

GENERAL NOTES

1. WATER MAIN SHALL BE INSTALLED WITH A MINIMUM OF 48" OF COVER, UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATION WORK TO DETERMINE IF DEFLECTION OF THE WATER MAIN WILL BE REQUIRED TO GUARANTEE AN 18" MINIMUM VERTICAL SEPARATION OR A 10' MINIMUM HORIZONTAL SEPARATION BETWEEN STORM SEWER LINES, SANITARY SEWER LINES AND THE PROPOSED WATER MAIN. PRIOR TO ANY COMPROMISE OF THESE REQUIREMENTS, WRITTEN APPROVAL SHALL BE OBTAINED FROM THE ENGINEER AND OWNER.
3. ALL FITTINGS NOTED AS "R.J.D.I." SHALL BE RESTRAINED JOINT DUCTILE IRON BENDS WITH RESTRAINED PIPE LENGTHS IDENTIFIED THIS SHEET. THOSE FITTINGS NOT NOTED AS "RJDJ" SHALL EITHER BE RESTRAINED AS IDENTIFIED ON THIS SHEET OR BLOCKED WITH CONCRETE PER DETAILS SHEET.
4. TO MINIMIZE STRESS TO TREE SPECIMENS IN THE AREA OF CONSTRUCTION, THE WATER TRENCH SHOULD BE OPEN FOR A MINIMUM AMOUNT OF TIME AND THE ROOTS ON THE TRENCH SIDE OF THE TREE SHALL BE SEVERED IN A CLEAN CUT MANNER. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO AVOID TOTAL REMOVAL OF TREES BY DEFLECTING PIPE IF POSSIBLE.
5. THE OWNER ASSUMES NO RESPONSIBILITY FOR THE LACK OF LOCATION OR MISSED LOCATION OF EXISTING UTILITIES. THE LOCATIONS, SIZES, AND INVERTS OF THE EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND VERIFY ALL UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING UTILITY WORK, INCLUDING POLE RELOCATION, AS REQUIRED TO MEET THE PROJECT SCHEDULE.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID EXISTING UTILITIES AND PERFORM ANY REQUIRED REPAIRS. IN ADDITION TO ALL UTILITY LINES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE AND REPAIRS TO BURIED FIBER OPTIC CABLE, FIELD DRAINAGE TILES, AND PRIVATE IRRIGATION SYSTEMS. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER WHEN UTILITIES OR OTHER SUBSURFACE LINES ARE DAMAGED. INDIANA UNDERGROUND UTILITIES PROTECTION SERVICE SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO BEGINNING ANY WORK. INDIANA UNDERGROUND UTILITIES PROTECTION SERVICE TELEPHONE IS 811. THE CONTRACTOR SHALL REFER TO APPLICABLE SECTIONS OF THE CONTRACT SPECIFICATIONS RELATIVE TO THE ABOVE.
7. CONTRACTOR SHALL NOTIFY RESPECTIVE UTILITY COMPANIES AT LEAST FOUR DAYS PRIOR TO INSTALLATION OF WATER MAIN. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCURRED SUPPORTING POLES.
8. CONTRACTOR SHALL CLEAN STREETS OF CONSTRUCTION DEBRIS DAILY TO THE SATISFACTION OF THE FRANKLIN COUNTY ENGINEER, OWNER AND ENGINEER. CONTRACTOR SHALL FURTHER ENSURE THAT AT LEAST ONE LANE OF TRAFFIC SHALL BE OPEN AT ALL TIMES DURING CONSTRUCTION ALONG ROADWAYS UNLESS THE CONTRACTOR HAS WRITTEN APPROVAL AND AN APPROVED TRAFFIC MAINTENANCE PLAN FROM FRANKLIN COUNTY. CONTRACTOR SHALL NOT AT ANY TIME CLOSE ANY LANE OF A STATE HIGHWAY.
9. FULL DEPTH, COMPACTED GRANULAR BACKFILL SHALL BE REQUIRED PER HHRWD STANDARDS WHEN CENTERLINE OF WATER MAIN TRENCH IS WITHIN 5 FT. OF THE EDGE OF PAVEMENT FOR ROADWAYS ALONG THE WATER MAIN ROUTE.
