

VILLAGE OF DOWNERS GROVE
Report for the Village Council Meeting
4/11/2017

SUBJECT:	SUBMITTED BY:
Acceptance of Public Improvements – Brian Grant Court	Nan Newlon Director of Public Works

SYNOPSIS

A resolution has been prepared to accept the public improvements for the Brian Grant Court development.

STRATEGIC PLAN ALIGNMENT

The goals for 2015-2017 include *Top Quality Infrastructure*.

FISCAL IMPACT

N/A

RECOMMENDATION

Approval on the April 11, 2017 consent agenda.

BACKGROUND

Brian Grant Court is located northwest of the intersection of 63rd and Springside Avenue. The subdivision consists of nine single-family homes and a stormwater management basin located on a separate lot, to be maintained by the homeowners association (HOA). The public improvements, which include the streets, sidewalks, street lighting and other infrastructure in the public right-of-way, have been inspected and recommended for acceptance by staff. The stormwater management basin is considered a public improvement, but will be maintained by the HOA. Because the Village drew upon the letter of credit to complete the public improvements there will not be a warranty period for the public improvements.

ATTACHMENTS

Resolution
Engineering Improvement Plans

RESOLUTION NO. _____**A RESOLUTION AUTHORIZING ACCEPTANCE OF
PUBLIC IMPROVEMENTS – BRIAN GRANT COURT SUBDIVISION**

WHEREAS, The Village Council has previously approved final plans for the Brian Grant Court Subdivision; and,

WHEREAS, Naneil Newlon, Director of Public Works, has recommended acceptance of these public improvements.

NOW, THEREFORE, BE IT RESOLVED by the Village Council of The Village of Downers Grove, DuPage County, Illinois, as follows:

1. That the Village hereby accepts those municipal public improvements constructed as part of the Brian Grant Court Subdivision generally located on the northwest side of 63rd Street & Springside Avenue, in accordance with the approved plans and specifications, as more accurately depicted on attached Exhibit A.
2. That the proper officials, agents and employees of the Village are hereby authorized and directed to take such further action as they may deem necessary or appropriate to perform all obligations and commitments of the Village in accordance with the provisions of the Resolution.
3. That all resolutions or parts of resolutions in conflict with the provisions of the Resolution are hereby repealed.
4. That this Resolution shall be in full force and effect from and after its passage as provided by law.

Mayor

Passed:

Published:

Attest: _____

Village Clerk

BRIAN COURT SUBDIVISION

ENGINEERING IMPROVEMENT PLANS



PARCEL 1: THE SOUTH 206.60 FEET (EXCEPT THE SOUTH 100.00 FEET) OF THE NORTH 400.00 FEET OF LOT 31 IN ARTHUR I. MC BRUGH AND COMPANY'S DUNHAM STREET SUBDIVISION BEING A SUBDIVISION OF PART OF THE SOUTH 1/2 OF SECTION 18, TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED DECEMBER 7, 1923 AS DOCUMENT 172338 AND CERTIFICATE OF CORRECTION FILED FEBRUARY 11, 1924 AS DOCUMENT 174154, IN DU PAGE COUNTY, ILLINOIS.

PARCEL 2: LOT 32 (EXCEPT THE SOUTH 166.00 FEET THEREOF) IN ARTHUR I. MC BRUGH AND COMPANY'S DUNHAM STREET SUBDIVISION BEING A SUBDIVISION OF PART OF THE SOUTH 1/2 OF SECTION 18, TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED DECEMBER 7, 1923 AS DOCUMENT 172338 AND CERTIFICATE OF CORRECTION FILED FEBRUARY 11, 1924 AS DOCUMENT 174154, IN DU PAGE COUNTY, ILLINOIS.

PARCEL 3: LOT 33 (EXCEPT THE SOUTH 206.60 FEET OF THE EAST 100.00 FEET AND EXCEPT THE SOUTH 360.00 FEET OF THE WEST 180.00 FEET THEREOF) IN ARTHUR I. MC BRUGH AND COMPANY'S DUNHAM STREET SUBDIVISION BEING A SUBDIVISION OF PART OF THE SOUTH 1/2 OF SECTION 18, TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED DECEMBER 7, 1923 AS DOCUMENT 172338 AND CERTIFICATE OF CORRECTION FILED FEBRUARY 11, 1924 AS DOCUMENT 174154, IN DU PAGE COUNTY, ILLINOIS.

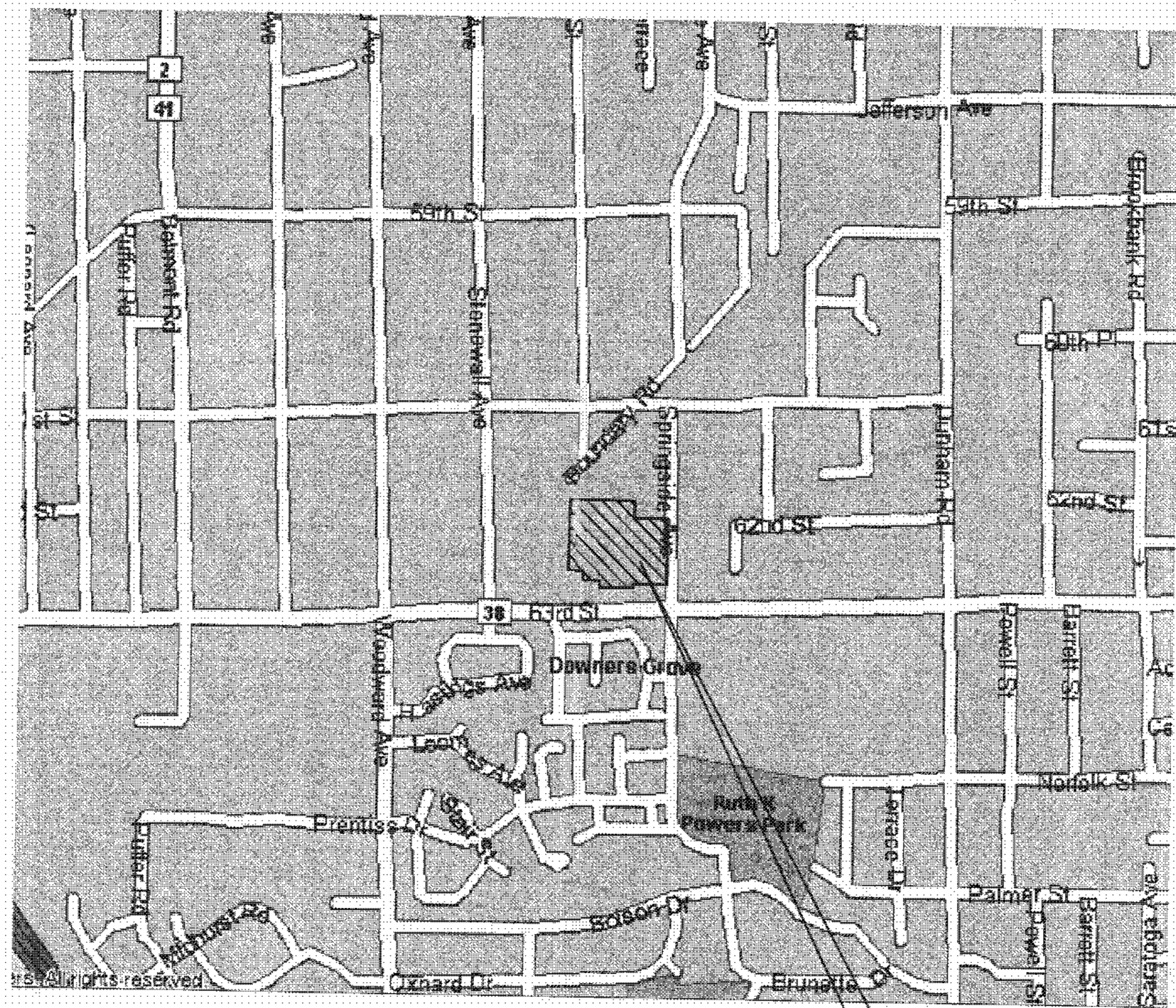
PARCEL 4: THE SOUTH 166.00 FEET (EXCEPT THE NORTH 100.00 FEET) OF THE NORTH 400.00 FEET OF LOT 31 IN ARTHUR I. MC BRUGH AND COMPANY'S DUNHAM STREET SUBDIVISION BEING A SUBDIVISION OF PART OF THE SOUTH 1/2 OF SECTION 18, TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED DECEMBER 7, 1923 AS DOCUMENT 172338 AND CERTIFICATE OF CORRECTION FILED FEBRUARY 11, 1924 AS DOCUMENT 174154, IN DU PAGE COUNTY, ILLINOIS.

PARCEL 5: LOT 31 (EXCEPT THE NORTH 400.00 FEET) AND ALSO EXCEPT THE SOUTH 187 FEET THEREOF IN ARTHUR I. MC BRUGH AND COMPANY'S DUNHAM STREET SUBDIVISION BEING A SUBDIVISION OF PART OF THE SOUTH 1/2 OF SECTION 18, TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED DECEMBER 7, 1923 AS DOCUMENT 172338 AND CERTIFICATE OF CORRECTION FILED FEBRUARY 11, 1924 AS DOCUMENT 174154, IN DU PAGE COUNTY, ILLINOIS.

