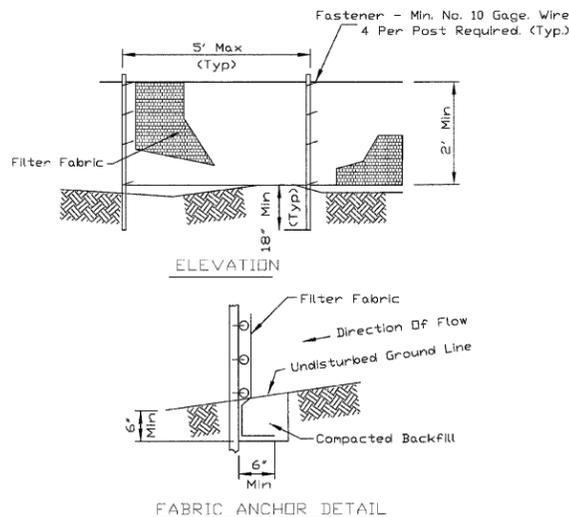


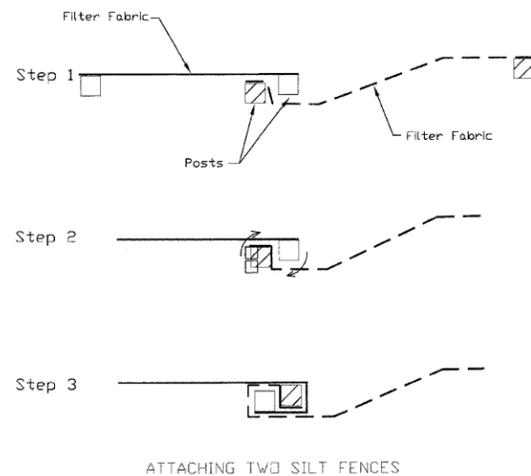
### PERIMETER EROSION BARRIER - (PLAN)



- NOTES:**
- Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
  - Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class I with equivalent opening size of at least 30 for nonwoven and 50 for woven.
  - Fence posts shall be either standard steel post or wood post with a minimum cross-sectional area of 3.0 sq./in.

REFERENCE Project _____ Date _____	<b>NRCS</b> Natural Resources Conservation Service	STANDARD DWG. NO. IL-620
Designed _____ Date _____		SHEET 1 OF 2
Checked _____ Date _____		DATE 11-20-01
Approved _____ Date _____		

### PERIMETER EROSION BARRIER



- NOTES:**
- Place the end post of the second fence inside the end post of the first fence.
  - Rotate both posts at least 180 degrees in a clockwise direction to create a tight seal with the fabric material.
  - Drive both posts a minimum of 18 inches into the ground and bury the flap.

REFERENCE Project _____ Date _____	<b>USDA NRCS</b> NATURAL RESOURCES CONSERVATION SERVICE ILLINOIS	STANDARD DWG. NO. IL-620(W)
Designed _____ Date _____		SHEET 2 OF 2
Checked _____ Date _____		DATE 1-29-99
Approved _____ Date _____		

### METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO LOCAL SEWER SYSTEMS SECTION MWRD TYPICAL GENERAL NOTES

- TYPICAL GENERAL NOTES**
- The MWRD Local Sewer Systems Section Field Office must be notified at least two (2) working days prior to the commencement of any work (call 708-588-4058).
  - Elevation datum is U.S.G.S.  
Conversion equation \_\_\_\_\_
  - All floor drains shall discharge to the sanitary sewer system.  
**(THERE ARE NO FLOOR DRAINS.)**
  - All downspouts and footing drains shall discharge to the storm sewer system.  
**(THERE ARE NO FOOTING DRAINS.)**
  - All sanitary sewer pipe materials and joints (and storm sewer pipe materials and joints in a combined sewer area) shall conform to:
- |   |                    |  |
|---|--------------------|--|
| <b>Pipe Material Spec.</b>                            | <b>Joint Spec.</b> | <b>Comments</b>  |
| Verified Clay Pipe VCP C-700                          | C-425              | Required in all cases.   |
| VCP (No-Bell) C-700 Joint Collar                      | C-425 D-1784       | State if CCD or USGB; or provide conversion equation if other datum is used.   |
| Concrete Pipe C-14 RCP C-76                           | C-443 D-1869       | If none, state "no floor drains".  |
| ABS Sewer Pipe Solid Wall 6" dia. SDR 23.5 ABS D-2751 | D-2751             | If none, state "no footing drains and downspouts".   |
| ABS Composite/Truss Pipe 8"-15" dia. ABS D-2680       | D-2680             | Required in all cases. Specify pipe material and joint specifications. If project is in a combined sewer area, include storm sewer.  |
| PVC Gravity Sewer Pipe 6"-15" dia. SDR 26 D-3034      | D-3212 or D-2855   | The following materials are allowed on a qualified basis: (When one of these materials is used for sewer construction, a special condition will be added to the Permit.)   |
| 18"-27" dia. F/dy=46 F-679                            | D-3212 or D-2855   | <b>Pipe Material Spec.</b>   |
| CISP A-74 DIP A-21.51                                 | C-564 A-21.11      | <b>Joint Spec.</b>   |
|   |                    | <b>PVC Compounded</b><br>with a smooth interior, 4" - 18" dia. F-949   |
|   |                    | <b>PVC Profile Gravity Sewer</b><br>PVC F-794  |
|   |                    | <b>PVC Composite/Truss Pipe</b><br>8"-15" dia. PVC D-2680  |
|   |                    | <b>Type PS-46 PVC Gravity Sewer</b><br>F-789   |
|   |                    | <b>High Density Polyethylene (HDPE) Plastic Pipe</b><br>Polyethylene (HDPE) Sewer Pipe shall conform to Type III, Class B (or better), category 5, Grade P34 as defined in ASTM D-1248 and/or D-3350 with a cell classification PE 345434C or higher. The joining method shall conform to ASTM D-2657. |
- (Note:** The District has approved less common pipe materials on a qualified basis in addition to those above. Please contact the District if considering using pipe not listed above.)

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LSR/Rev. Jan. 2003

- All sanitary sewer construction (and storm sewer construction in combined sewer areas), requires stone bedding with stone 1/4" to 1" in size, with minimum bedding thickness equal to 1/4 the outside diameter of the sewer pipe, but not less than four (4) inches nor more than eight (8) inches. Material shall be CA-11 or CA-13 and shall be extended at least 12" above the top of the pipe when using PVC.
- "Band Seal" or similar flexible-type couplings shall be used in the connection of sewer pipes of dissimilar materials.
- When connecting to an existing sewer main by means other than an existing wye, tee, or an existing manhole, one of the following methods shall be used:
  - Circular saw-cut of sewer main by proper tools ("Shever-Tap" machine or similar) and proper installation of hub-wye saddle or hub-tee saddle.
  - Remove an entire section of pipe (breaking only the top of one bell) and replace with a wye or tee branch section.
  - With pipe cutter, neatly and accurately cut out desired length of pipe for insertion of proper fitting, using "Band Seal" or similar couplings to hold it firmly in place.
- Whenever a sanitary/combined sewer crosses under a watermain, the minimum vertical distance from the top of the sewer to the bottom of the watermain shall be 18 inches. Furthermore, a minimum horizontal distance of 10 feet between sanitary/combined sewers and watermains shall be maintained unless the sewer is laid in a separate trench, keeping a minimum 18" vertical separation, or the sewer is laid in the same trench with the watermain located at the opposite side on a bench of undisturbed earth, keeping a minimum 18" vertical separation. **Neither the vertical or horizontal distances described above can not be maintained, or the sewer crosses above the watermain, the sewer shall be constructed to watermain standards.**
- All existing septic systems shall be abandoned. Abandoned tanks shall be filled with granular material or removed.
- All sanitary manholes, (and storm manholes in combined sewer areas), shall have a minimum inside diameter of 48 inches, and shall be cast in place or pre-cast reinforced concrete.

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### GENERAL NOTES :

- ALL CONSTRUCTION SHALL CONFORM TO THE ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" IN ITS LATEST EDITION AND THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" IN ITS LATEST EDITION.
- THE VILLAGE OF FLOSSMOOR DIRECTOR OF PUBLIC WORKS 708/957-4100, AND TECH 3 CONSULTING GROUP, INC. 708/672-4994 AND M.W.R.D. FIELD OFFICE 708/588-4055 SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO COMMENCING OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES FOR FIELD LOCATIONS OF THEIR FACILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND PRESERVATION OF THESE FACILITIES. CALL U.S.L.I.E. 800/892-0123.
- ALL SEWER, INCLUDING BUILDING STUBS, SHALL HAVE 5" MINIMUM CRUSHED STONE BEDDING. THE GRADATION SHALL BE CA-11.
- ALL PROPOSED SANITARY MANHOLES ARE TO HAVE PRECAST SECTIONS AND BOTTOM ADJUSTMENT RINGS TO BE PRECAST AND LIMITED TO 1'-0".
- HORIZONTAL SEPARATION - WATERMANS AND SEWERS

