



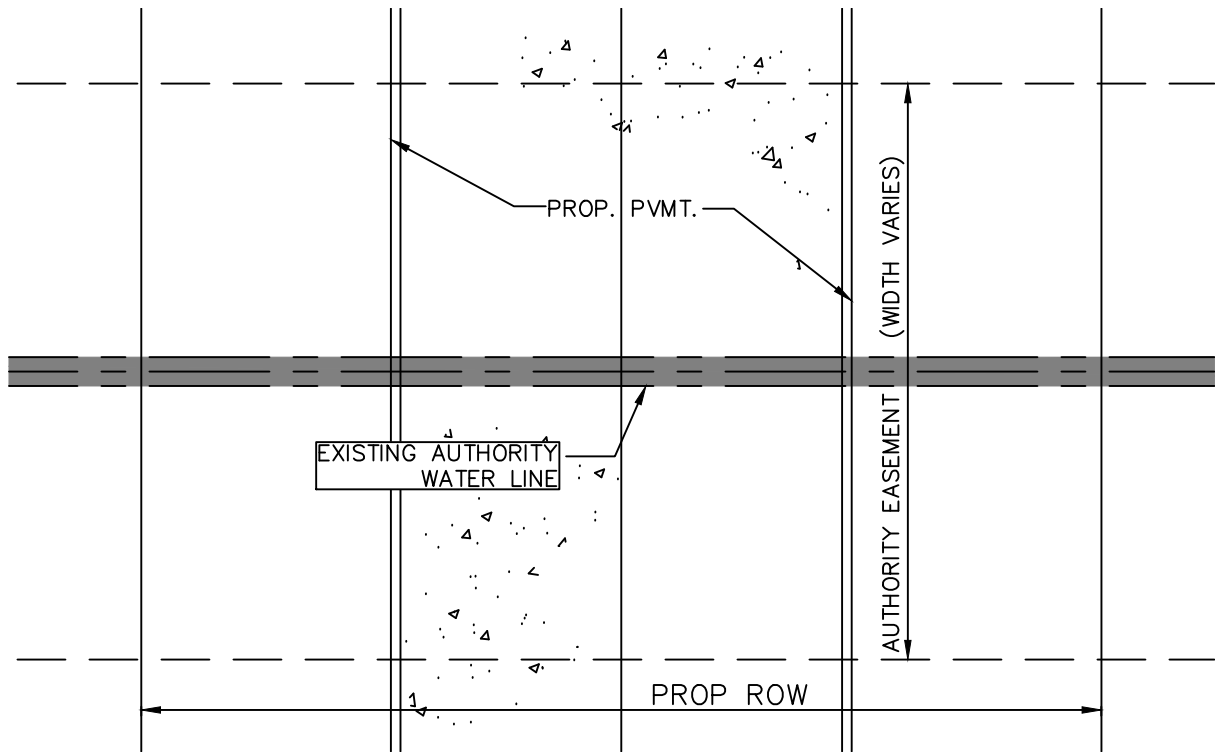
GENERAL NOTES:

1. UTILITY WILL CONTACT NORTH FORT BEND WATER AUTHORITY'S ("AUTHORITY") OPERATOR (INFRAMARK 281-646-2325) TO LOCATE AND MARK AUTHORITY'S WATER LINE PRIOR TO ANY CONSTRUCTION. AUTHORITY ACCEPTS NO RESPONSIBILITY REGARDING THE LOCATION OF ANY OTHER FACILITIES WITHIN THE AUTHORITY'S EASEMENT.
2. UTILITY WILL COORDINATE WITH AUTHORITY REGARDING USE OF HEAVY EQUIPMENT ON OR ACROSS WATERLINE WITHIN THE EASEMENT TO PREVENT POTENTIAL DAMAGE TO AUTHORITY FACILITIES. THIS MAY INCLUDE USE OF MATS, PLATES, OR SPECIAL EQUIPMENT.
3. ANY OPEN CUT CONSTRUCTION FOR A UTILITY CROSSING ABOVE AN AUTHORITY WATERLINE WILL NOT DISTURB SOILS WITHIN 18 INCHES OF AUTHORITY'S LINE. UTILITY'S EXCAVATOR SHALL HAVE A PLATE WELDED OVER THE TEETH OF THE EXCAVATOR BUCKET, AND THE SIDE CUTTERS MUST BE REMOVED PRIOR TO EXCAVATION TO HELP PREVENT PIPELINE DAMAGE. ANY EXCAVATION TAKING PLACE WITHIN 24 INCHES OF THE OUTER EDGE OF THE WATERLINE SHALL BE DONE BY HAND EXCAVATION ONLY; AIR CUTTING AND VACUUM EXCAVATION ARE PERMITTED WITH THE APPROVAL OF THE AUTHORITY ONSITE REPRESENTATIVE.
4. CONSTRUCTION ACTIVITIES THAT GENERATE GROUND VIBRATIONS, INCLUDING PILE DRIVING, SHEET DRIVING, SOIL COMPACTION WORK, JACK HAMMERING, RAMMING, BORING AND JACKING SHALL BE COORDINATED WITH AND APPROVED BY THE AUTHORITY'S ENGINEER
5. LETTER OF NO OBJECTION MUST BE OBTAINED PRIOR TO ANY WORK ACTIVITY WITHIN AUTHORITY'S EASEMENT. AUTHORITY MUST REVIEW AND APPROVE PROPOSED EASEMENT AND CONSTRUCTION DRAWINGS BEFORE ISSUING A LETTER OF NO OBJECTION. A COPY OF THIS LETTER MUST BE IN THE POSSESSION OF UTILITY'S (AND ITS CONTRACTORS) WORK CREWS WHILE CONDUCTING CONSTRUCTION ACTIVITY WITHIN THE AUTHORITY'S EASEMENT. A LETTER OF NO OBJECTION IS NOT NECESSARY FOR SURVEY WORK ON OR ASSESSMENT OF THE SURFACE OF THE EASEMENT.
6. UTILITY MUST NOTIFY AUTHORITY 48 HRS IN ADVANCE OF UTILITY CONDUCTING ACTIVE CONSTRUCTION WITHIN THE AUTHORITY'S EASEMENT. AUTHORITY'S REPRESENTATIVE MAY BE PRESENT DURING ACTIVE CONSTRUCTION WITHIN AUTHORITY EASEMENT. UTILITY WILL REIMBURSE AUTHORITY FOR THE COST OF ITS REPRESENTATIVE TO BE PRESENT DURING ACTIVE CONSTRUCTION WITHIN AUTHORITY'S EASEMENT.
7. UTILITY MAY NOT STORE CONSTRUCTION MATERIALS, INCLUDING SOIL SPOILS, AND EQUIPMENT ON AUTHORITY EASEMENT.
8. ALL PROPOSED CROSSINGS SHALL BE REASONABLY PERPENDICULAR TO AUTHORITY'S EASEMENT.
9. PROPOSED SURFACE GRADE OR ELEVATION WITHIN AUTHORITY EASEMENT MUST BE APPROVED BY THE AUTHORITY. NO CONSTRUCTION WILL BE ALLOWED THAT RESULTS IN THE EROSION OF SOILS OR EARTH FILL GREATER THAN 6-INCHES WITHIN THE AUTHORITY'S EASEMENT. RESTORE AUTHORITY'S EASEMENT TO EXISTING CONDITION OR BETTER TO ENSURE POSITIVE DRAINAGE WITHOUT ADVERSELY AFFECTING ADJACENT PROPERTIES.
10. NO TEMPORARY OR PERMANENT CROSSING UTILITIES (RAILROADS, ROADWAYS, DRIVEWAYS, SIDEWALKS, PARKING LOTS, ETC.) SHALL BE CONSTRUCTED ACROSS AUTHORITY'S EASEMENT WITHOUT WRITTEN APPROVAL. ALL CROSSINGS SHALL BE DESIGNED TO BE REASONABLY PERPENDICULAR TO THE WATERLINE AND MAINTAIN A MINIMUM OF 6' COMPACTED COVER OVER THE WATERLINE.
11. UTILITY IS RESPONSIBLE FOR OBTAINING ANY ADDITIONAL GEOTECHNICAL INFORMATION REGARDING THE SOIL CONDITIONS WITHIN THE AUTHORITY'S EASEMENT AND AROUND ITS WATERLINE AS THE SOIL WAS DISTURBED DURING WATERLINE CONSTRUCTION. ADDITIONAL BEDDING, BACKFILL AND SUBGRADE REQUIREMENTS MAY BE NECESSARY.
12. REQUESTS FOR VARIANCE FROM THESE CROSSING GUIDELINES MAY BE SUBMITTED TO THE AUTHORITY'S BOARD OF DIRECTORS FOR CONSIDERATION ON A CASE-BY-CASE BASIS AND MUST (I) PROVIDE AN EXPLANATION OF THE NEED FOR THE VARIANCE, (II) BE IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN THE HOUSTON REGION, (III) NOT CREATE AN UNREASONABLE RISK OF HARM TO THE GENERAL PUBLIC OR THE AUTHORITY'S FACILITIES, AND (IV) NOT UNREASONABLY RESTRICT OR INTERFERE WITH THE AUTHORITY'S EASEMENT OR FACILITIES, OR THE OPERATION AND MAINTENANCE OF THE AUTHORITY'S FACILITIES.