INITIAL BENCHMARK:
 DUPAGE COUNTY BENCHMARK FOR
 DOWNERS GROVE TOWNSHIP.
 BENCHMARK # dgn18001
 ELEV: 745.87

BENCHMARK #1:
 CROSS CUT ON SOUTHWEST BONNET
 BOLT OF FIRE HYDRANT.
 ELEV: 742.31

BENCHMARK #2:
 CROSS CUT ON NORTHWEST BONNET
 BOLT OF FIRE HYDRANT.
 ELEV: 743.44



LOCATION MAP

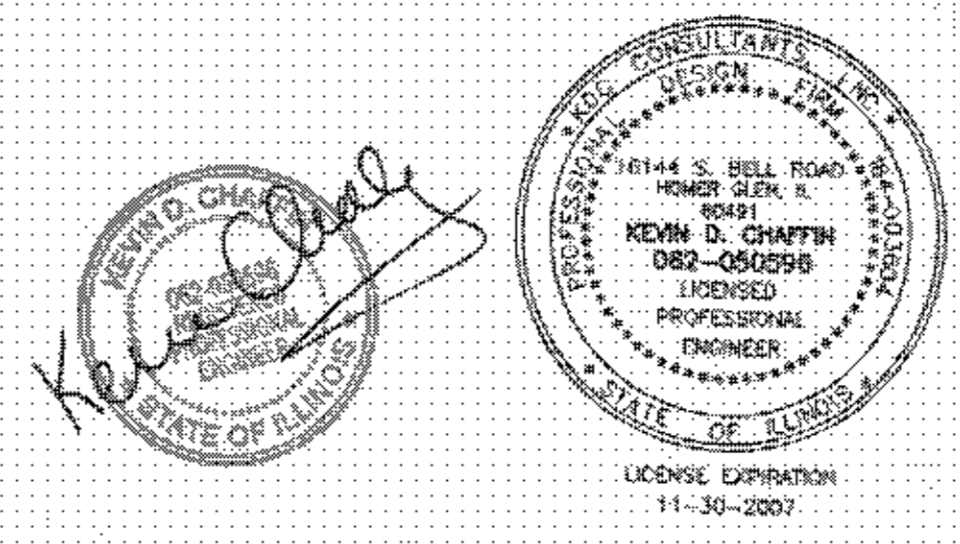
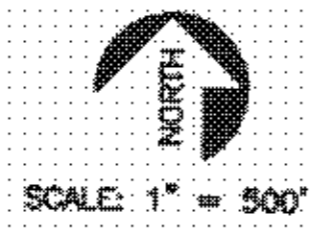
SUBJECT SITE

DATA TABLE	
ZONED	
PROJECT AREA	6.22 ACRES
LOTS	10 UNITS
DENSITY	1.6 UNITS/ACRE
MINIMUM AREA	11,200 S.F.
AVERAGE AREA	14,217 S.F.
MINIMUM FRONTAGE	75 FT. REQUIRED
MINIMUM DEPTH	140 FT. REQUIRED
SETBACKS	
FRONT	30 FT.
SIDE	?? FT.
REAR	?? FT.
CORNER	30 FT.

LEGEND		
	EXISTING	PROPOSED
WATER MAIN	—W—	—W—
STORM SEWER	—S—	—S—
SANITARY SEWER	—S—	—S—
MANHOLE	○	○
STORM MANHOLE	○	○
INLET	○	○
FLARED END SECTION	○	○
FIRE HYDRANT	○	○
WATER VALVE	○	○
LIGHT POLE	○	○
TOP OF FOUNDATION	1/4" 700.00	1/4" 700.00
SPOT ELEVATION	1 00.00	1 00.00
SMALL	—	—
OVERLAND FLOW ROUTE	—	—

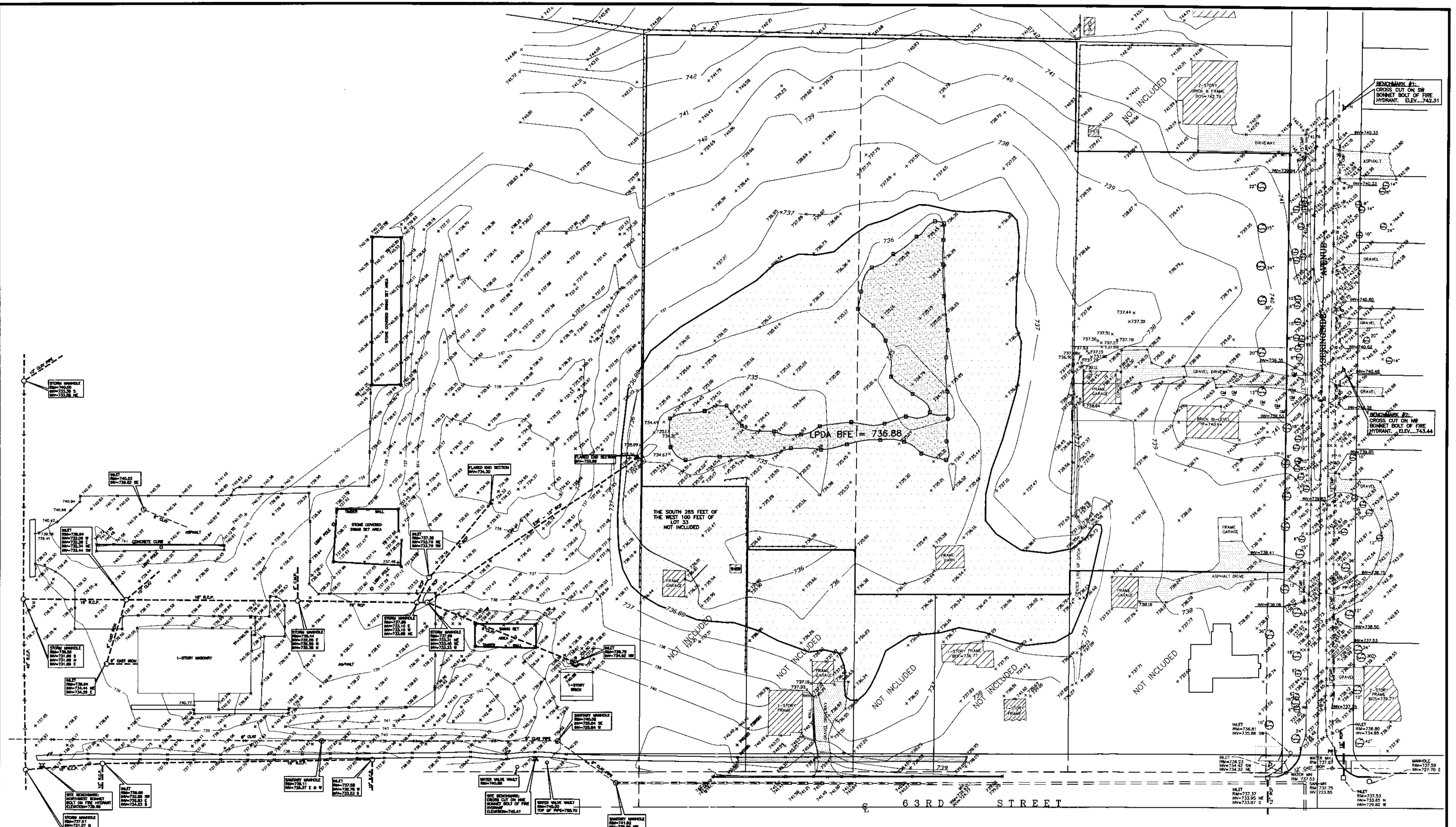
INDEX

1. COVER
2. EXISTING TOPOGRAPHY
3. LOT GEOMETRY & LIGHTING PLAN
4. UTILITY PLAN
5. GRADING PLAN
6. PLAN & PROFILE
7. NOTES
8. DETAILS
9. DETAILS
10. DETAILS



APPROVED FOR THE VILLAGE OF DOWNERS GROVE, ILLINOIS
 APPROVED BY THE VILLAGE ENGINEER
 APPROVED BY THE VILLAGE CLERK

DATED: JULY 27, 2006 REVISION DATE ORIGINAL 4/01/05 VILLAGE COMMENTS 5/13/05 VILLAGE COMMENTS 7/05/05 VILLAGE COMMENTS 8/28/05 VILLAGE COMMENTS 12/12/05 VILLAGE COMMENTS 1/08/06 VILLAGE COMMENTS 7/27/06	ENGINEERED BY: KDC CONSULTANTS INC. 18144 S. BELL ROAD HOMER GLEN, ILLINOIS 60481 (708) 845-0545 Fax 845-0546
PREPARED FOR: ATLANTIC HOMES, INC. 9010 S. BELOIT BRIDGEVIEW, ILLINOIS 60455 (708) 233-9242	PROJECT 04-09-099-ENG
1 PAGE OF 10 © COPYRIGHT ALL RIGHTS RESERVED	



SCALE: 1" = 40'

