GENERAL: The current City of Columbus Construction and Material Specifications (C.C.M.S.) together with the requirements of Madison County, and the Village of West Jefferson, including all supplements thereto, in force on the date of contract, shall govern all materials and workmanship involved in the improvements shown on these plans. When there is or appears to be a conflict between the above referenced specifications and these plans, the most stringent requirement shall govern.

PROJECT LIMITS: The Contractor shall confine his activities to the Project Site under development, the existing rights-of-way, construction easements, and permanent easements, and shall not trespass upon private property without written consent of the property owner.

MISCELLANEOUS WORK: All items of work called for on the plans for which no specific method of payment is provided shall be performed by the Contractor and the cost of same shall be included in the price bid for the various related items.

DRAINAGE TILE: All farm drains, roadway drains, and other drainage tile which are encountered within the trench limits during construction shall be provided with an unobstructed outlet. Existing collector tiles which are located below the proposed finished roadside swale elevation and which cross the trench shall be replaced within the trench limits by Item 603 Conduit. The location, type, size, and grade of required replacement shall be determined by the Project Engineer or his representative during construction. Payment shall be based on final measurements. If tile is encountered of sizes larger than those shown below, the contractor shall not damage or remove the tile, and no compensation shall be made to the Contractor for tile larger than those sizes shown below unless a bid item is provided for a specific size. Necessary bends or fittings, compacted granular backfill, and associated items shall be included in the conduit item price. The following contingency items have been included for the work noted above.

Item 603 – 4" Conduit
Item 603 – 6" Conduit
Item 603 – 8" Conduit
Item 603 – 1 0" Conduit
Item 603 – 12" Conduit

SURPLUS EXCAVATION: The Contractor shall dispose of all surplus excavation.

EXISTING UTILITIES: The information shown concerning existing utilities is approximate. The location, sizes, and other information is only as accurate as the information provided by the owners of the utility company. This information is not represented, warranted or guaranteed to be complete or accurate. The Engineer does not independently verify nor field locate utilities. The Contractor is responsible to physically locate and verify, in the field, the horizontal and vertical locations, whether shown on the plan or not, prior to the beginning of construction. The Contractor shall support, protect, and restore all existing utilities and their associated items.

The Contractor shall notify the registered utility protection service and all utility owners having facilities in the construction area who are not members of a registered underground utility protection service. The Contractor shall adhere to section 153.64, Ohio Revised Code. The Contractor shall give notification as required by Ohio Revised Code, at least two (2) working days prior to commencing construction operations, excluding Saturdays, Sundays, and Holidays, and shall coordinate his work with the utility companies until his work is completed. The Contractor shall keep the utility owners apprised of his schedule and requirements. The Contractor shall provide the Project Owner with evidence of having notified the utilities and providing them with his work schedule prior to beginning any work.

The Contractor may review the information provided to the Engineer by the utility companies at the Engineer's office prior to submitting a bid. Contractor's requiring more information regarding existing utilities should conduct their own field investigations, or otherwise locate the utilities, prior to submitting a bid for the construction.

Notice shall be given to the Ohio Utilities Protection Service (1-800-362-2764), for the member utilities. The following utilities are known to have underground facilities in the project area and are members of O.U.P.S:

Columbia Gas Transmission 1440 McNaughten Rd. Columbus, OH 43232 614-863-0197	Qwest Communications 4650 Lakehurst Court Columbus, OH 43232 614-791-9441

The following provided information which is shown on the plans to the same degree of accuracy as that provided to the Engineer. Some are members of O.U.P.S., and some are not:

Columbia Gas Transmission
1440 McNaughten Rd.
Columbus, OH 43232
614-863-0197

The following companies replied to our O.U.P.S. request stating that their facilities are not affected by the project:

Sprint Long Distance Co. 545 Metro Place South Columbus, Ohio 43232 800-521-0579	MCI Worldcom 5000 Britton Road Columbus, OH 43085 800-950-5555	Madison County Engineer 222 Garfield Avenue London, OH 43140 740-852-9404

The following companies did NOT reply to our O.U.P.S. request, but still may have facilities in the project area:

Ameritech 150 East Gay Street Columbus, OH 43215 800-558-1644	Columbus Gas 200 Civic Center Drive Columbus, OH 43215 800-440-6111	Time Warner 1125 Chambers Road Columbus, OH 43212 888-333-0520

PERMITS: The Contractor shall obtain all necessary permits unless otherwise indicated in these documents.

