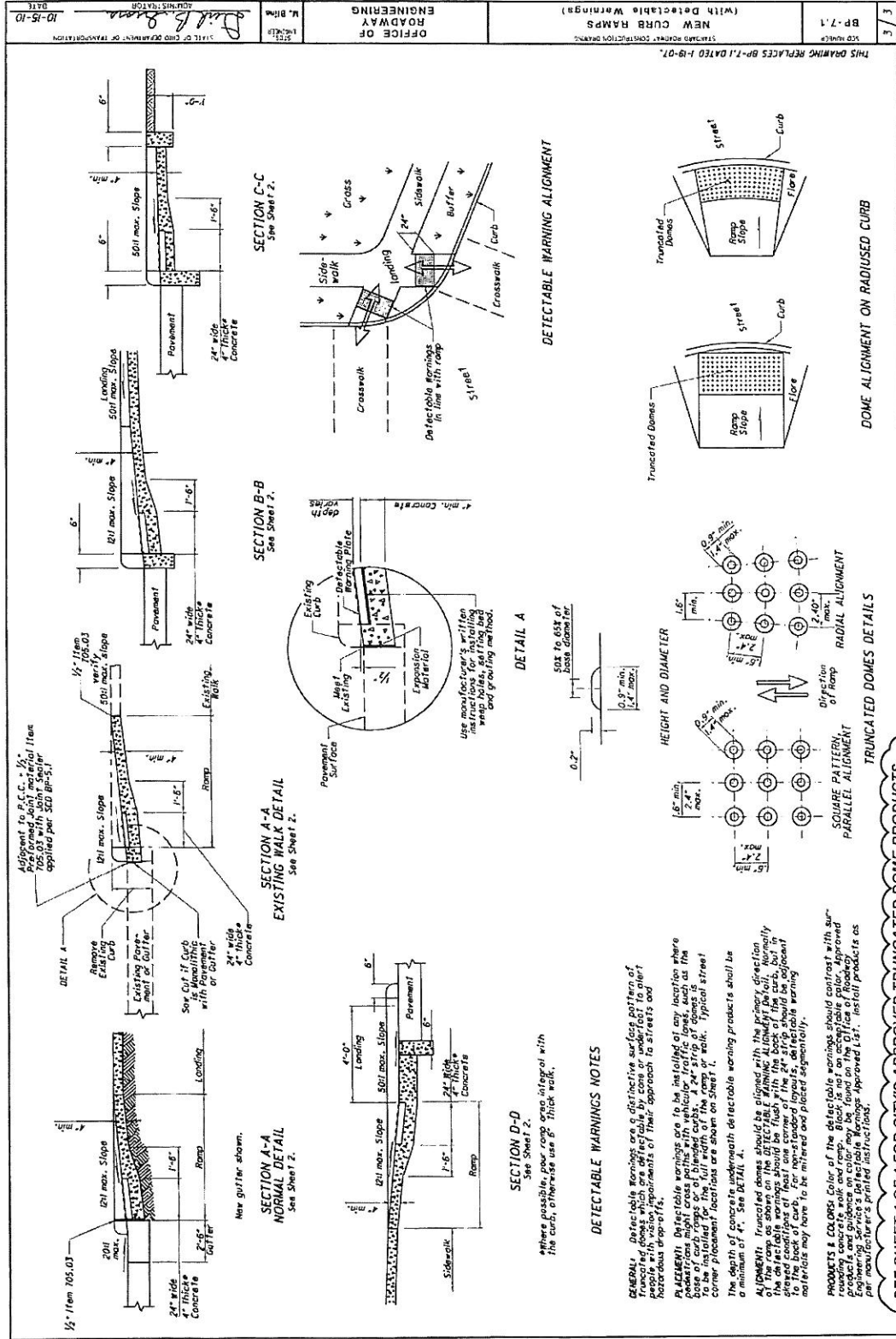
REVISIONS	DATE	BY
	6/28/12	RMB

APPROVED DATE: MAY 2012
APPROVED BY: RMB
DRAWING FILE NAME: ce_33.dwg

CITY OF CANTON STANDARD DRAWINGS
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
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1553 MARKET AVENUE NORTH CANTON, OHIO 44714

THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED. SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.



DETECTABLE WARNING NOTES

GENERAL: Detectable warnings are a tactile surface pattern of raised domes or truncated domes. They are used to warn people with vision impairments of their approach to streets and hazardous drop-offs.

ALIGNMENT: Detectable warnings are to be installed at any location where a concrete curb is required. The curb shall be 4" wide and 4" high. The detectable warnings should be flush with the top of the curb, but not to be installed for the full width of the curb or ramp. Typical street corner placement locations are shown on sheet 1.

The depth of concrete underneath detectable warning products shall be a minimum of 4". See Detail A.