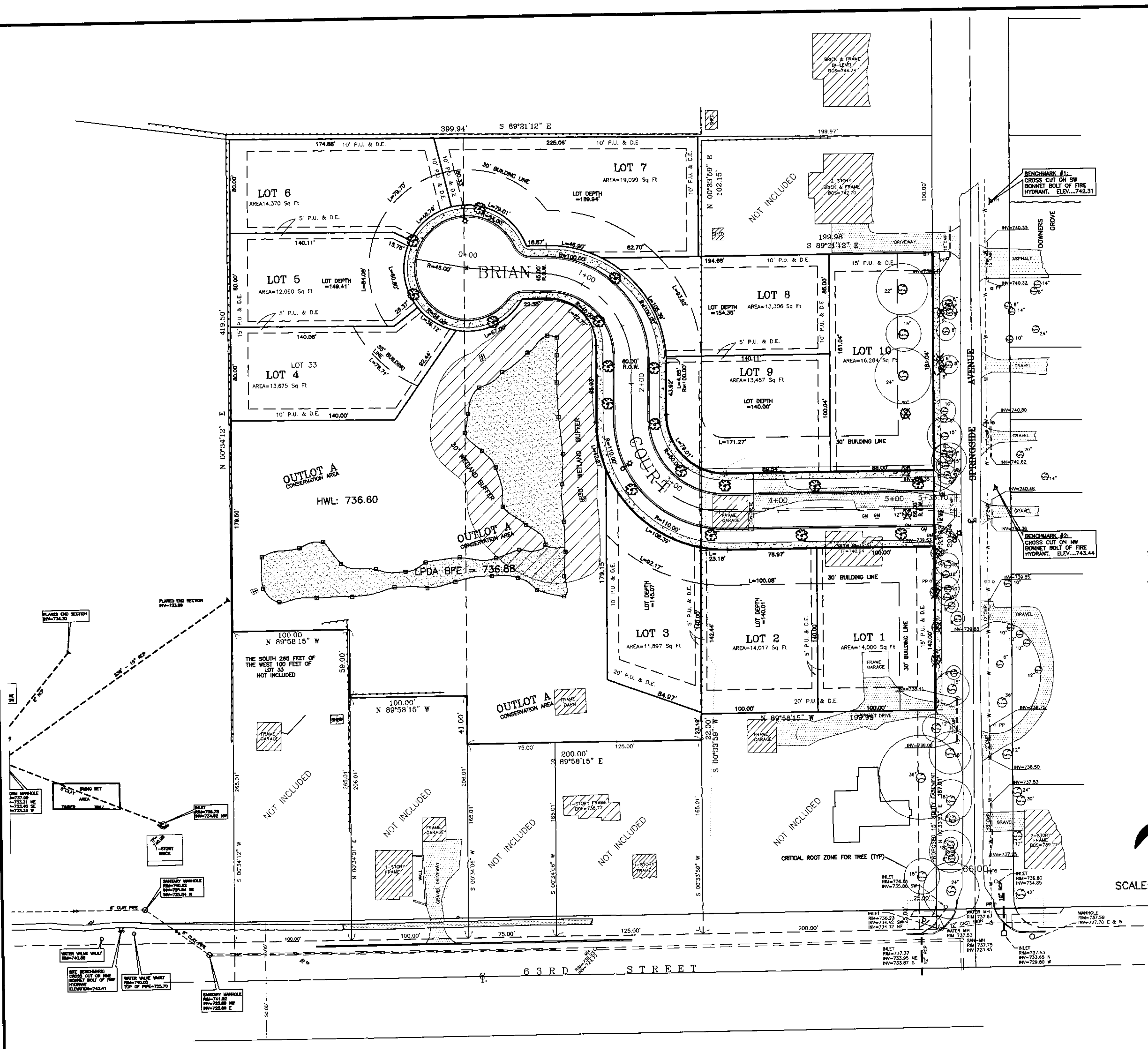
DATE:	JULY 27, 2006
REVISION	DATE
ORIGINAL	4/01/05
VILLAGE COMMENTS	7/05/05
VILLAGE COMMENTS	8/26/05

ENGINEERED BY:
KDC CONSULTANTS INC.
 16144 S. BELL ROAD
 HOMER GLEN, ILLINOIS 60491
 (708) 645-0545 Fax: 645-0548

BRIAN COURT SUBDIVISION
EXISTING TOPOGRAPHY

PROJECT
 04-09-099-ENG

PAGE
 2 OF 10
 © COPYRIGHT, ALL RIGHTS RESERVED

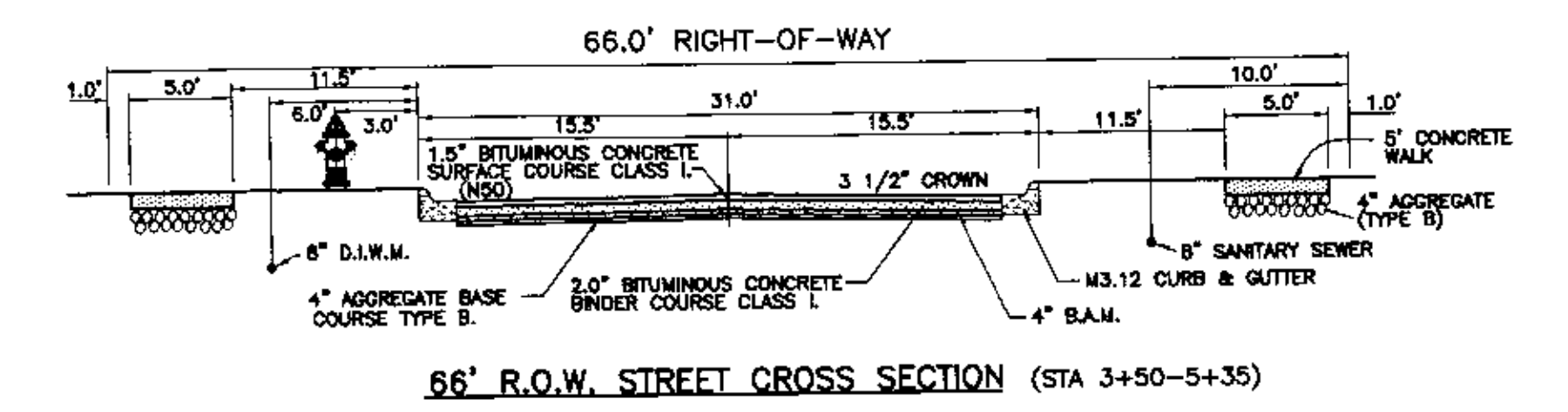
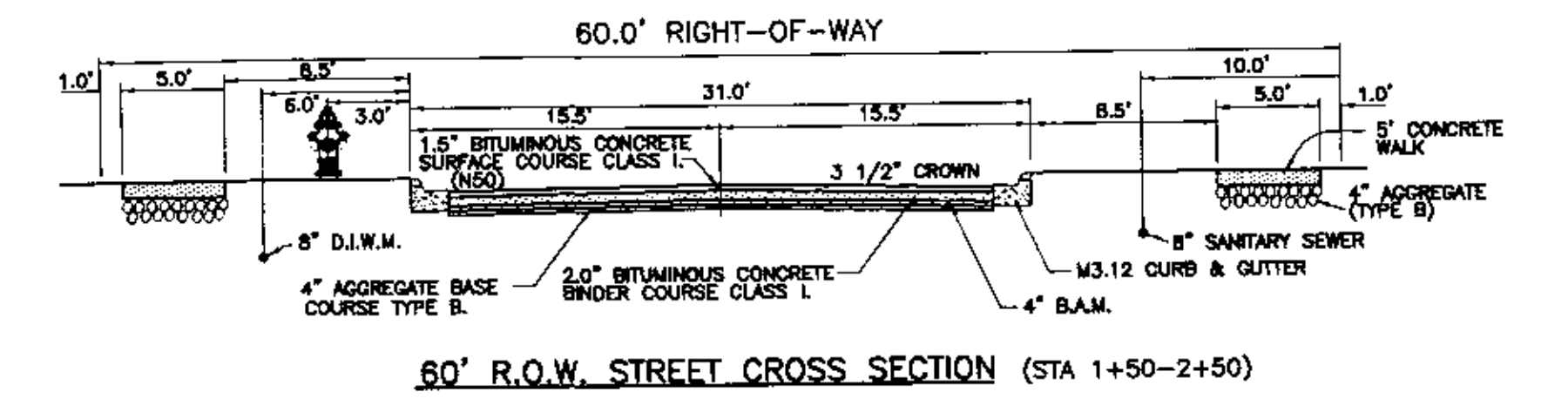
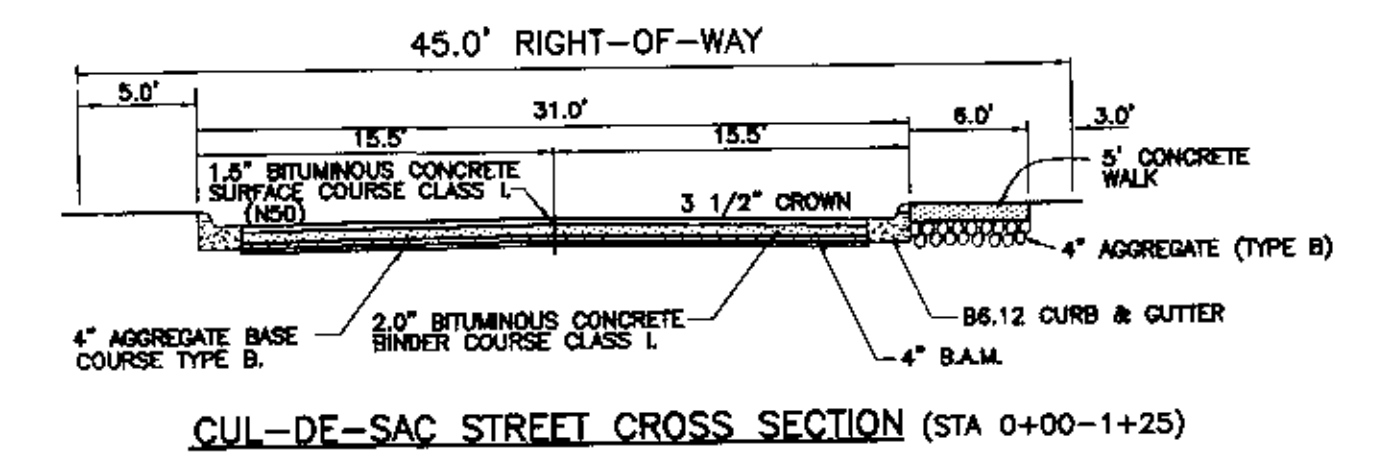


LANDSCAPE NOTES:
 ALL THE PARKWAY TREES ALONG THE CUL-DE-SAC WILL BE NEW TREES. THE TREES MUST BE A MIXTURE OF TREE SPECIES AND MAY INCLUDE ANY OF THE TREE SPECIES SHOWN BELOW, BECAUSE OF EMERALD ASH BORER INSECT OUTBREAKS IN MICHIGAN AND THE CONTINUED THREAT OF THE INSECT SPREADING TO ILLINOIS, NO ASH TREE SPECIES ARE ALLOWED. OTHER ACCEPTABLE TREE SPECIES INCLUDE BUR OAK, HYBRID ELMS, AMERICAN LINDEN AND LITTLELEAF LINDEN. TREES MUST HAVE STRAIGHT STEMS WITH AT LEAST 2-INCH DIAMETER AT 6 INCHES ABOVE GROUND. SPACING IS GENERALLY 40 FEET BETWEEN TREES AND 10 FEET FROM DRIVEWAYS AND B-BOXES. FORESTRY STAFF SHALL HAVE FINAL APPROVAL OF TREE SPECIES AND SPACING BEFORE THE PUBLIC IMPROVEMENTS ARE ACCEPTED.