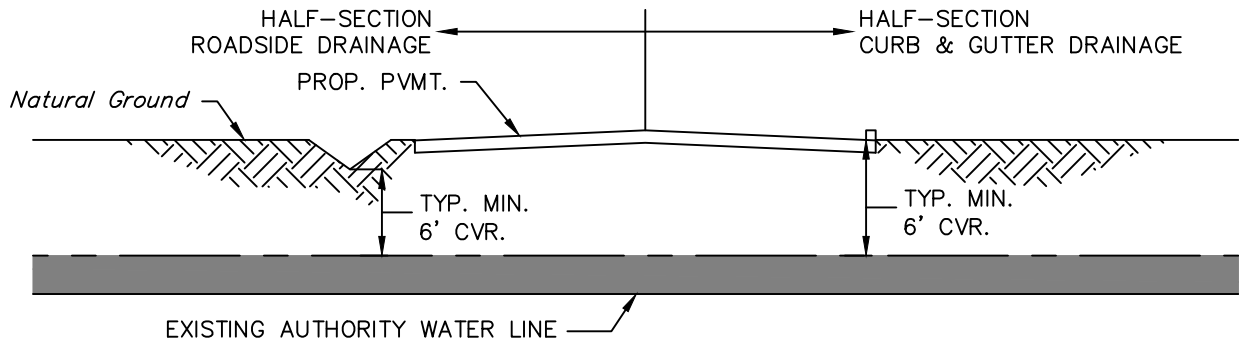
BGE, INC. & THE PROJECTS\BFWA Design\Standards\Verbiht-2.dwg Dec 06, 2016-9:32am egerca

	<p>BGE, Inc. 10777 Westheimer, Suite 400, Houston, TX 77042 Tel: 281-558-8700 • www.bgeinc.com TBPE Registration No. F-1046</p>		
			
<p>GENERAL NOTES FOR CROSSING GUIDELINES</p>			
SCALE: NTS	JOB #: NFB09-60	DATE: NOV 2018	

Copyright 2018



PLAN



SECTION

NOTES:

1. ANY PROPOSED PAVEMENT, REGARDLESS OF THE TYPE OF MATERIAL, CONSTRUCTED OVER THE EXISTING AUTHORITY WATERLINE SHALL AT ALL TIMES MAINTAIN A MINIMUM OF 6- FEET OF COVER FROM TOP OF PAVEMENT AT EDGE. ANY DRAINAGE SWALES/DITCHES OR GRADING SHALL MAINTAIN A MINIMUM OF 6- FEET OF COVER FROM BOTTOM OF DRAINAGE TO TOP OF EXISTING AUTHORITY WATERLINE.
2. EXISTING APPURTENANCES COINCIDING WITH PROPOSED PAVING CONSTRUCTION SHALL BE RELOCATED UNDER THE DIRECTION OF AUTHORITY'S ENGINEER. CAUTIONARY MEASURES SUCH AS THE PLACEMENT OF BOLLARDS MAY BE REQUIRED.
3. SEE GENERAL NOTES, EXHIBIT A, FOR ADDITIONAL GUIDELINES.