10. CONTRACTOR SHALL REMOVE AND REPLACE ALL DRIVEWAY CULVERTS AFFECTED BY WATER MAIN CONSTRUCTION WITH NEW CMP DRIVEWAY CULVERT PIPING. CONTRACTOR SHALL ALSO PROVIDE STATE, CITY, AND/OR COUNTY APPROVED END SECTIONS ON EACH REPLACED CULVERT. THE CONTRACTOR SHALL OBTAIN THE ACTUAL INVERT ELEVATIONS OF EACH CULVERT TO BE REMOVED AND SUPPLY ELEVATION TO THE R.P.R. THE CONTRACTOR SHALL THEN PLACE THE NEW DRIVEWAY CULVERT AS CLOSE AS POSSIBLE TO THE FORMER INVERT ELEVATIONS AND PROVIDE POSITIVE DRAINAGE OF THE RECONSTRUCTED DITCH LINE.
11. THE OWNER HAS OBTAINED THE IDEM CONSTRUCTION PERMIT, FRANKLIN COUNTY UTILITY AGREEMENT, AND FRANKLIN AND RIPLEY COUNTY SWCD MS4 REVIEWS FOR RULE 5 PERMIT. THE CONTRACTOR IS RESPONSIBLE FOR ALL OTHER PERMITS NECESSARY TO COMPLETE THE PROJECT, INCLUDING ALL TRAFFIC CONTROL PERMITS. CONTRACTOR SHALL SUBMIT RULE 5 NOI AND NOT, AND PAY REQUIRED FEES. THE OWNER HAS OBTAINED AND PAID FOR THE RAILROAD CROSSING PERMITS. BOTH THE "300N & RAILROAD RD" AND THE "FINKS RD" CSX RAILROAD CROSSING PERMITS ARE INCLUDED PART OF CONTRACT "H-2". THE OWNER HAS PAID FOR A \$750.00 RAILROAD PROTECTIVE LIABILITY INSURANCE FEE BOTH CSX CROSSINGS, TOTALING \$1,500.00. THE "H-2" CONTRACTOR SHALL REIMBURSE THE OWNER FOR THIS \$1,500 FEE. THE "H-3" CONTRACTOR IS RESPONSIBLE FOR PROVIDING RAILROAD PROTECTIVE LIABILITY INSURANCE FOR THE "C.R. 800 E." RAIL AMERICA RAILROAD CROSSING FOR THE DURATION OF THE CROSSING CONSTRUCTION AS DESCRIBED IN SPECIFICATIONS SECTION 02400. BOTH THE "H-2" AND "H-3" CONTRACTORS ARE RESPONSIBLE FOR PAYING ALL FLAGGING, COORDINATION, AND INSPECTION FEES DURING RAILROAD CROSSING CONSTRUCTION.
12. THE DRAWINGS DEPICT SOME AREAS OF WATER MAIN INSTALLATION TO BE INSTALLED USING HDPE PIPE VIA DIRECTIONALLY DRILLING METHODS. THE OWNER & ENGINEER RESERVES THE RIGHT TO ADD OR SUBTRACT AREAS ALONG ALL WATER MAIN ROUTES TO HAVE THE WATER MAIN INSTALLED USING HDPE PIPE VIA DIRECTIONAL DRILLING METHODS. THESE AREAS MAY INCLUDE UNDER DRIVEWAYS, FRONT YARDS, UTILITY CONGESTION AREAS, CREEKS, ETC.
13. THE CONTRACTOR SHALL REVIEW THE EASEMENT CONDITIONS LIST ON FILE AT THE OWNER'S OFFICE AND ADHERE TO ANY & ALL CONDITIONS.
14. ALL EASEMENTS SHOWN ON THE DRAWINGS HAVE BEEN OR ARE IN THE PROCESS OF BEING ACQUIRED. ALL OTHER AREAS WHERE EASEMENTS ARE NOT SHOWN, THE OWNER IS ATTEMPTING TO ACQUIRE THOSE EASEMENTS. SHOULD THESE EASEMENTS BE OBTAINED PRIOR TO ACTUAL INSTALLATION, THE ENGINEER WILL DIRECT THE CONTRACTOR TO PLACE THE WATER MAIN ON THE EASEMENT. ALL PIPE AND FITTINGS WILL BE PAID FOR AS SET FORTH IN THE UNIT PRICE CONTRACT. NO ADDITIONAL PAYMENT FOR RE-LOCATION OF THE WATER MAIN WILL BE ALLOWED.
15. CONTRACTOR SHALL KEEP ALL EXISTING WATER MAINS IN SERVICE UNLESS NOTED ON PLANS.
16. FIRE HYDRANTS SHOWN ON PLANS ARE FOR GENERAL VICINITY INFORMATION ONLY. CONTRACTOR SHALL COORDINATE LOCATIONS WITH OWNER. CONTRACTOR SHALL INSTALL FITTINGS AS NECESSARY TO INSTALL FIRE HYDRANTS WITHIN EASEMENT OR RIGHT-OF-WAY AND AVOID EXISTING UTILITIES. ADDITIONAL FITTINGS SHALL BE CONSIDERED AS PART OF THE FIRE HYDRANT ASSEMBLY.