TREE SPECIES (SIZE 2" B & B)	QUANTITY
FREMONT MAPLE	4
PEAR	4
HACKBERRY	4
HONEYLOCUST	4
SWAMP WHITE OAK	5
TOTAL REQUIRED TREES =	21

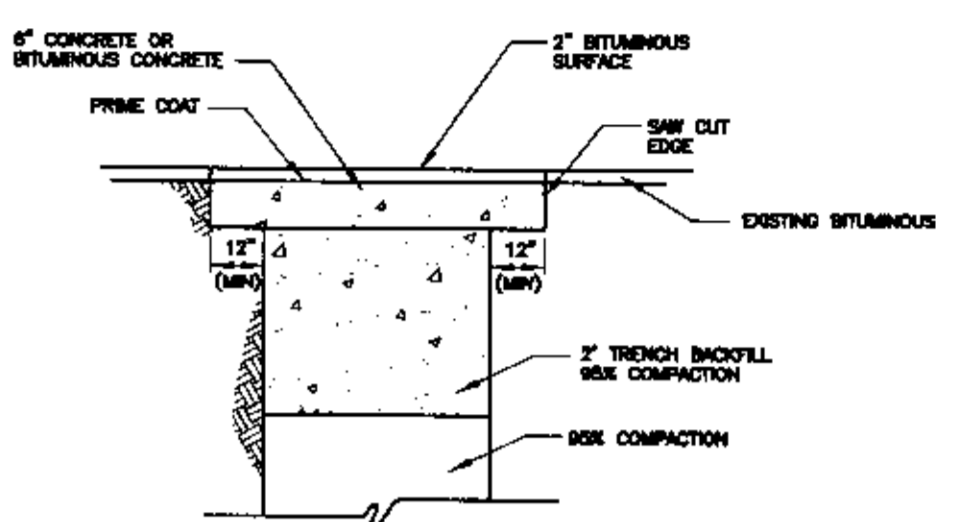
SUBJECT TO AVAILABILITY AND PLANTING SEASON, THE FORESTRY DIVISION MAY CHOOSE TO SUBSTITUTE OTHER APPROPRIATE TREE SPECIES.

- NOTES:
- 1) DEVELOPER TO MAKE A CASH-IN-LIEU OF PAVEMENT FOR IMPROVEMENTS TO SPRINGSIDE AVENUE, (INCLUDING ROADWAY WIDENING AND CURB & GUTTER.)
 - 2) OUTLOT A TO BE MAINTAINED BY A HOME OWNERS ASSOCIATION.
 - 3) PROPOSED SPEED LIMIT = 15 MPH



SCALE: 1" = 40'

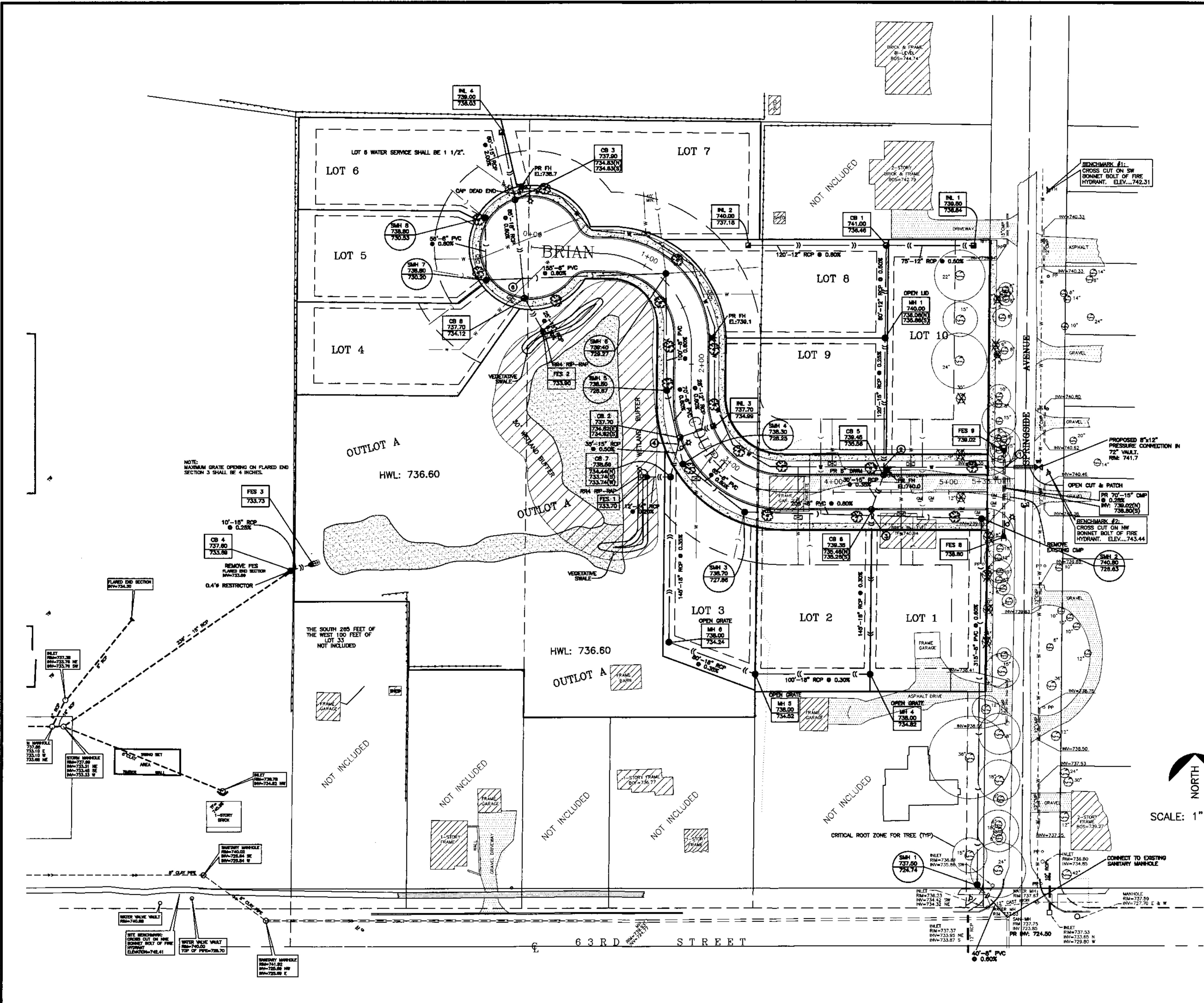
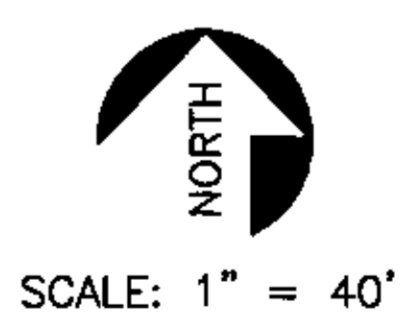
DATED: JULY 27, 2006		ENGINEERED BY: KDC CONSULTANTS INC. 16144 S. BELL ROAD HOMER GLEN, ILLINOIS 60491 (708) 645-0545 Fax: 645-0546	
REVISION	DATE	BRIAN COURT SUBDIVISION LOT GEOMETRY & LIGHTING PLAN	
ORIGINAL	4/01/05		
VILLAGE COMMENTS	8/28/05		
VILLAGE COMMENTS	12/12/05		
VILLAGE COMMENTS	7/27/06	PROJECT 04-09-099-ENG	
		3 PAGE OF 10 © COPYRIGHT, ALL RIGHTS RESERVED	



PATCHING DETAIL

CROSSING DATA		TP - TOP OF PIPE	BP - BOTTOM OF PIPE
1.	STORM SEWER	TP 740.20/	BP 738.95
	WATER MAIN	TP 734.67/	BP 734.00
2.	STORM SEWER	TP 737.48/	BP 735.71
	WATER MAIN	TP 734.20/	BP 733.53
3.	STORM SEWER	TP 737.38/	BP 733.58
	SANITARY SEWER	TP 727.87/	BP 727.21
4.	STORM SEWER	TP 736.50/	BP 734.50
	SANITARY SEWER	TP 729.07/	BP 728.40
5.			
6.	STORM SEWER	TP 736.45/	BP 734.95
	SANITARY SEWER	TP 730.67/	BP 730.00