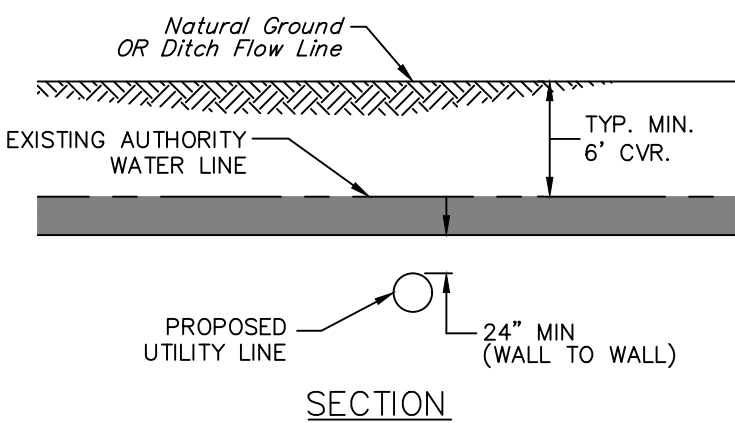
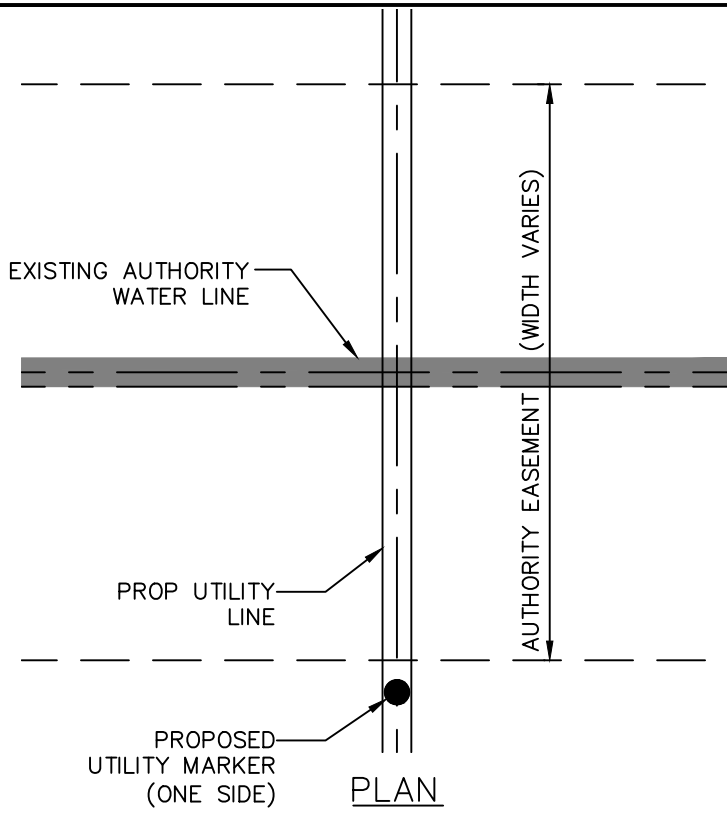
BGE, Inc.
 10777 Westheimer, Suite 400, Houston, TX 77042
 Tel: 281-558-8700 • www.bgeinc.com
 TBPE Registration No. F-1046

Copyright 2018



**SURFACE CROSSING
 GUIDELINES**

SCALE: NTS	JOB #: NFB09-60	DATE: NOV 2018
---------------	--------------------	-------------------



NOTES:
WATERLINE:

1. A MINIMUM OF 24-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE OUTSIDE OF ANY PROPOSED UTILITY CARRIER PIPE OR CASING AND THE EXISTING AUTHORITY WATERLINE. USE TRENCHLESS CONSTRUCTION WHEN CROSSING UNDER EXISTING AUTHORITY WATERLINE. PIPE MATERIALS MUST CONFORM TO AWWA STANDARDS.
2. NO BENDS, VALVES OR APPURTENANCES SHALL BE CONSTRUCTED WITHIN THE EASEMENT. PLACE CUSTOMARY PIPELINE MARKERS OUTSIDE OF AUTHORITY'S EASEMENT.