EXISTING LEGEND

	EXISTING BENCHMARK		EXISTING TELEPHONE MANHOLE
	EXISTING CATCH BASIN		EXISTING PKNAIL FOUND
	EXISTING CABLE BOX		EXISTING PINE TREE
	EXISTING CONTROL POINT		EXISTING POWER POLE
	EXISTING SECTION CORNER		EXISTING RAILROAD FLASHER
	EXISTING DECIDUOUS TREE		EXISTING RAILROAD GATE
	EXISTING ELECTRICAL BOX		EXISTING SHRUB
	EXISTING ELECTRIC METER		EXISTING TEMP BENCHMARK
	EXISTING ELECTRIC TRANSFORMER		EXISTING TELEPHONE BOX
	EXISTING FIRE HYDRANT		EXISTING TELEPHONE MARKER
	EXISTING FLAG POLE		EXISTING TRAFFIC POLE
	EXISTING FIBER OPTIC BOX		EXISTING VALVE VAULT
	EXISTING GAS METER		EXISTING WATER METER
	EXISTING GAS MARKER		EXISTING WATER VALVE
	EXISTING GAS PRESSURE VALVE		EXISTING MANHOLE
	EXISTING GAS STOP		EXISTING ELECTRIC MANHOLE
	EXISTING GAS VALVE		EXISTING FIBER OPTIC MANHOLE
	EXISTING GUY WIRE		EXISTING SANITARY MANHOLE
	EXISTING GRAVE STONE		EXISTING STEAM MANHOLE
	EXISTING LIGHT POLE		EXISTING STORM MANHOLE
	EXISTING MAILBOX		DUCTILE IRON
	ROAD		RESTRAINED JOINT DUCTILE IRON
	EXISTING DITCH		EXISTING RIGHT-OF-WAY
	EXISTING POWER/ELECTRIC		EXISTING SANITARY SEWER
	EXISTING FENCE		EXISTING STORM SEWER
	EXISTING NATURAL GAS		EXISTING CABLE TV
	EXISTING GUARDRAIL		EXISTING TELEPHONE LINE
	EXISTING GRADE (PROFILE)		EXISTING FIBER OPTIC LINE
	EXISTING PROPERTY LINE		EXISTING WATER SERVICE
	EXISTING RAILROAD		EXISTING WATER'S EDGE

PROPOSED LEGEND

	PROPOSED SANITARY MANHOLE
	PROPOSED CURB INLET
	PROPOSED STORM MANHOLE
	PROPOSED 11" BEND
	PROPOSED 22" BEND
	PROPOSED 45" BEND
	PROPOSED 90" BEND
	PROPOSED CAP
	PROPOSED FIRE HYDRANT (2 ACCESS)
	PROPOSED TEE
	PROPOSED VERTICAL TEE
	PROPOSED WATER VALVE
	PROPOSED REDUCER
	PROPOSED DITCH
	PROPOSED RIGHT-OF-WAY
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	CONSTRUCTION LIMITS
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	PROPOSED WATER MAIN
	PROPOSED FENCE
	SURFACE RESTORATION
	GRANULAR BACKFILL
	FLOWABLE BACKFILL
	BORE AND JACK
	DIRECTIONAL DRILL

INDEX OF DRAWINGS

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G-03	PENNTOWN, HORSESHOE BEND & CANE MILL DRAWING INDEX
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779 TO 790	W-5 & W-6 CANE MILL AREA TRANSMISSION MAIN PLANS
C-01	STANDARD CIVIL DETAILS
C-02	EROSION CONTROL DETAILS