- NOTES:
1. PROPOSED PRESSURE TAP TO BE IN 72" VAULT. SHUT OFF VALVES TO BE RESILIENT WEDGE TYPE GATE VALVES.
 2. FIRE HYDRANTS TO CONFORM WITH VILLAGE SPECIFICATIONS.
 3. WATERMAIN TO BE CLASS 52 DUCTILE IRON.
 4. WATER SERVICES TO BE 1-1/2" TYPE K COPPER.
 5. SEE VILLAGE DETAIL FOR RESTRICTOR CONFIGURATION.
 6. DOWNERS GROVE SANITARY DISTRICT STANDARDS AND ORDINANCES SHALL GOVERN ALL SANITARY SEWER CONSTRUCTION.
 7. THE SEWER CONTRACTOR SHALL SCHEDULE WITH THE SANITARY DISTRICT A PRE-CONSTRUCTION MEETING PRIOR TO THE START OF CONSTRUCTION.
 8. THE SEWER CONTRACTOR SHALL SCHEDULE WITH THE SANITARY DISTRICT INSPECTIONS OF THE SANITARY SEWER CONSTRUCTION 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION.
 9. THE CONNECTION INTO THE EXISTING MANHOLE SHALL BE MADE BY CORE DRILLING THE MANHOLE AND INSTALLING A RUBBER BOOT TO INSURE A WATERTIGHT SEAL. THE MANHOLE BENCH SHALL ALSO BE REFORMED TO PROVIDE A SMOOTH FLOWING INVERT.
 10. THE CONSTRUCTED SEWERS SHALL PASS ALL DISTRICT REQUIREMENTS FOR AIR, ALIGNMENT, DEFLECTION AND MANHOLE VACUUM TESTS.
 11. THE CONSTRUCTED SEWERS MUST BE TELEVIEWED UNDER SIMULATED FLOW CONDITIONS. DISTRICT PERSONNEL MUST BE PRESENT DURING TELEVIEWING. NO SAGS GREATER THAN 25% OF THE PIPE DIAMETER WILL BE ACCEPTED. ALL UNACCEPTABLE SAGS MUST BE REPLACED IN A MANNER ACCEPTABLE TO THE DISTRICT.
 12. ALL PUBLIC SANITARY SEWERS SHALL BE LAID WITH STRAIGHT ALIGNMENT AND UNIFORM SLOPE BETWEEN MANHOLES. CONTRACTORS ARE REQUIRED TO USE A LASER TO SET PIPE SLOPE AND ALIGNMENT FOR PUBLIC SANITARY SEWER MAIN CONSTRUCTION. THE ALIGNMENT AND SLOPE SHALL BE CHECKED BY TELEVIEWING IN ACCORDANCE WITH SANITARY DISTRICT CONSTRUCTION INSPECTION REQUIREMENTS.
 13. ALL SERVICE CONNECTIONS INTO MANHOLE SHALL BE DONE AT THE LOWEST MANHOLE INVERT ELEVATIONS AND THE MANHOLES SHALL HAVE A PRE-CAST INVERT AND BENCH FORMED TO ACCEPT THE SERVICE CONNECTIONS.



REVISION	DATE
ORIGINAL	4/01/05
VILLAGE COMMENTS	7/05/05
VILLAGE COMMENTS	8/26/05
VILLAGE COMMENTS	12/12/05
VILLAGE COMMENTS	1/06/06
VILLAGE COMMENTS	7/27/06

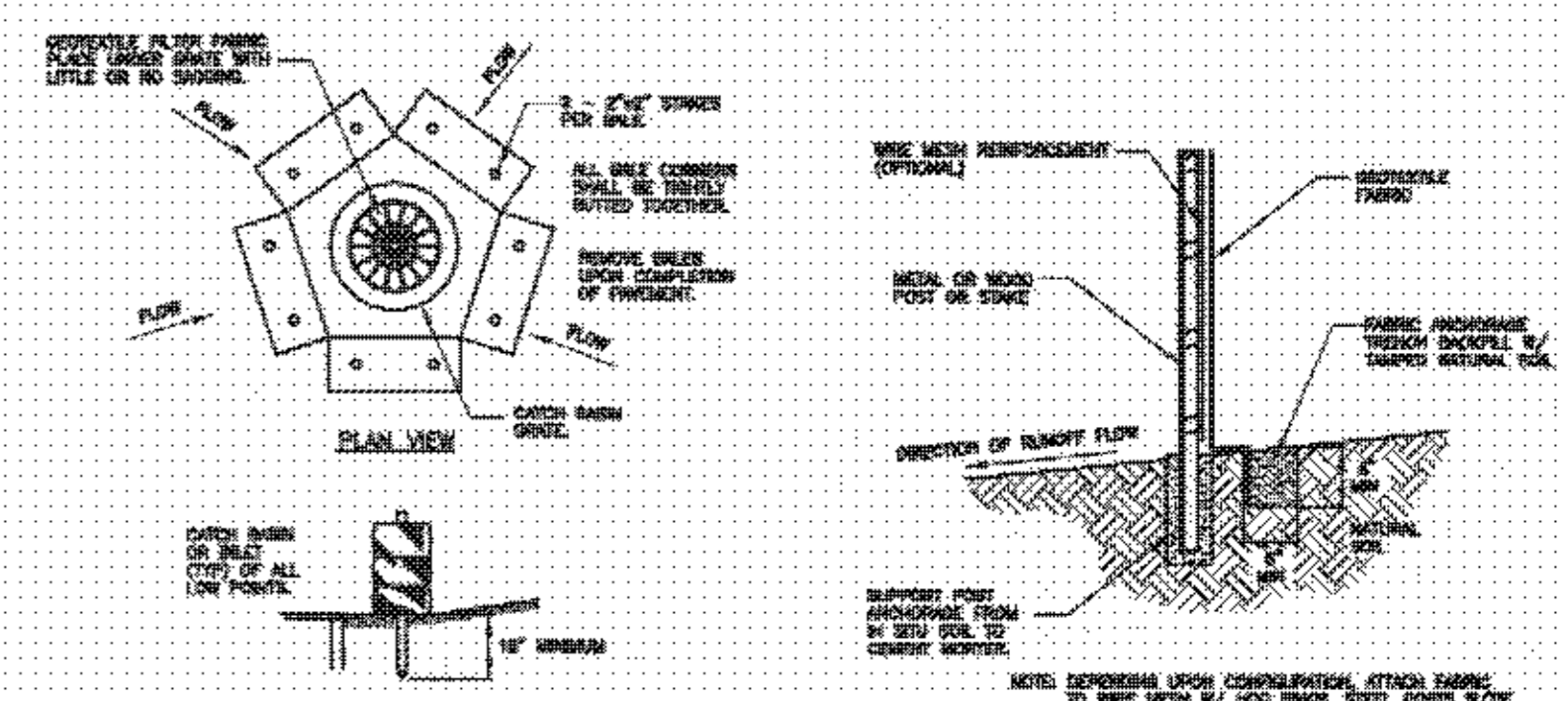
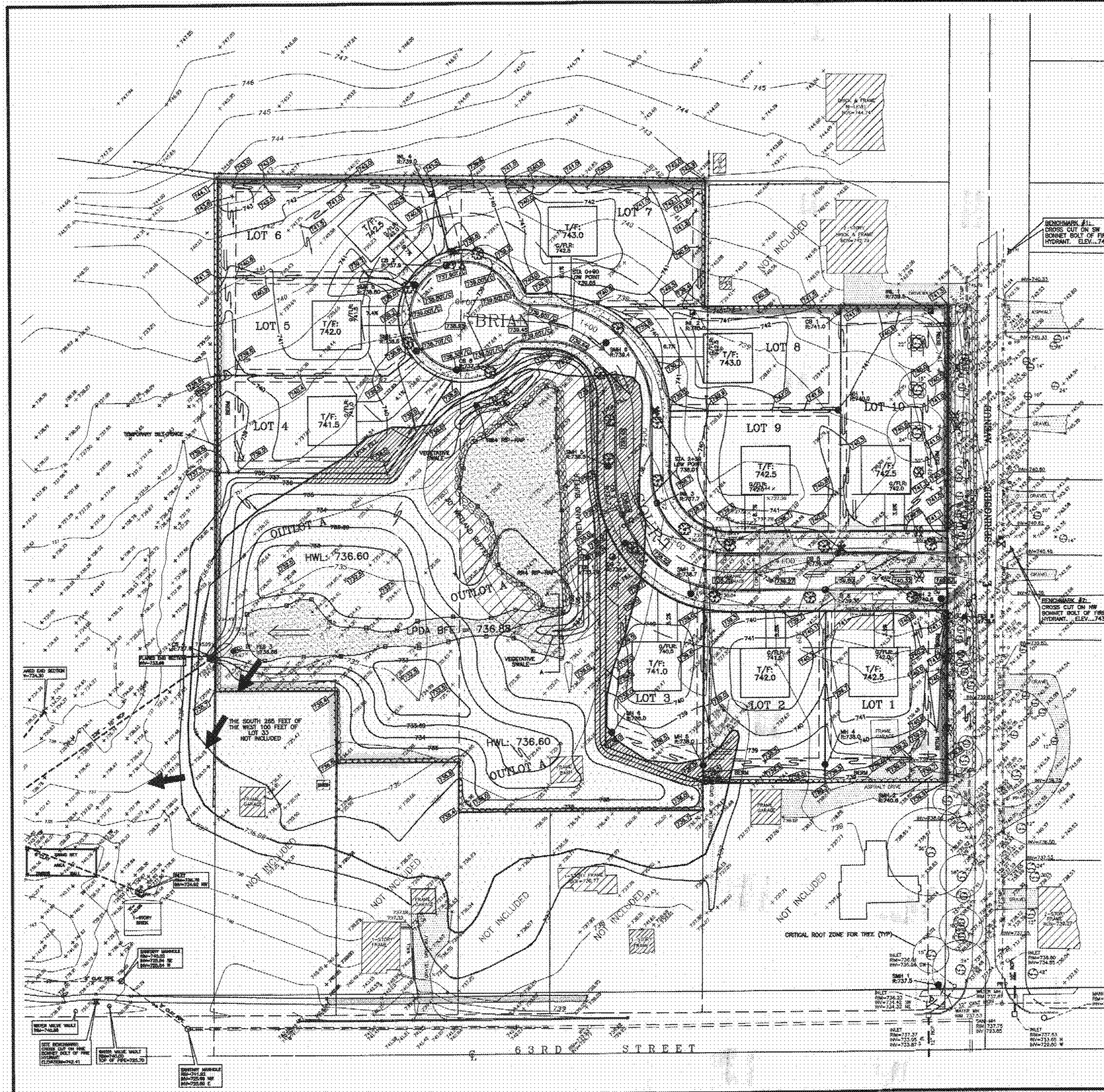
ENGINEERED BY:
KDC CONSULTANTS INC.
 16144 S. BELL ROAD
 HOMER GLEN, ILLINOIS 60491
 (708) 645-0545 Fax: 645-0548

