PRESSURE TEST

1. AS PART OF THE CONSTRUCTION, THE WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH THIS SECTION.

2. ALL NEWLY LAID PIPE SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE TEST OF ONE HUNDRED FIFTY (150) POUNDS PER SQUARE INCH. DURATION OF EACH TEST SHALL BE FOR A PERIOD OF NOT LESS THAN TWO (2) HOURS. EACH VALVED SECTION OF PIPE SHALL BE FILLED WITH WATER AND THE SPECIFIED TEST PRESSURE SHALL BE APPLIED BY MEANS OF A PUMP CONNECTED TO THE PIPE. BEFORE APPLYING THE SPECIFIED TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. ALL LEAKS SHALL BE REPAIRED UNTIL TIGHT. ANY CRACKED OR DEFECTIVE PIPES, FITTINGS, VALVES, OR HYDRANTS DISCOVERED IN CONSEQUENCE OF THIS PRESSURE TEST SHALL BE REMOVED AND REPLACED AND THE TEST REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.

3. ALL TESTING SHALL BE DONE BEFORE THE INSTALLATION OF SERVICE LINES. SUITABLE MEANS SHALL BE PROVIDED FOR DETERMINING THE QUANTITY OF WATER LOST BY LEAKAGE UNDER THE SPECIFIED TEST PRESSURE. ALLOWABLE LEAKAGE SHALL NOT BE GREATER THAN THE FOLLOWING:

12"	1.10 GAL/HR/1000'
10"	0.92 GAL/HR/1000'
8"	0.74 GAL/HR/1000'
6"	0.55 GAL/HR/1000'

LEAKAGE IS DEFINED AS THE QUALITY OF WATER REQUIRED TO BE SUPPLIED TO THE NEWLY LAID PIPE NECESSARY TO MAINTAIN THE SPECIFIED LEAKAGE TEST PRESSURE.

PRELIMINARY FLUSHING

PRIOR TO CHLORINATION, THE MAIN SHALL BE FLUSHED AS THOROUGHLY AS POSSIBLE WITH THE WATER PRESSURE AND OUTLETS AVAILABLE. FLUSHING SHALL BE DONE AFTER THE PRESSURE TEST IS MADE. BECAUSE SUCH FLUSHING REMOVES ONLY THE LIGHTER SOLIDS, IT CANNOT BE RELIED UPON TO REMOVE HEAVY MATERIAL ALLOWED TO GET INTO THE MAIN DURING LAYING. IF NO HYDRANT IS INSTALLED AT THE END OF THE MAIN, A TAP SHOULD BE PROVIDED LARGE ENOUGH TO AFFECT A VELOCITY IN THE MAIN OF AT LEAST TWO AND ONE-HALF (2 ½) FEET PER SECOND.

DISINFECTION

1. THE PREFERRED POINT OF APPLICATION OF THE CHLORINATING AGENT SHALL BE AT THE BEGINNING OF THE PIPELINE EXTENSION OR ANY VALVED SECTION OF IT AND THROUGH A CORPORATION STOP IN THE TOP OF THE NEWLY LAID PIPE. THE INJECTOR FOR DELIVERING THE CHLORINE-GAS INTO THE PIPE SHOULD BE SUPPLIED FROM A TAP ON THE PRESSURE SIDE OF THE GATE VALVE CONTROLLING THE FLOW INTO THE PIPELINE EXTENSION.

2. WATER FROM THE EXISTING DISTRIBUTION SYSTEM OR OTHER SOURCE OF SUPPLY SHALL BE CONTROLLED SO AS TO FLOW SLOWLY INTO THE NEWLY LAID PIPELINE DURING THE APPLICATION OF CHLORINE-GAS. THE RATE OF CHLORINE MIXTURE FLOW SHALL BE IN SUCH PROPORTION TO THE RATE OF WATER ENTERING THE PIPE THAT THE CHLORINE DOSE APPLIED TO THE WATER ENTERING THE NEWLY LAID PIPE SHALL BE AT LEAST FIFTY (50) PPM, OR ENOUGH TO MEET THE REQUIREMENTS DURING THE RETENTION PERIOD. THIS MAY REQUIRE AS MUCH AS ONE HUNDRED (100) PPM OF CHLORINE IN THE WATER LEFT IN THE LINE AFTER CHLORINATION.