STREET UNDERCUTTING: In the event excavation for the street is from 0" to 6" below that called for on the plans, the Contractor will be required to replace this excess excavated material with compacted granular material, Item 304 as directed and at no extra cost to the Owner.

INSTALLATION IN EMBANKMENT: Where sewers or water mains are to be installed in embankment areas, the embankment shall be placed and compacted in accordance with the specifications a minimum of two feet above the pipe but sufficiently above the pipe to protect the pipe from damage due to further construction activities prior to the installation of the water main or sewer.

TEMPORARY PAVEMENT: Temporary Pavement Replacement shall be provided on permanent pavement damaged or removed by the Contractor in the performance of the work. As soon as the trench has been backfilled, temporary pavement shall be installed. The Engineer may require that all materials and equipment incidental to providing the temporary pavement be on the job site prior to removing the existing pavement. The temporary pavement shall consist of 2 inches of compacted bituminous material Item 405, placed upon 6 inches of compacted Item 304, aggregate base. Temporary pavement shall be maintained by the Contractor until permanent pavement is installed.

PERMANENT PAVEMENT: Where damaged or removed, the pavement shall be replaced by first removing the temporary pavement down to the clean granular material and removing the existing pavement for at least 12 inches beyond the trench limits on each side. The pavement to be removed shall be neatly sawed, not more than 72 hours prior to the placing of permanent pavement materials. The permanent pavement replacement materials and workmanship shall be as shown on the construction drawings or the District's Standard Drawings. Item 407 Tack Coat shall be applied to the exposed existing pavement edges, when either the existing or new pavement is bituminous material, and Item 407 Tack Coat or 408 Prime Coat shall be applied to the base material, depending upon the base material, when the permanent pavement is bituminous material, prior to the placing of the permanent pavement

TRAFFIC CONTROL: The Contractor shall use adequate lights, signs, floggers, and barricades as required in Item 614 to safeguard the traveling public at all times. All trenches shall be back filled or securely plated during non-working hours. Where it is anticipated that work will close a road or street, the Contractor shall inform the residents to be affected, the local law enforcement agency, the local Fire Department, and the Engineer as to the extent, nature, and the time of the anticipated work. The Contractor shall submit a plan and schedule for detouring traffic ten (10) days prior to the closing of any road or street to the Engineer and road owner. During a closing of a road or street, the Contractor shall provide access to the property for emergency vehicles and the property owners. No road or street shall be closed until the schedule is approved by the agency having control of the road.

SAFETY OF CONSTRUCTION: The Contractor shall comply with the Federal Occupational Safety and Health Act of 1970 (OSHA) and all other applicable Federal, State, and Local Laws, regulations, findings and orders relating to safety and health conditions on the work site. Construction methods for completing the work described in these contract documents shall be consistent with the occupational safety and health administration (OSHA) amended construction standards for excavations, 29 CFR Part 1926, sub-part P effective March 5, 1990.

MANHOLE TOPS: Where manholes are located within public or private pavement, sidewalk, concrete pad, or paved shoulder, the tops shall be built to existing pavement elevations. Elsewhere manholes shall be built or subsequently adjusted to provide positive drainage away from the manhole. The cost of adjustment is to be included in the price bid for the manhole.

FINAL GRADING AND CLEAN-UP: The Contractor shall clean up all debris and materials resulting from his operation and restore all surfaces, structures, ditches, and property to its original condition to the satisfaction of the Engineer. All signs, mailboxes, fences, guardrails, roadside ditches, or other physical features disturbed or damaged during work under this contract shall be restored to their original condition by the Contractor. The cost of all such work shall be included with the various related items.

SEEDING AND MULCHING: All areas disturbed during construction shall be restored to their original condition and elevation, and proper drainage shall be provided. After final grading, the seed bed shall be raked and all stones, clods, lumps, etc. greater than 1" in diameter shall be removed prior to seeding and mulching. All areas shall be seeded as per the urban seed mix of Section 659.09. Contractor shall re-seed and mulch as necessary until an acceptable stand of grass is achieved.

EROSION CONTROL: The Contractor shall install and maintain silt fences, ditch checks, temporary seeding, and other measures as necessary to control soil erosion per the Ohio E.P.A. Storm Water Regulations. The Contractor shall use "Verti-pro" and "Dandy-bag" by Alpine Stormwater Management 888-539-8240 or other approved equivalent products for inlet protection.