ADDITION: Truncated domes should be aligned with the cross-section of the ramp. The depth of the dome shall be 0.2" and the height shall be 0.15".

PRODUCTS & COLORS: Color of the detectable warning products shall be approved by the City Engineer. Color of the brick shall not be acceptable color. Approved products and guidance on color may be found on the Office of Engineering website. For non-standard layouts, detectable warning materials may have to be mitered and placed segmentally. Use manufacturer's printed instructions.

SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

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STANDARD DRAWING NO. 33
WHEEL CHAIR RAMP
SHEET 3 OF 4

APPROVED DATE:	MAY 2012
APPROVED BY:	RMB
DRAWING FILE NAME:	ce_33.dwg

REVISIONS	DESCRIPTION	DATE	BY
1		6/28/12	RMB

BRICK PAVERS

TRUNCATED DOME BRICK IS REQUIRED FOR ALL STREETScape AREAS IN THE CENTRAL BUSINESS DISTRICT AS DETERMINED BY CITY ENGINEER'S OFFICE.

Brick Pavers will meet ASTM C 902 Class SX, Type 1, or C 936, or C 1272 Type R. (SEE OPTION 3 and 4 FOR NON-BRICK)

Acceptable manufacturers and products are

- Whilacre-Gear Fireproofing Company, 1409 S. Malhoning Ave, Alliance, OH, 44601, (800) WG PAVER ADA Paver, 4"x8"x2-1/4", Clear Red (Ruslic) #30
- The Beiden Brick Company PO Box 20910, Canton, OH 44701, 330-466-0031 City Line ADA Paver, Regimental Red 2-1/4"x4"x8" or 2-1/4"x8"x8"

OR APPROVED EQUAL.

Pavers will be laid on top of a 4" unreinforced concrete base. Setting bed to be mortared in accordance with manufacturer's instruction, or with a maximum 1/2" thick bed of latex modified cement mortar. SWEEP POLYMERIC SAND (TECHNI SEAL OR APPROVED EQUAL) INTO JOINTS. Joint width must not exceed 1/8" or be less than 1/16" wide.

Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and brick to concrete surface.

The surface of any two adjacent units should not differ by more than 1/8" (3) in height. Bricks shall be placed in a running bond pattern. Face of all brick shall be clean of cement and protected so as to avoid chipping during construction.

PANELS, WET SET

REPLACEMENT TRUNCATED DOME PANELS SET IN WET CONCRETE MUST BE USED IN RAMPS OUTSIDE THE CENTRAL BUSINESS DISTRICT.

Acceptable manufacturers and products are:

- Armocast Products Company North Hollywood, CA 818-962-3900 Armocast Detectable Warning Panels (Wet Set Panels) 24"x24", 24"x36", 24"x48", also 6-1/2" Radius Polymer Concrete, Red Brick color
- ADA Solutions, Inc. N. Billerica, MA 01862 Call-in-Place Replacable Tactile (Wet Set) 24"x24", 24"x36", and 24"x48" Glass and Carbon Composite, Brick Red color

OR APPROVED EQUAL.

ADHESIVE MATS

REPLACEMENT TRUNCATED DOME MATS THAT SET ON CONCRETE RAMPS BY ADHESIVE WILL ONLY BE CONSIDERED IN THE EVENT AN EXISTING WHEEL CHAIR RAMP NEEDS DETECTABLE WARNING DOMES INSTALLED AND THE RAMP REQUIRES NO OTHER MODIFICATIONS. INSTALLATION IS SUBJECT TO THE CITY ENGINEER'S APPROVAL.

Acceptable manufacturers and products are

- Submit product specification, color and sample for review/approval by the City Engineer

DETECTABLE WARNING DOMES

OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2430 30th St. NE 44795 330-469-3388 www.cantonohio.gov/engineering

APPROVED DATE: MAY 2012
APPROVED BY: RMB
DRAWING FILE NAME: ce_33.dwg

STANDARD DRAWING NO. 33
WHEEL CHAIR RAMP
SHEET 4 OF 4

DRAWN BY: SDH
CHECKED BY: BJA
DATE: JULY 2012
SHEET 46 OF 46
PROJ.# 11161

CITY OF CANTON STANDARD DRAWINGS
HAMILTON AVE. N.E. IMPROVEMENTS
LOCATED IN THE CITY OF CANTON,
STARK COUNTY, OHIO
FOR: CITY OF CANTON

COOPER & ASSOCIATES, LLP
ENGINEERS AND SURVEYORS
PHONE (330) 452-5731
FAX No. (330) 452-9110

BRYAN J. ASHMAN
JEROLD E. GEIB

REVISIONS	DATE	BY
1	6/28/12	RMB

REVISIONS	DATE	BY

DEPARTMENTAL COMMENTS	DATE