SANITARY SEWER OR RECLAIMED WATER PIPELINE:

1. VERTICAL AND HORIZONTAL CLEARANCES BETWEEN PROPOSED SANITARY AND EXISTING AUTHORITY WATERLINE SHALL BE IN ACCORDANCE WITH TCEQ REGULATIONS (TEXAS ADMINISTRATIVE CODE 217.53(d)). USE TRENCHLESS CONSTRUCTION WHEN CROSSING UNDER EXISTING AUTHORITY WATER LINE.
2. SANITARY SEWER CONSTRUCTED ABOVE THE EXISTING AUTHORITY WATERLINE SHALL BE PRESSURE RATED PVC CASING THROUGHOUT THE ENTIRE WIDTH OF AUTHORITY EASEMENT.

STORM SEWER:

1. A MINIMUM OF 24-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE OUTSIDE OF ANY PROPOSED STORM SEWER AND THE EXISTING AUTHORITY WATERLINE. USE TRENCHLESS CONSTRUCTION WHEN CROSSING UNDER EXISTING AUTHORITY WATER LINE.
2. PIPE MUST UTILIZE GASKETED JOINTS WITHIN AUTHORITY'S EASEMENT.

GENERAL

1. UTILITY SHALL PROVIDE RESTRAINED JOINTS FOR ALL PRESSURE PIPE THROUGHOUT EASEMENT.
2. ALL PROPOSED CROSSINGS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REQUIREMENTS GOVERNING SUCH INSTALLATIONS.
3. PROPOSED METALLIC PIPELINES SHALL INCLUDE CATHODIC PROTECTION AND BONDED DIELECTRIC COATINGS WHERE APPLICABLE. CATHODIC PROTECTION SHALL NOT BE DETRIMENTAL TO ANY EXISTING AUTHORITY FACILITIES. UTILITY OWNER WILL PROVIDE EVIDENCE OF THIS FROM PROFESSIONAL ENGINEER KNOWLEDGEABLE IN CATHODIC PROTECTION IN TEXAS.

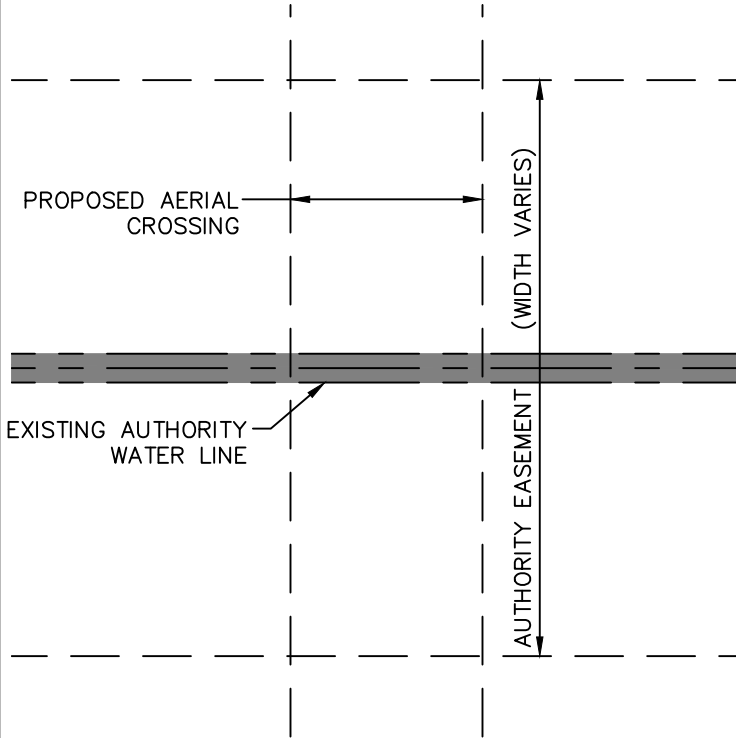
4. WITHIN 30 DAYS FOLLOWING COMPLETION OF CONSTRUCTION, PROVIDE SEALED RECORD DRAWINGS DEPICTING HORIZONTAL AND VERTICAL LOCATION AS CONSTRUCTED ACCORDING TO INFORMATION PROVIDED BY UTILITY FIELD PERSONNEL.
5. BURIED ELECTRIC CABLES SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC WITH A MINIMUM OF 24-INCHES OF VERTICAL CLEARANCE AND SHALL BE INSTALLED IN NON-METALLIC OR HIGH IMPACT PVC CONDUIT.
6. COMMUNICATION CABLES (TELEPHONE, CABLE TV, AND OTHER DATA LINES) SHALL MAINTAIN A MINIMUM OF 12-INCHES VERTICAL SEPARATION, AND SHALL BE NON-METALLIC OR HIGH IMPACT PVC CONDUIT WHEN CROSSING THE EXISTING AUTHORITY WATER LINE.
7. UTILITY CROSSINGS WILL BE MARKED OUTSIDE OF AUTHORITY EASEMENTS AS INDICATED IN PLAN.
8. SEE GENERAL NOTES, EXHIBIT A, FOR ADDITIONAL GUIDELINES.