- WATERMANS SHALL BE LOCATED AT LEAST 10' HORIZONTALLY FROM ANY EXISTING OR PROPOSED DRAIN, STORM SEWER, SANITARY SEWER, COMBINED SEWER OR SEWER SERVICE CONNECTION.
- WATERMANS MAY BE LOCATED CLOSER THAN 10' TO A SEWER LINE WHEN:
  - LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10' AND
  - THE WATERMAIN INVERT IS AT LEAST 18" ABOVE THE CROWN OF THE SEWER; AND
  - THE WATERMAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELVE LOCATED TO ONE SIDE OF THE SEWER.
- WHEN IT IS IMPOSSIBLE TO MEET (1) OR (2) ABOVE, BOTH THE WATERMAIN AND DRAIN OR SEWER SHALL BE CONSTRUCTED OF SLIP-ON OR MECHANICAL JOINT CAST OR DUCTILE IRON PIPE, PRESTRESSED CONCRETE PIPE, OR PVC PIPE EQUIVALENT TO WATERMAIN STANDARDS OF CONSTRUCTION. THE DRAIN OR SEWER SHALL BE PRESSURE TESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACKFILLING. (INCIDENTAL TO SANITARY SEWER UNIT PRICE).

### VERTICAL SEPARATION - WATERMAIN AND SEWERS

- A WATERMAIN SHALL BE SEPARATED FROM A SEWER SO THAT THE INVERT IS A MINIMUM OF 18" ABOVE THE CROWN OF THE DRAIN OR SEWER WHENEVER WATERMANS CROSS STORM SEWERS, SANITARY SEWERS OR SEWER SERVICE CONNECTIONS. THE VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATERMAIN LOCATED WITHIN 10' HORIZONTALLY OF ANY SEWER OR DRAIN CROSSING. A LENGTH OF WATERMAIN PIPE SHALL BE CENTERED OVER THE SEWER TO BE CROSSED WITH JOINTS EQUIDISTANT FROM THE SEWER OR DRAIN.
- BOTH THE WATERMAIN AND SEWER SHALL BE CONSTRUCTED OF SLIP-ON OR MECHANICAL JOINT CAST OR DUCTILE IRON PIPE, PRESTRESSED CONCRETE PIPE, OR PVC PIPE EQUIVALENT TO WATERMAIN STANDARDS OF CONSTRUCTION WHEN:
  - IT IS IMPOSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION AS DESCRIBED IN (1) ABOVE; OR
  - THE WATERMAIN PASSES UNDER A SEWER OR DRAIN
- A VERTICAL SEPARATION OF 18" BETWEEN THE INVERT OF THE SEWER OR DRAIN AND THE CROWN OF THE WATERMAIN SHALL BE MAINTAINED WHERE A WATERMAIN CROSSES UNDER A SEWER. SUPPORT THE SEWER AND DRAIN LINES TO PREVENT SETTLING AND BREAKING THE WATERMAIN, AS SHOWN ON THE PLANS OR AS APPROVED BY THE ENGINEER.
- CONSTRUCTION SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE PERPENDICULAR DISTANCE FROM THE WATERMAIN TO THE SEWER OR DRAIN LINE IS AT LEAST 10'.
- ALL MANHOLES, CATCH BASINS, INLETS AND VALVE VAULTS SHALL INCLUDE A CAST IRON FRAME AND LID AS SPECIFIED ON PLANS.
- ALL SEWER CONNECTIONS ARE TO BE MADE BY ONE OF THE FOLLOWING METHODS: (A.) CONNECT EXISTING STUB. (B.) USE SEWER TAP MACHINE AND USE WYE SADDLE.
- BAND SEAL OR SIMILAR FLEXIBLE TYPE COUPLINGS SHALL BE USED IN CONNECTION OF SEWER PIPE OR DISSIMILAR MATERIALS.
- ALL WATERMANS SHALL HAVE AT LEAST 5'-6" OF COVER.
- ALL WATERMANS SHALL BE HYDROSTATICALLY TESTED AS PER VILLAGE OF FLOSSMOOR SPECIFICATIONS. THE VILLAGE ENGINEER SHALL BE GIVEN 2 WORKING DAYS PRIOR TO STARTING OF THE 150 PSI PRESSURE TEST. ENGINEER SHALL BE PRESENT FOR ALL TESTING. TWO COPIES OF APPROVED CHLORINATION REPORT SHALL BE GIVEN TO THE DIRECTOR OF PUBLIC WORKS.
- ALL WATERMAIN FITTINGS SHALL BE MECHANICAL JOINTS WITH RETAINER GLANDS. ALL FITTINGS SHALL BE MANUFACTURED IN THE U.S.A. THE RETAINER GLAND IS TO BE MANUFACTURED BY E.S.I.A. IRON SALES, INC. OF EASTLAND, TEXAS AND KNOWN AS THEIR 1112 SERIES OR APPROVED EQUAL.
- ALL ELEVATIONS ARE U.S.G.S. DATUM. SUBTRACT 579.48 TO OBTAIN CHICAGO CITY DATUM.
- TWO (2) THREE-FOURTHS (3/4") SAMPLING TAPS SHALL BE INSTALLED ON THE WATERMAIN IN EACH VALVE VAULT; ON TAP ON EACH SIDE OF THE VALVE HEREON.
- SANITARY SEWERS SHALL BE CLEANED IMMEDIATELY PRIOR TO INSPECTION BY CLOSED CIRCUIT TELEVISION. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED FOR THE COST OF THE SANITARY SEWER.
- SANITARY SEWERS SHALL BE INSPECTED BY CLOSE CIRCUIT TELEVISION. TWO COPIES OF THE COLORED VIDEO TAPES WITH AUDIO DESCRIPTION ALONG WITH TWO COPIES OF THE TYPED REPORT SHALL BE GIVEN TO THE VILLAGE ENGINEER FOR REVIEW PRIOR TO THE APPROVAL OF THE INSTALLED SEWER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE SANITARY SEWER.
- THE USE OF RETAINER GLANDS ON THE BELLS OF ALL FITTINGS DOES NOT NEGATE THE REQUIREMENTS OF THE INSTALLATION OF CONCRETE THRUST BLOCKS AT ALL FITTINGS.
- ALL FIRE HYDRANTS SHALL BE BAGGED IMMEDIATELY AFTER INSTALLATION. THE BAG WILL BE REMOVED AFTER THE WATERMAIN HAS BEEN PRESSURE TESTED AND CHLORINATED.
- ALL DUCTILE IRON SANITARY SEWERS SHALL BE REQUIRED TO CONFORM TO THE TESTING AND ACCEPTANCE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS SECTION 31-1.11B OPTION 3 AND 4 "EXFILTRATION OF AIR UNDER PRESSURE" AND ALL PVC SEWER SHALL BE REQUIRED TO CONFORM TO THE TESTING AND ACCEPTANCE FOR "DEFLECTION FOR FLEXIBLE THERMOPLASTIC PIPE". THE COST OF THE TESTING SHALL BE CONSIDERED INCIDENTAL TO THE SEWER.