ENGINEER'S ESTIMATE OF QUANTITIES: The engineer's estimate of quantities as shown on the construction drawings and contract documents is approximate only. The estimated quantities are believed to be complete and accurate, however, the Contractor is responsible to complete the Project as to the intent shown on the drawings and described in the specifications and contract documents. Additional compensation will not be made to the Contractor for his failure to include the total cost of all labor, equipment, and materials in the total bid price.

CONFLICTS IN GRADE: In all conflicts in grade between the water lines or water services and other existing utilities, the water line/service line shall be lowered during construction. A minimum of 18" vertical and 10' horizontal clearance shall be maintained between the water line and any sanitary sewer; 12" minimum vertical clearance for other utilities. The contractor shall verify locations of existing utilities ahead of his construction operations to allow for adjustments in grade to the water line that may be required as a result of a potential conflict in grade with an existing utility. No additional compensation will be made to the Contractor for lowering the water line to avoid conflicts with existing utilities.

STORM SEWERS and CULVERTS: Unless shown otherwise on these plans, storm sewer and culvert construction shall conform to the following:

MATERIAL: Storm sewer pipe shall be:

Corrugated Polyethylene Smooth-Wall Drainage Pipe, AASHTO M-294, ODOT 707.33
Reinforced Concrete Pipe, ODOT 706.02, ASTM C-76

BEDDING AND BACKFILL: Storm sewers under existing or proposed pavement limits and drives shall be installed as required for Type B Conduit, Item 603.08, up to the pavement sub-grade or within 6 inches of the ground surface. The pavement limits shall be five (5) feet beyond the edge of pavement, paved shoulder or the back of curb. Storm sewer outside pavement limits shall be installed as required for Type C Conduit, within rights-of-way limits, or Type D Conduit outside the right-of-way. Class B Bedding is herein modified to consist of crushed aggregate size Nos. 57, 6, 67, 7, 78, or 8, Item 703.

UNDERDRAIN: Where downspouts from residential dwellings are to connect into the street underdrain system, the underdrain shall be 6 inch minimum or as otherwise specified. Four (4) inch underdrains are acceptable without downspout connections. Pipe used for underdrain shall conform to the following specifications:

Corrugated Polyethylene Drainage Piping ODOT 707.16

WATER LINE CONSTRUCTION: All water pipe fittings, and methods of construction and workmanship for water lines and appurtenances shown on these plans shall conform to the current on the date of contract, unless the requirements of such specifications are upgraded by the following specifications or by the construction details set forth herein.

MATERIAL: All pipe, fittings, valves, and methods of construction shall be supplied with material conforming to the latest specifications for the following:

(1) Off-site public water line:(all 12") Ductile Iron, Class 51 for sizes 3" to 12" and Class 52 for sizes 14" to 24", manufactured in accordance with A.W.W.A. C151 and having a bituminous coated cement lining complying with A.W.W.A. C104 and an outside coating of bitumastic enamel or approved equivalent. All joints shall conform to A.W.W.A. C 111.

(2) On-site "private" waterline:(all 8" & smaller) Ductile Iron, Class 51 for sizes 3" to 12" and Class 52 for sizes 14" to 24", manufactured in accordance with A.W.W.A. C151 and having a bituminous coated cement lining complying with A.W.W.A. C104 and an outside coating of bitumastic enamel or approved equivalent. All joints shall conform to A.W.W.A. C 111.

(3) Water line pipe and fittings shall be A.W.W.A. C 153, cement lined per A.W.W.A. C104.

(4) Valves shall have a non-rising stem, left – hand open (counter-clockwise) with double o-ring stem seals. Valves shall have end joints conforming to A.W.W.A. C111. Valves shall pass a seat test at a pressure of 200 psi without leakage. The valve shall shall pass a shell test with the valve in the open position at a pressure of 400 psi without leakage through metal, flanged joints or stem seals. Additionally, the valves shall conform to the following:

AWWA C509 having a sealing mechanism that provides zero leakage at the water working pressure against line flow from either direction. No exposed metal seams, edges, screws, etc. shall be within the waterway in the closed position (all surfaces shall be rubber covered). The rubber covered gate shall not be wedged in a pocket nor slide across the seating surface to obtain tight closure. All internal and external ferrous surfaces, including the interior of the gate, bolt holes and flange faces, shall be coated, prior to assembly of the valve, with epoxy having a minimum thickness of 8 mils. There shall be an O-ring seal above the storm collar, and an O-ring seal below the stem collar with the area between the O-ring seals filled with lubricant. There shall be anti-friction washers at the stem collar.

