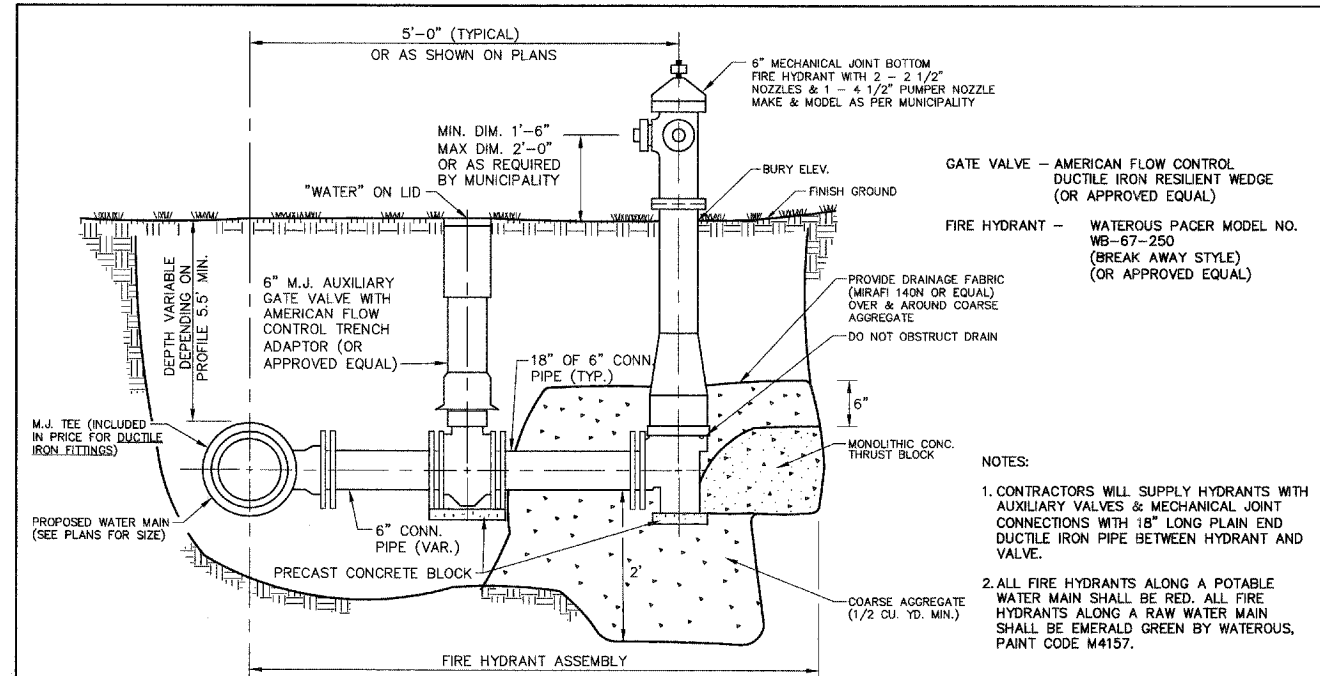




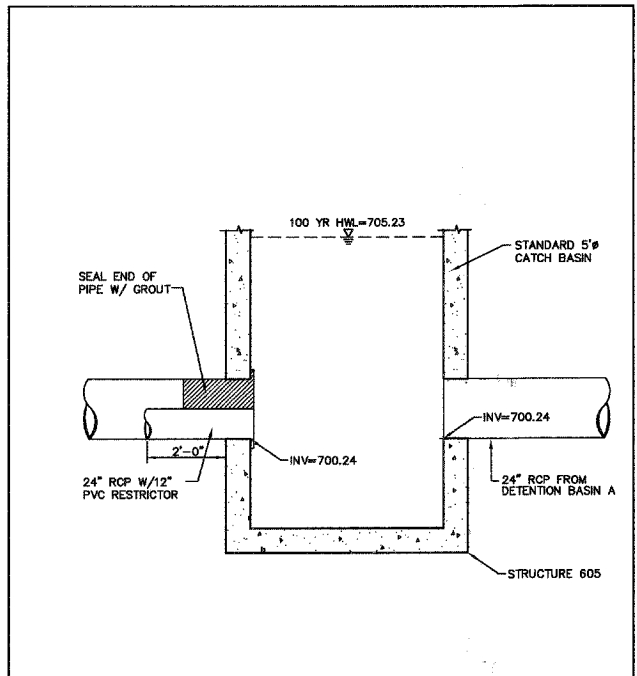
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N/A	D6-00017-00-PV	KANE	232	157
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

DATE	
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NOTED	
NO. CHECKED	
NO.	