- SANITARY SEWERS SHALL BE CLEANED IMMEDIATELY PRIOR TO INSPECTION BY CLOSED CIRCUIT TELEVISION. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED FOR THE COST OF THE SANITARY SEWER.
- SANITARY SEWERS SHALL BE INSPECTED BY CLOSE CIRCUIT TELEVISION. TWO COPIES OF THE COLORED VIDEO TAPES WITH AUDIO DESCRIPTION ALONG WITH TWO COPIES OF THE TYPED REPORT SHALL BE GIVEN TO THE VILLAGE ENGINEER FOR REVIEW PRIOR TO THE APPROVAL OF THE INSTALLED SEWER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE SANITARY SEWER.

NO.	DATE	BY	DESCRIPTION
10	12/01/08	EGH	PER M.W.R.D. REVIEW FOR CONSTRUCTION ISSUE
11	2/05/09	EGH	

NO.	DATE	BY	DESCRIPTION
3	1/16/08	EGH	PER I.D.O.T. REVIEW
4	3/21/08	EGH	PER I.D.O.T. REVIEW
5	4/29/08	EGH	PER I.D.O.T. REVIEW
6	9/01/08	EGH	PER I.D.O.T. REVIEW
7	11/12/08	EGH	PER M.W.R.D. REVIEW
8	11/24/08	EGH	PER M.W.R.D. REVIEW