(4) Service lines shall be:

(a) Copper Pipe, Type K

(5) Corporation stops shall be equivalent to Mueller H-1 5000.

(6) Curb stops shall be equivalent to Mueller H-15200 with a box equivalent to Mueller H- 1 0350, Size 94E.

(7) Tapping sleeves shall be a mechanical joint sleeve and shall provide full support around the circumference of the pipe, with sufficient width and bearing to not distort the pipe when tightened. Lugs or ridges which may scrape or cut into pipe are not acceptable.

(8) Tapping Saddles shall be equivalent to Ford Style FS 101 for 3/4" and 1 " services and Ford Style FS202 for 1-1/4" through 2-1/2" services.

(9) All joints, fitting, valves, and appurtenances shall be furnished with all accessories.

CONNECTING WATER LINES: The connection of existing water lines and services to proposed water lines shall be done in a manner that will cause a minimum of inconvenience to those with affected services. Work concerning the disconnection and reconnection of existing water lines shall be done between the hours of 10:00 p.m. and 5:00 a.m., or as directed by the Engineer. No such work shall begin until the Engineer, the Local Fire Department, and the residents whose services will be affected are all notified of the extent, nature, and time of the anticipated work and the method and schedule of such work has been approved by the local water company.

TAPS: A tap permit for each water service must be obtained from the prior to connecting any residential or commercial establishments to the water line.

DEAD END LINES: On dead end lines, two 3/4" taps shall be installed within two (2) feet of the end of the main.
PLUG POLE: A 2"x 2" hardwood pole shall be placed at all end of line stubs at the thrust block. Each pole shall have a one foot minimum length re-bar attached to its top end. The top of the pole shall be buried approximately 3" below the finished ground level.

MINIMUM DEPTH: Water lines shall be laid with a minimum of 4 feet from top of proposed or finished grade (curb) to the top of the water line.

LINE CROSSINGS: At all points of crossing of water mains and sewers, the backfill shall be granular material between the deeper and shallower pipe as directed by the Engineer. The seperation of water mains and storm and sanitary sewers shall be in accordance with The Ten States Standards 8.6.2 and 8.6.3.

BACKFILLING WATER LINE TRENCHES: Trenches under existing or proposed paved areas or drives shall be backfilled with compacted granular material from the bottom of the trench to the pavement sub-grade or to a plane 6 inches below the top of the ground, between the limits of five (5) feet beyond the edge of pavement, paved shoulder, or the back of curb. Trenches outside pavement limits shall be backfilled with suitable material as defined in Item 203.08.

DISINFECTION: All water mains shall be disinfected by the Contractor in accordance with the requirements of the local water company and the applicable sections of A.W.W.A. (American Water Works Association) C-651 (water mains); C-652 (storage facilities); C-653 (water plants); and C-654 (wells). All labor, material, and equipment including disinfection taps and blow-off taps will be furnished and paid for by the Contractor, including tapping valves sufficient tubing or pipe to extend outside the trench and an operable valve above ground. Blowoffs shall be installed where shown on the construction drawings as directed. The time and section of line (or facility) to be disinfected shall be approved by the Engineer. Special attention is directed to applicable sections of A.W.W.A. C-651, particularly for flushing and for disinfecting valves and fire hydrants. All laboratory tests associated with verify proper disinfection shall be paid for by the Contractor.

PRESSURE TESTING: A hydrostatic test as required in applicable Sections of A.W.W.A. specification C-600 shall be applied to the water main. If there are indications of leaks under this pressure test, the Contractor shall locate and repair them at his cost and expense until the leakage is within the specified allowance. All bends, joint deflections and hydrants, shall have appropriate thrust blocking.

WORKING PRESSURE: This project has been designed so that normal working pressure will not be less than 35 psi. Individual booster pumps are prohibited.

VALVE EXTENSIONS: If the top of the operating nut is more than 36" below finish grade, an extension stem shall be furnished to bring the top of the operating nut to within 24" of finished grade elevation.

FIRE HYDRANTS: Fire hydrants shall be Mueller Centurion 5¼" main valve and 2 – 2½" hose nozzles or Village of West Jefferson approved equal, painted yellow.

The separation of water mains and storm and sanitary sewers shall be in accordance with Ten States Standards 8.6.3.