FIRE HYDRANT ASSEMBLY INSTALLATION

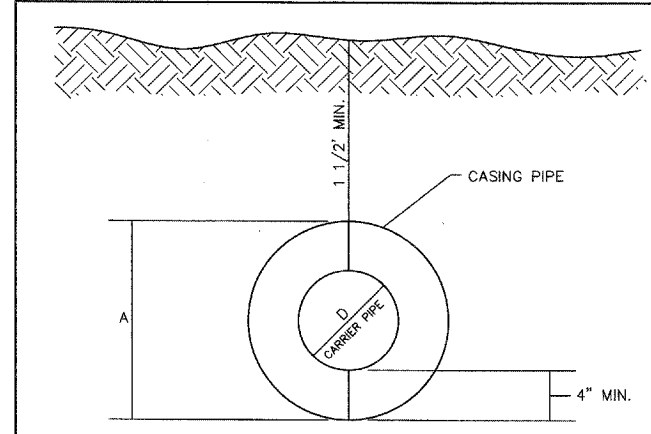
VILLAGE OF SUGAR GROVE 10 Municipal Drive Sugar Grove, IL 60054 630/466-4507 phone - 630/466-4521 fax	SCALE: N.T.S. DATE: 9/16/05	DRAWING NUMBER: SG19	DRAWN BY: WCP REVISION: 4/1/08
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DETENTION BASIN A RESTRICTOR SECTION SHEET 1 OF 1

ENGINEERING ENTERPRISES, INC. 52 Wheeler Road, Sugar Grove, IL 60054 630/466-9350 phone - 630/466-9380 fax	SCALE: N.T.S. DATE: 07/13/96	DRAWING NUMBER:	DRAWN BY: JWB REVISION: 4/1/08
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DATE	
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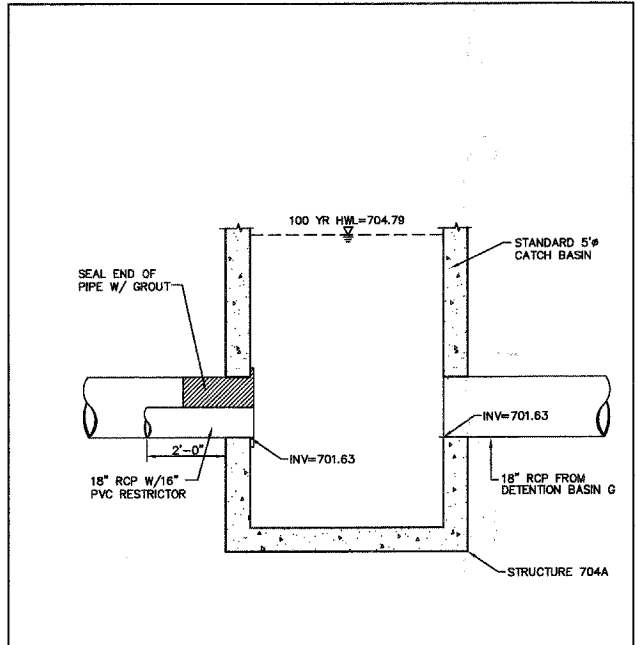
STEEL CASING PIPE DIA. AND WALL THICKNESS SHALL NOT BE LESS THAN THE FOLLOWING:

CARRIER PIPE NOM. DIA.	MIN. CASING PIPE DIA. (O.D.)	WALL THICKNESS
33" - 36"	54"	0.719"
30"	48"	0.625"
27"	42"	0.562"
24"	36"	0.469"
20" - 21"	36"	0.469"
18"	30"	0.406"
15" - 16"	30"	0.406"
12"	24"	0.312"
10"	22"	0.312"
8"	20"	0.281"
6"	18"	0.250"