### SPECIFICATIONS :

- DUCTILE IRON SANITARY SEWER**  
ALL 8" SANITARY SEWER SHALL BE CLASS 52 DUCTILE IRON PER SPECIFICATION A.N.S.I. A 21.51. THE JOINTS SHALL BE PUSH-ON GASKET TYPE CONFORMING TO ANSI SPECIFICATION A-21.11. BEDDING AND BACKFILL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH ASTM SPECIFICATION D-2321-89. BEDDING THICKNESS EQUALS 1/4 OUTSIDE DIAMETER OF THE SEWER PIPE BUT NOT LESS THAN 4 INCHES NOR MORE THAN EIGHT INCHES. SEWER PIPE SHALL BE BACKFILLED A MINIMUM OF 12" OVER THE TOP OF THE PIPE WITH CLASS 1 EMBEDMENT MATERIAL. GRADATION SHALL BE CA - 11 OR CA - 13 WITH A MINIMUM SIZE OF 1/4" D.A. AND A MAXIMUM OF 1" DIA. COST OF EMBEDMENT MATERIAL SHALL BE INCLUDED IN COST OF SEWER PIPE.
- SANITARY MANHOLE**  
(SEE DETAIL) CASTING SHALL BE NENAH NO. 1712 WITH TYPE "A" SELF SEALING SOLID COVER OR APPROVED EQUAL. PROVIDE INTERNAL CRETEX CHIMNEY SEAL OR APPROVED EQUAL.
- GRANULAR TRENCH BACKFILL**  
GRANULAR BACKFILL FOR TRENCHES SHALL BE CLASS 1, GRADATION CA-6.
- WATERMAIN**  
ALL WATER MAIN SHALL BE DUCTILE IRON PIPE, CL 52, CEMENT LINED, CONFORMING TO AWWA C-151, WITH PUSH-ON JOINTS WITH FLEXIBLE ELASTOMERIC GASKETS CONFORMING TO AWWA C-111. ALL NUTS, BOLTS, AND WASHERS ON THE WATER MAIN AND FITTINGS SHALL BE STAINLESS STEEL.
- CASING PIPE BORE AND JACK WITH STAINLESS STEEL CASING SPACERS**  
CASING PIPE SHALL BE AS SHOWN ON PLAN. JOINTS SHALL BE CONTINUOUS WELDED. CASING SPACERS SHALL BE ALL STAINLESS STEEL. CASCADE WATERWORK MFG. OR APPROVED EQUAL. SPACERS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS TO RESTRAIN THE PIPE FROM MOVEMENT IN THE CASING PIPE. THE CASING PIPE SHALL BE SEALED AT BOTH ENDS WITH CASCADE WATERWORKS MFG. MODEL CCES END SEAL WRAP WITH STAINLESS CLAMPS OR APPROVED EQUAL. COST OF CASING SPACERS AND END SEALS SHALL BE INCIDENTAL TO COST OF CASING PIPE. THE COST FOR SANITARY SEWER CONSTRUCTED WITHIN SLEEVES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR SEWER PIPE ITEMS.

TECH 3 CONSULTING GROUP, INC. ASSUMES NO LIABILITY FOR THE CORRECTNESS OR ACCURACY OF THESE PLANS UNLESS AN ORIGINAL SIGNATURE AND SEAL OF A REGISTERED PROFESSIONAL ENGINEER EMPLOYED BY THE CORPORATION ARE AFFIXED TO THIS SHEET OF THESE PLANS.

DATED THIS 5th DAY OF FEBRUARY, 2009

**REGISTERED PROFESSIONAL ENGINEER**  
ILLINOIS  
LICENSE EXPIRES 02/15/2010

EXISTING	WATERMAIN	PROPOSED
	WATERMAIN	
	WATERMAIN AND VALVE BOX	
	HYDRANT INSTALLATION	
	WATERMAIN AND VALVE PIT	
	WATER SERVICE W/ "B" BOX	
	SANITARY SEWER AND MANHOLE	
	SANITARY SEWER AND DROP MANHOLE	
	INLET AND STORM SEWER	
	CATCH BASIN AND STORM SEWER	
	DRAINAGE SWALE	
	SPOT ELEVATION	
	DIRECTION OF OVERLAND DRAINAGE	
	FENCE	
	PROPERTY LINE	
	RIGHT-OF-WAY LINE	
	SLOPE	
	STREET LIGHT	
	PARKING LIGHT	
	I.B.T. BURIED CABLE	
	GAS LINE	
	POWER LINE POLE	
	ELECTRICAL TRANSFORMER	
	ELECTRICAL PEDESTAL	

ILLINOIS PROFESSIONAL DESIGN FIRM NO. 184-002235

**TECH 3 Consulting Group, Inc.**  
ENGINEERS SURVEYORS  
737 West Exchange St. Crete, IL 60417  
ph 708.672.4994 fax 708.672.3739

**Village of Flossmoor**  
Flossmoor, Illinois

DESIGNED BY: RWM  
DRAWN BY: EGH  
CHECKED BY: RWM

**IDOT DIXIE BRIDGE RECONSTRUCTION**  
**UTILITY LOCATION**  
**CONSTRUCTION DETAILS & GENERAL NOTES**  
DATE: FEBRUARY 16, 2007 SCALE: AS NOTED JOB NO. 06702