3. VALVES SHALL BE MANIPULATED SO THAT THE STRONG CHLORINE SOLUTION IN THE LINE BEING TREATED SHALL NOT FLOW BACK INTO THE LINE SUPPLYING THE WATER.

4. TREATED WATER SHALL BE RETAINED IN THE PIPE LONG ENOUGH TO DESTROY ALL SPORE-FORMING BACTERIA. THIS RETENTION PERIOD SHALL BE AT LEAST TWENTY-FOUR (24) HOURS. AFTER THE CHLORINE-TREATED WATER HAS BEEN RETAINED FOR THE REQUIRED TIME, THE CHLORINE RESIDUAL AT THE PIPE EXTREMITIES AND AT OTHER REPRESENTATIVE POINTS SHOULD BE AT LEAST 25 PPM.

5. IN THE PROCESS OF CHLORINATING NEWLY LAID PIPE, ALL VALVES OR OTHER APPURTENANCES SHALL BE OPERATED WHILE THE PIPELINE IS FILLED WITH THE CHLORINATING AGENT.

6. ALL WATER MAINS SHALL BE DISINFECTED AND TESTED ACCORDING TO REQUIREMENTS OF THE "STANDARDS FOR DISINFECTING WATER MAINS," AWWA C601, AND AS REQUIRED BY THIS SECTION. ALL DISINFECTION, AS REQUIRED BY THIS SECTION, SHALL BE PERFORMED BY AN INDEPENDENT FIRM EXHIBITING EXPERIENCE IN THE METHODS AND TECHNIQUES OF THIS OPERATION, AND SHALL BE APPROVED BY THE VILLAGE ENGINEER.

FINAL FLUSH AND TESTING

1. FOLLOWING CHLORINATION, ALL TREATED WATER SHALL BE THOROUGHLY FLUSHED FROM THE NEWLY LAID PIPELINE AT ITS EXTREMITIES UNTIL THE REPLACEMENT WATER, THROUGHOUT ITS LENGTH SHALL, UPON TEST, BE APPROVED AS SAFE WATER BY THE VILLAGE ENGINEER. THIS QUALITY OF WATER DELIVERED BY THE NEW MAIN SHOULD CONTINUE FOR A PERIOD OF AT LEAST TWO (2) FULL DAYS AS DEMONSTRATED BY LABORATORY EXAMINATION OF SAMPLES TAKEN FROM A TAP LOCATED AND INSTALLED IN SUCH A WAY AS TO PREVENT OUTSIDE CONTAMINATION. SAMPLES SHOULD NEVER BE TAKEN FROM AN UNSTERILIZED HOSE OR FROM A FIRE HYDRANT BECAUSE SUCH SAMPLES SELDOM MEET CURRENT BACTERIOLOGICAL STANDARDS.

2. AFTER DISINFECTING AND FLUSHING, A MINIMUM OF TWO (2) WATER SAMPLES SHALL BE COLLECTED BY THE CONTRACTOR ON TWO SUCCESSIVE DAYS, WITH NOTICE GIVEN, SO THAT THE COLLECTION MAY BE WITNESSED BY THE VILLAGE ENGINEER. BACTERIOLOGICAL SAMPLING AND ANALYSIS OF THE SAMPLES SHALL BE PERFORMED BY A LABORATORY APPROVED BY THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH AND THE VILLAGE ENGINEER. SHOULD THE INITIAL TREATMENT RESULT IN AN UNSATISFACTORY BACTERIAL TEST, THE PROCEDURE SHALL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED. THE CONTRACTOR OR DEVELOPER SHALL PAY FOR THE SAMPLING AND ANALYSIS. RESULTS OF THE ANALYSIS SHALL BE TRANSMITTED BY THE LABORATORY DIRECTLY TO THE VILLAGE ENGINEER. TEST RESULTS SHALL INDICATE THE DATE THE SAMPLE WAS COLLECTED, THE DATE THE ANALYSIS WAS MADE, THE EXACT LOCATION AT WHICH SAMPLES WERE TAKEN, THE FIRM SUBMITTING THE SAMPLE, AND THE PROJECT AT WHICH THE SAMPLES WERE COLLECTED. SUFFICIENT SAMPLES SHALL BE COLLECTED IN ORDER TO INSURE THAT THE SYSTEM IS BACTERIOLOGICALLY SAFE.