BGE, INC. 10777 Westheimer, Suite 400, Houston, TX 77042
Tel: 281-558-8700 • www.bgeinc.com
TBPE Registration No. F-1046
Copyright 2018

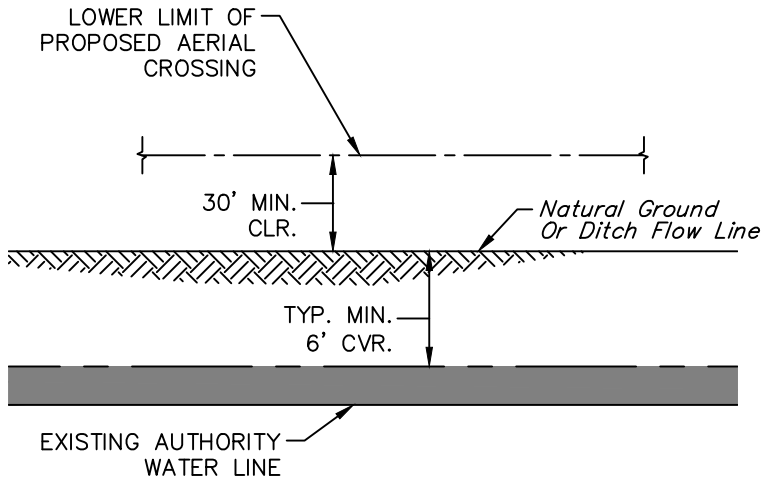
BGE, Inc. 10777 Westheimer, Suite 400, Houston, TX 77042 Tel: 281-558-8700 • www.bgeinc.com TBPE Registration No. F-1046 Copyright 2018			
BURIED UTILITY CROSSING GUIDELINES			
SCALE: NTS	JOB #: NFB09-60	DATE: NOV 2018	

NOTES:

1. UTILITY POLES AND GUY-ANCHORS WILL NOT BE PERMITTED WITHIN THE AUTHORITY EASEMENT.
2. A MINIMUM OF 30-FEET OF VERTICAL CLEARANCE SHALL BE MAINTAINED FROM THE NATURAL GROUND ELEVATION ABOVE THE EXISTING AUTHORITY WATERLINE. ALL AERIAL UTILITIES REQUIRE AERIAL EASEMENTS.
3. SEE GENERAL NOTES EXHIBIT A FOR ADDITIONAL GUIDELINES.



PLAN



SECTION

BGE, INC. & TPAI Projects\NFBWA\Design\Standards\NFBWA-Aerial Crossing Guidelines.dwg Mar 05, 2019 - 3:03pm gomez



BGE, Inc.
 10777 Westheimer, Suite 400, Houston, TX 77042
 Tel: 281-558-8700 • www.bgeinc.com
 TBPE Registration No. F-1046

Copyright 2017



AERIAL UTILITY CROSSING GUIDELINES

SCALE: NTS	JOB #: NFB09-60	DATE: NOV 2018
---------------	--------------------	-------------------