**BRIAN COURT SUBDIVISION
 UTILITY PLAN**

PROJECT
 04-09-099-ENG

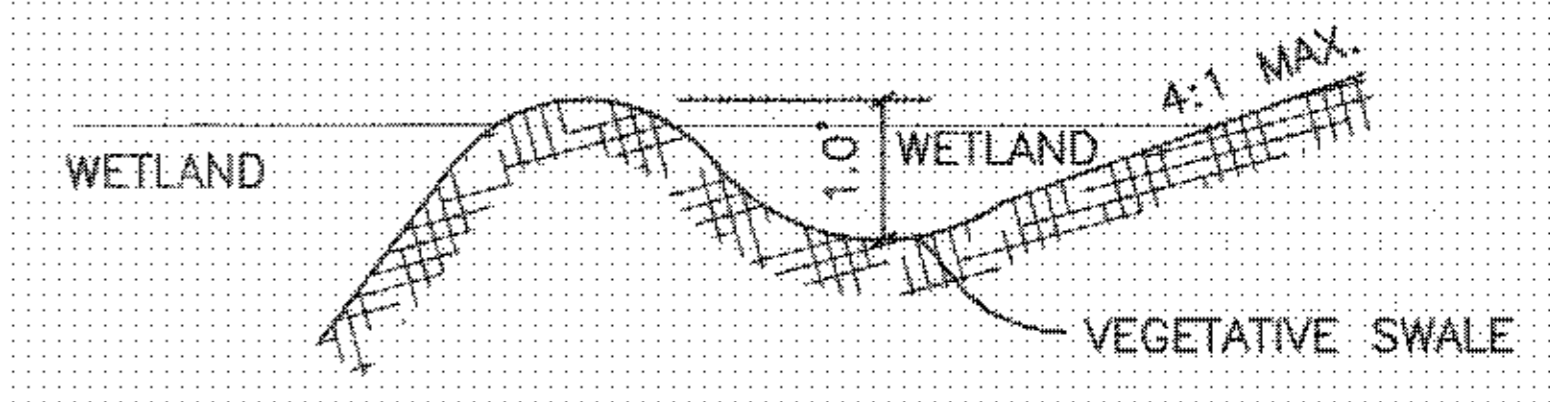
4 PAGE
 OF **10**

© COPYRIGHT, ALL RIGHTS RESERVED

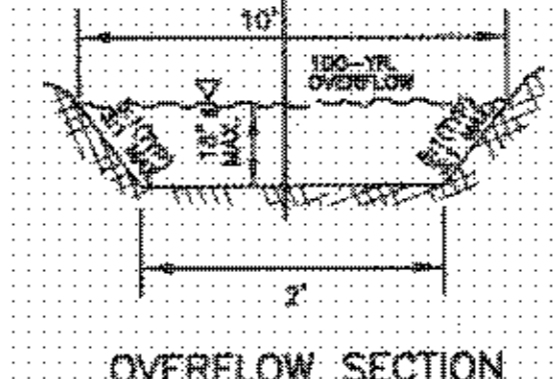


SOIL EROSION CONTROL FOR INLETS & CATCH BASINS

SILT FENCE DETAIL

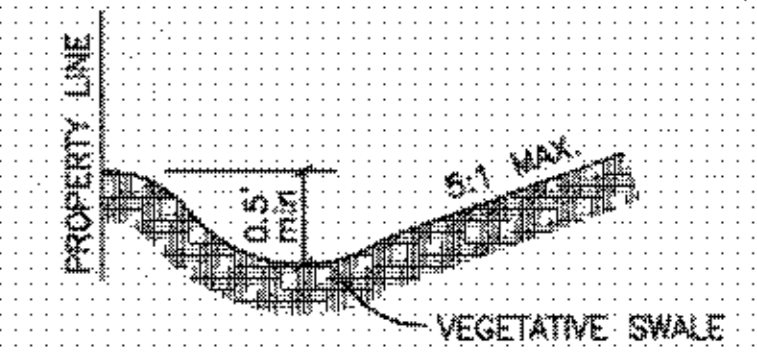


SECTION A-A VEGETATIVE SWALE



OVERFLOW SECTION

OVERFLOW DATA TABLE	
LOT	FLOW DEPTH (ft)
2	0.18
4	0.41
6/7	0.22
7	0.21



SWALE CROSS SECTION

- NOTES:
- SEE SOIL REPORT FOR APPROXIMATE DEPTHS OF 3000 psf SOIL.
 - STOCKPILES WILL NOT BE LOCATED WITHIN SPECIAL MANAGEMENT AREAS AT ANY TIME.