STANDARD SPECIFICATIONS

THE STANDARD SPECIFICATIONS WHICH APPLY TO THE CONSTRUCTION WORK AS SHOWN ON THE ENGINEERING PLANS, ARE CONTAINED IN THE FOLLOWING DOCUMENTS:

1. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS ADOPTED JANUARY 1, 2002 BY THE STATE OF ILLINOIS, DEPARTMENT OF TRANSPORTATION AND ALL SUBSEQUENT REVISIONS.

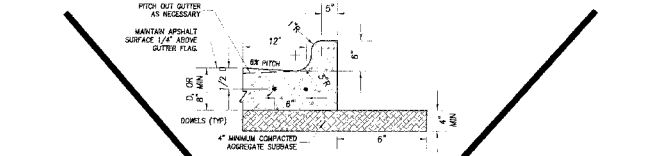
2. STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS FIFTH EDITION, AS ADOPTED MAY, 1996 BY THE ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS, ET AL., AND ALL SUBSEQUENT REVISIONS.

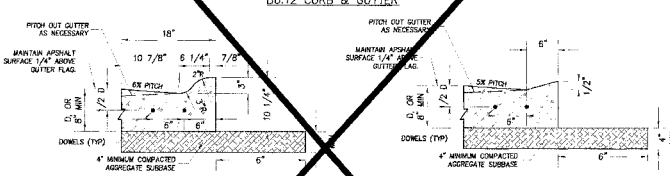
3. STANDARD SPECIFICATIONS AS CURRENTLY IN EFFECT BY THE CITY/ VILLAGE, AND ALL SUBSEQUENT REVISIONS.

4. PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL IN ILLINOIS, LATEST EDITION AND ALL SUBSEQUENT REVISIONS.

IN THE EVENT OF A CONFLICT BETWEEN STATEMENTS WHICH APPLY TO THE CONSTRUCTION WORK, THE STATEMENT CONTAINED WITHIN THE DOCUMENT FIRST ENUMERATED BELOW SHALL GOVERN:

1. SPECIAL PROVISIONS
2. GENERAL NOTES
3. NOTES AND DETAILS ON THE ENGINEERING PLAN
4. STANDARD SPECIFICATIONS, AS DEFINED IN PARAGRAPH 1 ABOVE.

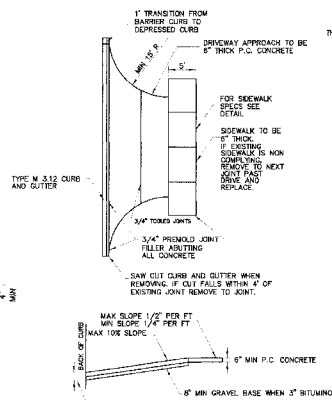




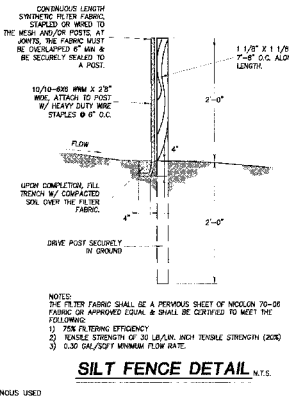
NOTES:

1. 3/4" PREFORMED BITUMINOUS EXPANSION JOINT MATERIAL WITH TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" DIAMETER X 18") WITH GREASE CAPS SHALL BE PLACED EVERY 150', 10' EITHER SIDE OF DRAINAGE STRUCTURES, P.C.'S, RADIUS POINTS AND BACK OF CUL-DE-SACS. WHEN EXPANSION JOINTS ARE CONSTRUCTED ADJACENT TO EXISTING CURB AND GUTTER, THE EXISTING CURB SHALL BE DRILLED AND TWO (2) NUMBER 6 COATED SMOOTH DOWEL BARS (3/4" DIAMETER X 18") GROUTED IN PLACE. GREASE CAPS SHALL BE PLACED ON THE SIDE OF THE NEW CURB AND GUTTER AND SHALL HAVE A PINCHED TOP THAT WILL PROVIDE A MINIMUM 1" EXPANSION.
2. TOOLED CONTROL JOINTS OR SAWCUTS SHALL BE MADE EVERY 15'.
3. SAWCUTS SHALL BE MADE WITHIN TWENTY-FOUR (24) HOURS AND SEALED WITH A CITY APPROVED JOINT SEALANT. JOINTS SHALL BE CLEAN AND DRY PRIOR TO APPLICATION OF SEALANT.
4. ALL CONCRETE SHALL BE CLASS SI, 6 BAG MIX, 5-8% AIR ENTRAINMENT, 2"- 4" MAXIMUM SLUMP. LIGHT BROOM FINISH WITH TWO COATS OF APPROVED CURING SOLUTION.
5. 3/4" PREMOLDED JOINTS SHALL BE PLACED AT ALL ABUTTING CONCRETE.
6. 'D' DENOTES PAVEMENT THICKNESS (FULL DEPTH).

CURB AND GUTTER DETAIL N.T.S.

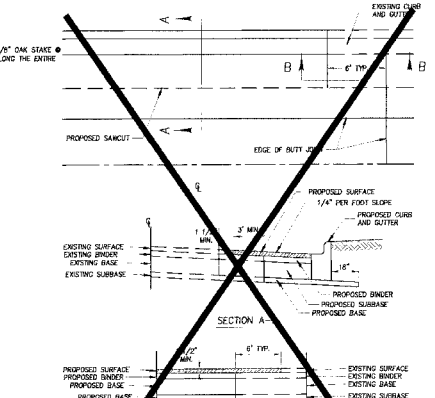


DRIVEWAY ENTRANCE



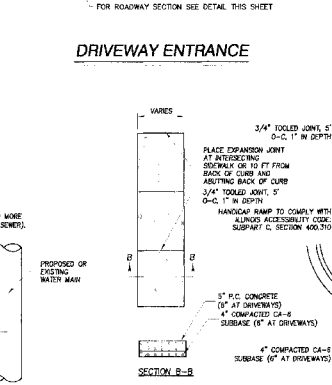
NOTES:
THE FILTER FABRIC SHALL BE A PERVIOUS SHEET OF NICOLON 70-06 FABRIC OR APPROVED EQUAL & SHALL BE CERTIFIED TO MEET THE FOLLOWING:
1) 75% FILTERING EFFICIENCY
2) TENSILE STRENGTH OF 30 LB/LIN. INCH TENSILE STRENGTH (20%)
3) 0.30 GAL/SQ.FT MINIMUM FLOW RATE.

SILT FENCE DETAIL N.T.S.

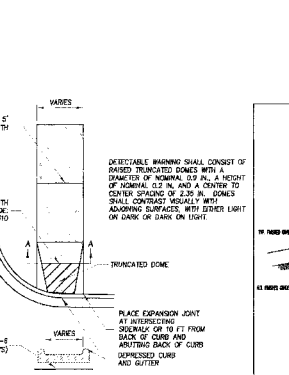


NOTES:
1. FOR GRADING LESS THAN 8" WHERE COMPACTION IS DIFFICULT, CONCRETE BASE SHALL BE USED.
2. FOR THICKNESS OF BITUMINOUS SURFACE, BINDER AND AGGREGATE BASE, SEE TYPICAL SECTION FOR ROADWAY PAVEMENT.

BUTT JOINT DETAIL

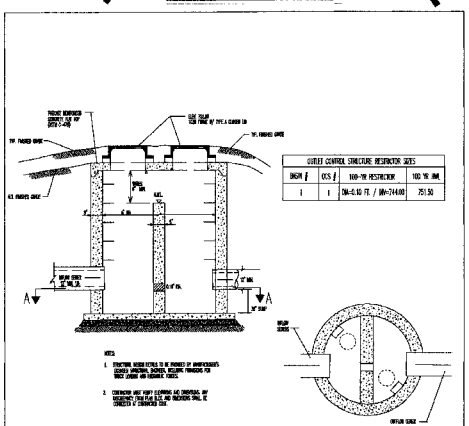


WATER AND SEWER SEPARATION DETAIL (HORIZONTAL SEPARATION) N.T.S.