- STANDARDS FOR BORING & JACKING**
- BORING AND JACKING OPERATIONS SHOULD BE IN ACCORDANCE WITH DIVISION II OF THE STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS, CURRENT EDITION.
 - BORING AND JACKING SHALL BE ACCOMPLISHED WITH AN AUGER AND CASING PIPE, THE DIAMETER OF THE AUGER SHALL NOT EXCEED THE OUTSIDE DIAMETER OF THE CASING PIPE BY MORE THAN ONE INCH.
 - THE CONTRACTOR SHALL PROVIDE A THRUST WALL ADEQUATE FOR INSTALLATION OF THE JACKED PIPE. THE WALL SHALL BE CONSTRUCTED PERPENDICULAR TO THE PROPOSED LINE OF THRUST. WHEN TUNNELING / JACKING WITHOUT AUGER IN LOOSE, GRANULAR, OR RUNNING SOILS, EXTREME CARE SHOULD BE TAKEN BY THE CONTRACTOR TO PREVENT VOIDS FROM OCCURRING IN ADVANCE OF THE CASING PIPE. MATERIAL REMOVAL BY VACUUM WITHIN THE CASING MAY BE NECESSARY.
 - BORING AND JACKING SHALL BE ACCOMPLISHED FROM PITS THAT ARE PROPERLY SHORED. THE SHORING SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED AND MAINTAINED SO THAT IT WILL SAFELY SUPPORT ALL VERTICAL AND LATERAL LOADS THAT MAY BE IMPOSED UPON IT DURING THE BORING AND JACKING OPERATION. ALL SHAFTS AND JACKING PITS SHALL CONFORM WITH APPLICABLE OSHA EXCAVATION, TRENCHING, AND SHORING STANDARDS.
 - BORING/JACKING PITS & RECEIVING PITS SHALL NOT BE LOCATED CLOSER THAN 10 FEET FROM THE EDGE OF ANY PAVEMENT AND CASING PIPE SHALL GENERALLY RUN FROM RIGHT-OF-WAY TO RIGHT-OF-WAY UNLESS OTHERWISE INDICATED ON THE PLANS, OR AS OTHERWISE REQUIRED BY THE PERMITTING AUTHORITY.
 - PITS FOR BORING AND JACKING SHALL BE EXCAVATED NO MORE THAN 48 HOURS IN ADVANCE OF BORING AND BACKFILLED WITHIN 48 HOURS AFTER BORING OPERATIONS ARE COMPLETED. WHILE PITS ARE OPEN, THEY SHALL BE CLEARLY MARKED, FENCED OFF, AND PROTECTED BY BARRICADES.
 - CASCADETM CASING SPACERS SHALL BE USED TO CENTER WATERMAIN IN CASING PIPE. ADJUSTABLE CASCADETM CASING SPACERS SHALL BE USED TO CREATE THE DESIGN PITCH FOR SANITARY OR STORM SEWER PIPE. METAL TO METAL CONTACT IS NOT PERMITTED.
 - ALL WATER MAIN WITHIN CASING SHALL BE MECHANICAL JOINT AND INSTALLED WITH MEGALUG RETAINER GLAND SERIES 1100 AS MANUFACTURED BY EBBA IRON INC. OR APPROVED EQUAL.
 - ALL VOIDS BETWEEN CASING PIPE AND CARRIER PIPE SHALL BE FILLED WITH SAND AFTER CARRIER PIPE IS INSTALLED. CASCADE CASING END SEALS SHALL BE USED TO LOOSELY SEAL THE ENDS OF THE CASING.
 - STEEL CASING PIPE SHALL HAVE A MINIMUM YIELD STRENGTH OF 35,000 PSI WITH WELDED JOINTS, UNLESS REQUIRED OTHERWISE BY THE PERMITTING AUTHORITY.
 - DEWATERING FOR BORING AND JACKING, INCLUDING ALL EXCAVATION, SHORING, AUGURING, CASING PIPE INSTALLATION, AND ALL OTHER BORING AND JACKING WORK ITEMS, IS INCIDENTAL TO THE CONTRACT.

BORE + JACK DETAIL SHEET 1 OF 1

ENGINEERING ENTERPRISES, INC. 52 Wheeler Road, Sugar Grove, IL 60054 630/466-9350 phone - 630/466-9380 fax	SCALE: N.T.S. DATE: 10/26/04	DRAWING NUMBER: M26*	DRAWN BY: CLN REVISION: 12/15/06
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DETENTION BASIN G RESTRICTOR SECTION SHEET 1 OF 1

ENGINEERING ENTERPRISES, INC. 52 Wheeler Road, Sugar Grove, IL 60054 630/466-9350 phone - 630/466-9380 fax	SCALE: N.T.S. DATE: 07/13/96	DRAWING NUMBER:	DRAWN BY: JWB REVISION: 4/1/08
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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		<p align="center">TYPICAL DETAILS</p> <p>SCALE: NTS DRAWN BY: KKP</p> <p>DATE: 02/07/08 CHECKED BY: WBR</p>