VILLAGE OF WEST JEFFERSON NOTES:

Water:
A:1:1: All residential and single dwelling taps shall be sized at 3/4-inch.
A:1:2: All material used shall be a type "K" soft copper tubing conforming to ASTM B 88.
A:1:3: Fittings shall be a high quality copper brass with AWWA copper compression joints or approved compaction type joints.
A:1:4: Taps, into the city main line, shall be tapped from the top of the main only.
A:1:5: Taps must be at least 3 feet apart, regardless of direction out of main.
A:1:6: In case of larger tap requirements, such as apartments, multiple dwellings, etc., Sections 1:3 through 1:5 will still apply. Tap sizes will be determined at time of construction.
B:1:2: Water service must be at least 3 feet apart from any underground utility.
B:1:3: Water main and service trenches in the city roadway shall be of compacted backfill material extending from the bottom of trench to the top of the pavement subgrade.
B:1:4: Meters shall be purchased from the city at cost, and remain the property of the City.

TABLE OF ESTIMATED QUANTITIES

	ITEM	TOTAL	UNIT	DESCRIPTION
STORM	201	Lump	Sum	Clearing and Grubbing
	603	777	L.F.	12" Storm Pipe HDPE ADS N-12, 707.33 w/Type 1 Bedding
	603	437	L.F.	15" Storm Pipe HDPE ADS N-12, 707.33 w/Type 1 Bedding
	603	431	L.F.	18" Storm Pipe HDPE ADS N-12, 707.33 w/Type 1 Bedding
	603	4251	L.F.	24" Storm Pipe HDPE ADS N-12, 707.33 w/Type 1 Bedding
	603	120	L.F.	24"x38" Ellipitical Storm Pipe
	604	14	Each	Precast Endwall
	604	18	Each	Type "A" Manhole; AA-S100
	604	5	Each	Type "A" Manhole; AA-S100 w/ Grate Top
	604	26	Each	Standard Catch Basin; AA-S133
EROSION CONTROL	207	31	EACH	Inlet Protection
	207	2521	L.F.	Sediment Fence
	207	1	EACH	Stabilized Construction Entrance
	601	19	C.Y.	Type 'D' Rock Channel Protection
	605	1040	L.F.	4" Underdrains at Catch Basins
	659	126,692	S.Y.	Seeding and Mulching, Urban Seed Mixture
	659	11	Ton	Commercial Fertilizer, 20 lbs. per 1000 S.F.
WATERLINE	801	5535	L.F.	8" Class 51; Ductile Iron Pipe
	801	1122	L.F.	12" Class 51; Ductile Iron Pipe
	801	3	EACH	8" Plug & Thrust Block
	801	1	EACH	12" Plug & Thrust Block
	802	17	EACH	8" Valve w/Std. Valve Box
	802	1	EACH	12" Valve w/Std. Valve Box
	803	1	EACH	12" Tapping Sleeve & Valve
	809	21	EACH	Fire Hydrant w/Watch Valve (Complete)

STANDARD CONSTRUCTION DRAWINGS
CITY OF COLUMBUS

STORM	AA-S100	Type "A" Manhole
	AA-S106	Typical Assembly Combinations for Precast Manholes
	AA-S107	Miscellaneous Items, Precast Manholes
	AA-S112	Standard Dimensions for Manhole Frame and Cover Casting (Storm)
	AA-S117	Channelization Detail
	AA-S119	Manhole Steps Detail
	AA-S133	Standard Catch Basin
	AA-S141	Heavy Duty Grate & Frame for Standard Catch Basin
	AA-S149	Type 1 Bedding for Flexible Sewer Pipe, 6" to 48" Diam.
	AA-S150	Typical Trench Installation
	AA-S155	Typical Trench Detail
	AA-S169	Precast Pipe Endwalls
WATERLINE	L-6306	Concrete valve supports
	L-6309	Typical trench
	L-6310	Backing for vertical bends
	L-6311	Backing for bends
	L-6312	Backing for tees
	L-6409	Typical hydrant setting Type "B" & Type "B" Modified
	L-6637	Typical hydrant setting Type "A"
	L-7001	Thrust block detail, end of pipe
	L-7002	Drain tile replacement

3

RichMir
Private Adult Community, Village of West Jefferson, Madison County, Ohio
Street, Storm & Water

GENERAL NOTES, ESTIMATED QUANTITIES & STANDARD DRAWINGS

2 WORKING DAYS BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE

SANDS DECKER LTD.
ENGINEERS PLANNERS
WWW.SANDSDECKER.COM
614 - 538 - 8560
Fax: 614 - 538 - 8561
4588 Kenny Road
Columbus, Ohio 43220

SCALE:
AS NOTED

REVISIONS:

PROJECT #: 1156

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