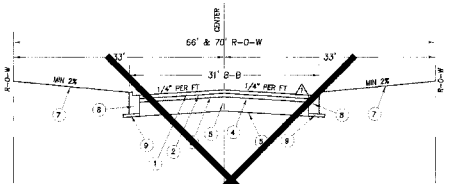
NOTES:
1. ALL CONSTRUCTION MATERIALS AND METHODS SHALL COMPLY WITH THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" IN ILLINOIS ADOPTED JANUARY 1, 2002 BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION UNLESS OTHERWISE SPECIFIED HEREON.
2. ALL CONCRETE SHALL BE 3000 CLASS SI, 5 BAG MIX, 5-8% ENTRAINED AIR, 2"-4" MAXIMUM SLUMP WITH A BROOMED FINISH.
3. SAWCUT EXISTING CURB PERPENDICULAR TO BACK 6" FOR THE EDGE OF WALK UNLESS CUT FALLS WITHIN 5 FEET OF EXISTING JOINT. REMOVE TO EXISTING JOINT. FOR FURTHER INFORMATION, REFER TO CURB AND GUTTER DETAIL.
4. PLACE TYPE II BARRICADES WITH FLASHING LIGHTS ON ALL SIDES OF EXCAVATIONS. MAINTAIN BARRICADES FOR A MINIMUM OF 72 HOURS AFTER POUR.
5. PLACE 3/4" PREMOLDED EXPANSION JOINTS WHERE ABUTTING EXISTING CONCRETE AND ON BOTH SIDES OF UTILITY STRUCTURES AND EVERY 50' 0-C.
6. MINIMUM TRANSVERSE SLOPE SHALL BE 1/4" PER FOOT (2%) AND THE MAXIMUM SHALL BE 1/2" PER FOOT (4%).
7. MAXIMUM LONGITUDINAL SLOPE SHALL NOT EXCEED 8% (8:1)
8. SIDEWALK SHALL BE 5 INCH THICK P.C. CONCRETE AS SPECIFIED ABOVE. AT DRIVEWAY CROSSINGS, THE THICKNESS SHALL BE 6 INCHES.
9. ALL SIDEWALKS SHALL BE PROMPTLY BACKFILLED AND PROTECTED FROM DAMAGE.
10. NO REINFORCED STEEL SHALL BE PLACED WITHIN A PUBLIC SIDEWALK WITHOUT SPECIFIC PERMISSION OF THE VILLAGE INSPECTOR, INCLUDING UTILITY TRENCH CROSSINGS.

PCC SIDEWALK DETAIL

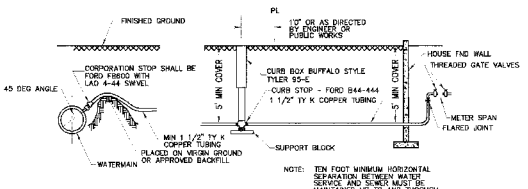


OUTLET CONTROL STRUCTURE DETAIL

NO SCALE



TYPICAL PAVEMENT SECTION



WATER SERVICE

STANDARD DESIGN DETAIL	
DRAWING NO. ST-1	
DATE: 10/30, 2003	

NELSON MEADOW - PHASE I

WEST SIDE OF CARPENTER STREET
DOWNERS GROVE, ILLINOIS

GENERAL NOTES AND DETAILS

DRAWN BY: CNW | CHECKED BY: TRH
SCALE: N.T.S. | DATE: 08-31-10
JOB NUMBER: 04-239 | SHEET: 3 OF 11

Consulting Civil Engineering
Land Planning & Surveying
1050 Stuart Route 176
Diamond, Illinois 60416
voice 815.254-0503
fax 815-536-5138
C.M. Lavoie & Associates, Inc.

#	DATE	DESCRIPTION
1	01-11-11	PER VILLAGE REVIEW
2		
3		
4		
5		
6		
7		
8		

⚠ REVISED PER VILLAGE REVIEW.
1. NO REVISIONS THIS SHEET.