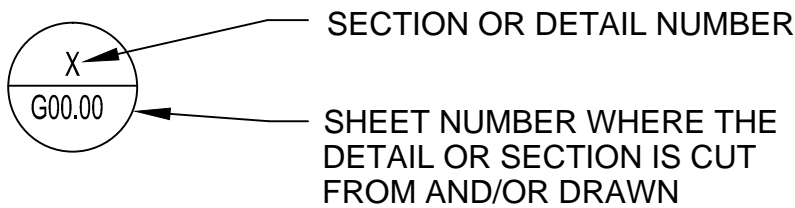
UTILITIES

ELECTRIC VECTREN ENERGY ONE VECTREN SQUARE P.O. BOX 209 EVANSVILLE, IN 47702-0209 (800) 382-5544	TELEPHONE CONTRACTOR TO VERIFY
CABLE TELEVISION QWEST COMMUNICATION (800) 382-5544	GAS TEXAS EASTERN TRANSMISSION 1157 W. STATE ROUTE 122 LEBANON, OH 45036-9616 (513) 932-1816
INSIGHT COMMUNICATION P.O.BOX 619 MONTICELLO, IN. 47960 CONTACT: JACK PARKER (574) 583-8430	ENTERPRISE PRODUCTS (800) 530-1050
WATER HOLTON WATER CORP (812) 689-6736	OHIO VALLEY GAS CONNERSVILLE (765) 825-1149
HOOSIER HILLS REGIONAL WATER DISTRICT (812) 654-3200	ROCKIES EXPRESS (AKA "REX") PIPELINE TALLGRASS ENERGY ANDY HEITZMAN (513) 623-2585
TOWN OF OSGOOD WATER DEPT. (812) 689-4324	FIBER OPTIC ENHANCED TELECOMMUNICATIONS (877) 207-5070

RESTRAINED JOINT NOTES

1. CONTRACTOR SHALL INSTALL RJDJ FITTINGS FOR ALL HORIZONTAL AND VERTICAL BENDS. CONCRETE THRUST BLOCKING IS STRICTLY PROHIBITED, UNLESS OTHERWISE NOTED.
2. RESTRAINED LENGTHS SHALL BE CALCULATED USING THE MOST CURRENT VERSION OF EBAA IRON - RESTRAINT LENGTH CALCULATOR, ASSUMING 4' DEPTH OF BURY, A 2.0 FACTOR OF SAFETY, TYPE 3 TRENCH CONDITIONS, "CL" SOIL CLASSIFICATION, 150 PSI HYDROSTATIC TEST PRESSURES FOR 6", 8", AND 12" PIPE PER SPEC. 02510, PARAGRAPH 2.03, AND 350 PSI HYDROSTATIC TEST PRESSURES FOR CONTRACT H-4 12" PIPE PER SPEC. 02510, PARAGRAPHS 2.01 AND 2.07.
3. ALL WATER MAIN AND APPURTENANCES WITHIN RJDJ LIMITS MUST BE RESTRAINED AT EACH JOINT. AT MINIMUM THE NEXT JOINT EACH WAY FROM A FITTING SHALL BE RESTRAINED. VALVES SHALL BE CONSIDERED DEAD ENDS AND SHALL BE RESTRAINED EACH WAY.
4. RESTRAINT LENGTHS FOR R.J.D.I. FITTINGS SHALL BE SUBMITTED WITH WATER MAIN PIPE SHOP DRAWINGS.

BUBBLE & SECTIONING CONVENTIONS



CONTRACT H-2

THIS RECORD DOCUMENT HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY THE CONSTRUCTION CONTRACTOR. GRW ENGINEERS, INC. HAS ATTEMPTED TO VERIFY THE ACCURACY AND/OR COMPLETENESS OF THIS INFORMATION BUT SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

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ENGINEER/ARCHITECT: CRAIG FARRELL

CONSTRUCTION COMPANY: LITTLE CREEK CONSTRUCTION, INC.

DATE: 9/2014

CONTRACT H-3

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ENGINEER/ARCHITECT: CRAIG FARRELL

CONSTRUCTION COMPANY: MIKE HOLMAN EXC., INC.

DATE: 9/2014

CONTRACT H-4

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ENGINEER/ARCHITECT: CRAIG FARRELL

CONSTRUCTION COMPANY: BRACKNEY, INC.

DATE: 9/2014

This document, originally issued, sealed, and signed by Daniel R. Cutshaw, Indiana Professional Engineer, No. 11200431, on April 19, 2013, shall not be used in lieu of a certified document.

GRW PROJECT NO. 3916-01

CLIENT CONTRACT NO. H

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GENERAL NOTES

DIVISION H - WATERWORKS SYSTEM IMPROVEMENTS
HOOSIER HILLS REGIONAL WATER DISTRICT
RIPLEY AND FRANKLIN COUNTIES, INDIANA

DESIGNED: ALW

DRAWN: JEC

REVIEWED: JAJ

APPROVED: CJF

DRC

NO

1. AS-BUILT REVISION

DATE: 9/2014

DESCRIPTION

SCALE CHECK

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: APRIL 2013

SCALE: N.T.S.

SHEET NO.

G-01