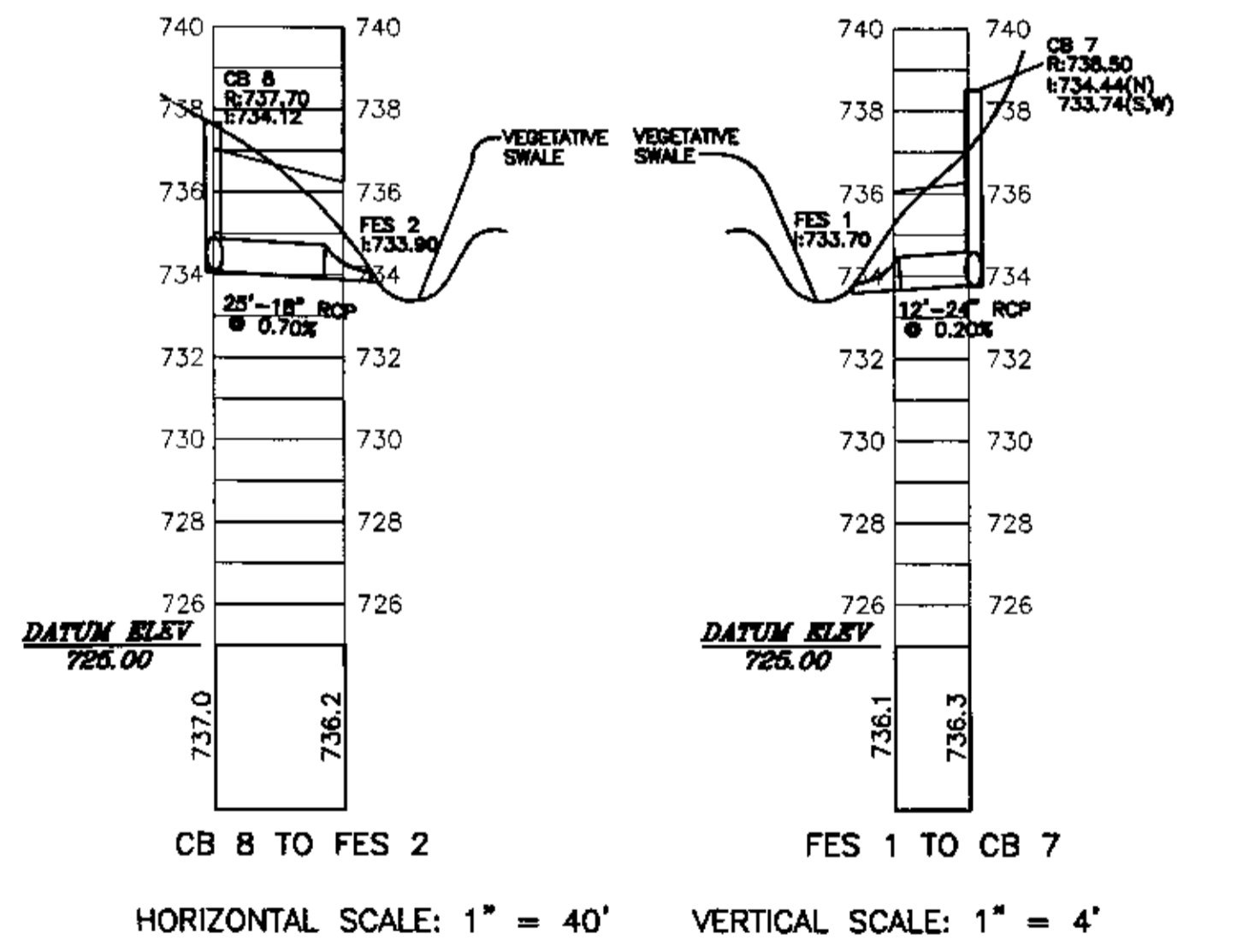
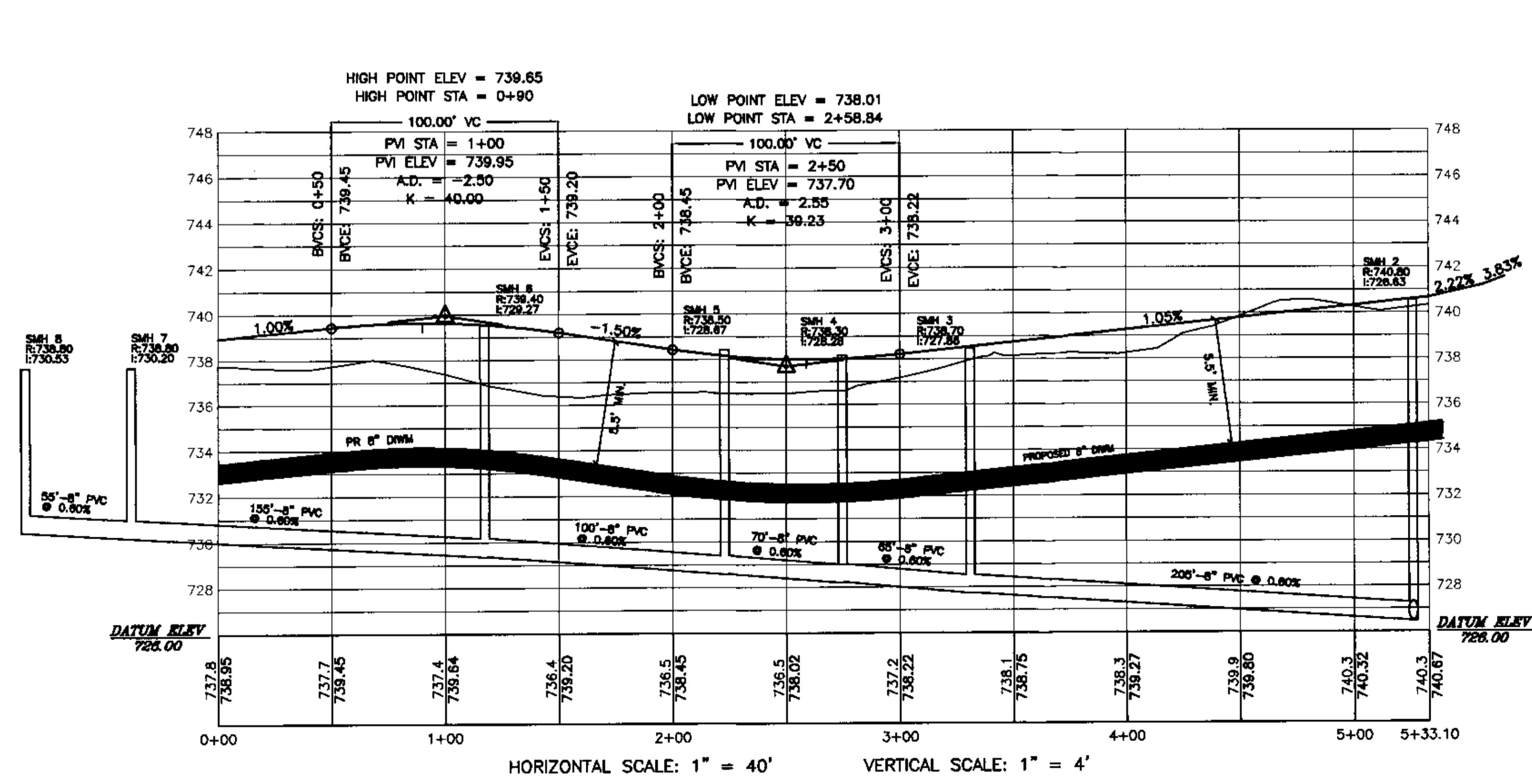
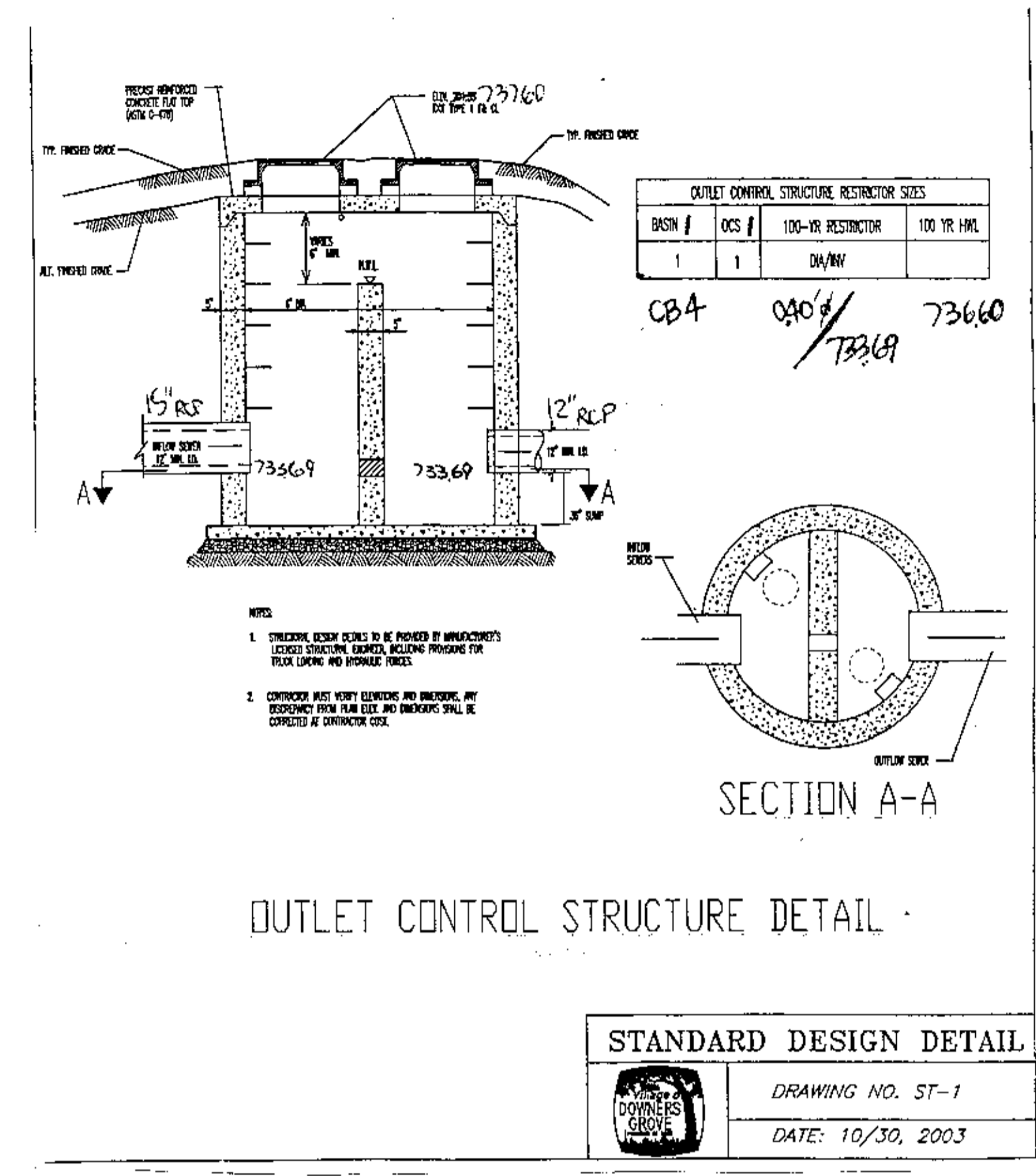
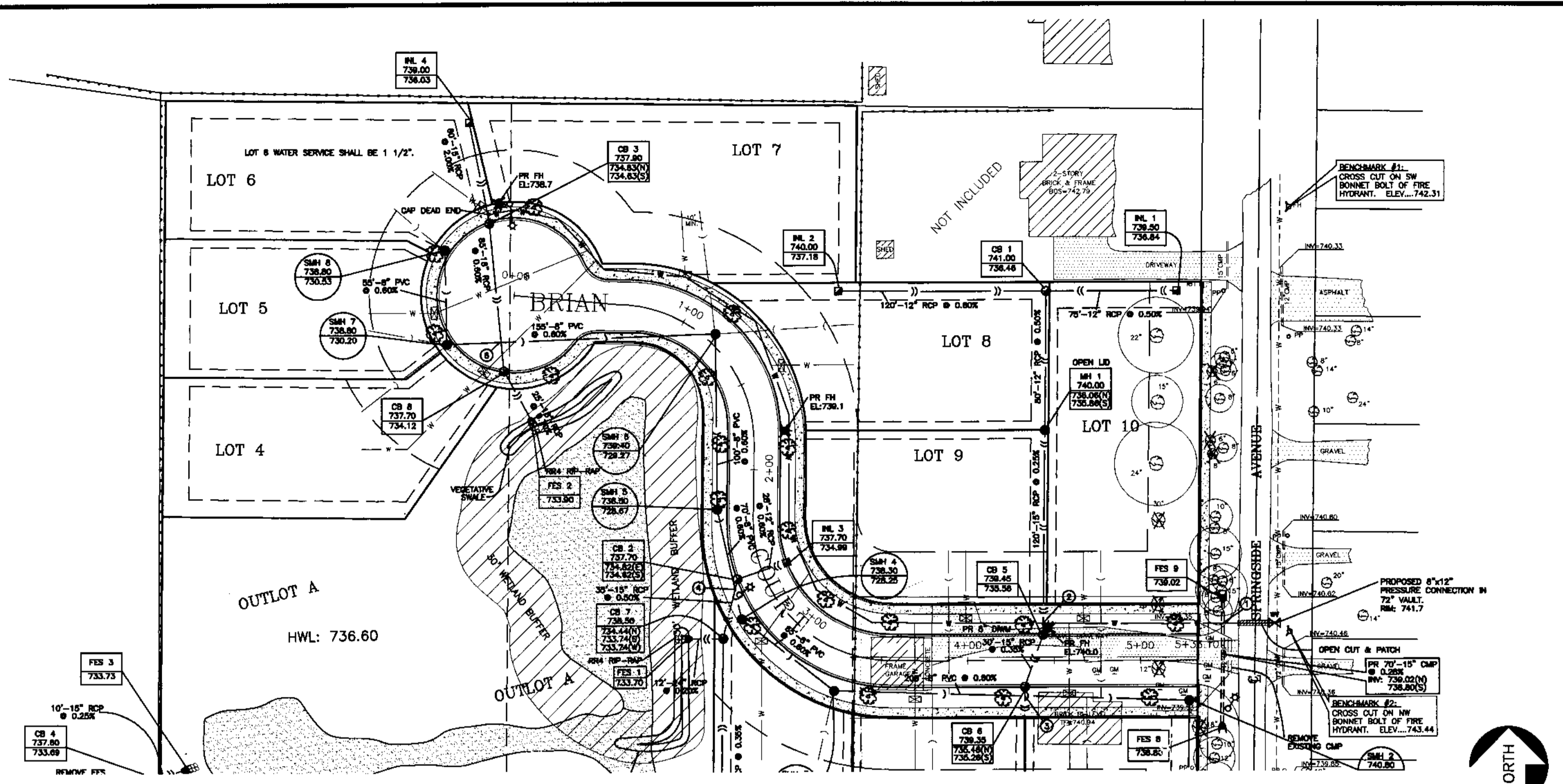
NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM GENERAL NOTES:

- EROSION CONTROL MEASURES TO BE UTILIZED DURING THE DEVELOPMENT OF THIS SITE INCLUDE SILT FENCING, THE "SNOUT", "SILT SAVER" (OR EQUAL) FRAMES AND FILTER ASSEMBLIES OVER ALL STORM SEWER STRUCTURES AND SILT BASINS & DITCH CHECKS AS APPROPRIATE.
 THE "SNOUT" AND "INFRA-RISER" ARE PRODUCTS DISTRIBUTED BY EAST JORDAN IRON WORKS, INC. (815) 740-1840.
 SILT FENCE SHALL BE INSTALLED AROUND THE SITE WHERE ANY RUNOFF WOULD BE DIRECTED OFF SITE, EITHER TEMPORARILY OR PERMANENTLY.
- ALL STORM WATER FRAMES AND GRATES SHALL BE MARKED WITH "DUMP NO WASTE" AND "DRAINS TO CREEK" OR OTHER ACCEPTABLE LETTERING AS APPROVED BY THE VILLAGE.
- THE LAST CATCH BASIN PRIOR TO THE OUTLET TO A DETENTION SYSTEM OR NATURAL WATERWAY SHALL BE EQUIPPED WITH A TRAP SUCH AS THE "SNOUT" OR APPROVED EQUAL. THE CONTRACTOR SHALL CLEAN OUT ALL SLUMPS OF SUSPENDED SOLIDS AND OTHER POLLUTANTS ON A REGULAR BASIS UNTIL THE VILLAGE ACCEPTS THE IMPROVEMENTS.
- THE CONTRACTOR/DEVELOPER SHALL TAKE THE NECESSARY STEPS TO CONTROL WASTE SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER AND SANITARY WASTE AT THE CONSTRUCTION SITE THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY.



SCALE: 1" = 40'

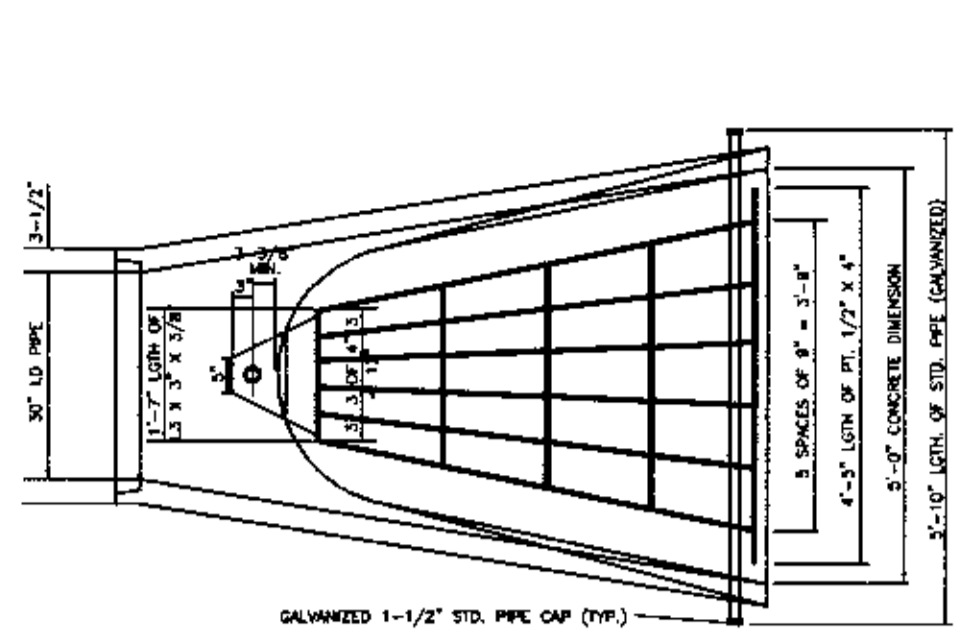
DATED: JULY 27, 2006		ENGINEERED BY:	
REVISION	DATE	KDC CONSULTANTS INC. 18144 S. BELL ROAD HOMER GLEN, ILLINOIS 60481 (708) 645-0545 Fax: 645-0548	
ORIGINAL	4/01/05		
VILLAGE COMMENTS	5/13/05	BRIAN COURT SUBDIVISION GRADING PLAN	
VILLAGE COMMENTS	7/05/05		
VILLAGE COMMENTS	8/28/05		
VILLAGE COMMENTS	12/12/05		
VILLAGE COMMENTS	1/06/06	PROJECT 04-09-099-ENG	
VILLAGE COMMENTS	7/27/06		
		5 PAGE OF 10	



DATED: JULY 27, 2006		ENGINEERED BY: KDC CONSULTANTS INC.	
REVISION	DATE	16144 S. BELL ROAD HOMER GLEN, ILLINOIS 60491 (708) 645-0545 Fax: 645-0546	
ORIGINAL	4/01/05		
VILLAGE COMMENTS	8/26/05		
VILLAGE COMMENTS	12/12/05		
VILLAGE COMMENTS	1/16/06		
VILLAGE COMMENTS	7/27/06		
		BRIAN COURT SUBDIVISION PLAN & PROFILE	
		PROJECT 04-09-099-ENG	6 PAGE OF 10

GENERAL NOTES	SOIL EROSION CONTROL PLAN	SITE GRADING	SANITARY SEWER	WATERMAIN
<p>1. AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF ALL PHASES OF WORK, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING:</p> <p>VILLAGE OF DOWNERS GROVE: (830) 645-0545 KDC CONSULTANTS INC.: (708) 645-0545</p>	<p>1. THE ENTIRE SITE SHALL BE GRADED SO THAT NO STORM WATER RUNOFF AND UNLAWFUL SOIL SEDIMENT CAN FLOW UNRESTRICTED FROM THE SITE.</p>	<p>1. SITE DRAINAGE: THE ROUGH GRADING OPERATIONS, THE CONSTRUCTION OF EMBANKMENTS, AND STOCKPILING SHALL NOT CAUSE FLOWING OF STORM WATER. THE CONTRACTOR SHALL MAINTAIN PROPER SITE DRAINAGE AT ALL TIMES DURING THE COURSE OF CONSTRUCTION AND PREVENT STORM WATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS.</p>	<p>1. ALL SANITARY SEWER AND SERVICE CONNECTION PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE CONFORMING TO ASTM D-2241, SDR 26 180 PSI PRESSURE PIPE, PUSH-ON BELL AND SPIGOT TYPE WITH RUBBER RING SEAL GASKET CONFORMING TO ASTM D-3139.</p>	<p>1. WATER SYSTEM CONSTRUCTION SHALL, IN ALL RESPECTS, BE IN ACCORDANCE WITH THE REGULATIONS OF THE ENVIRONMENTAL PROTECTION AGENCY OF THE STATE OF ILLINOIS. NO CONSTRUCTION SHALL COMMENCE UNTIL A COPY OF A PERMIT FROM SAID AGENCY IS ON FILE WITH THE ENGINEER.</p>
<p>2. THE CONTRACTOR SHALL NOTIFY J.U.L.L.E. (1-800-892-0123) 48 HOURS PRIOR TO EXCAVATION WORK TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.</p>	<p>2. DURING CONSTRUCTION A TEMPORARY EARTH BERM OR SILT FENCE SHALL BE PROVIDED ALONG THE PROPERTY LINES WHERE UNRESTRICTED RUNOFF OCCURS NATURALLY OR IS CREATED BY EXCAVATION. IF FENCING IS USED, THE CONDITION OF THE FENCE SHALL BE CHECKED AT MINIMUM EVERY OTHER WEEK, OR AFTER EVERY RAINSTORM THAT MIGHT PRODUCE RUNOFF. DAMAGED OR DETERIORATED ITEMS SHALL BE REPLACED AND MAINTAINED IN AN EFFECTIVE CONDITION.</p>	<p>2. ELEVATION REQUIREMENTS: PROPOSED STREETS SHALL BE EXCAVATED OR FILLED TO A GRADED SUB-GRADE AS SHOWN ON THE TYPICAL STREET SECTION FOR THE PAVEMENT THICKNESS TO BE USED WITH A TOLERANCE OF + OR - 0.1 FOOT. THE SUB-GRADE FOR THE PARKWAY, INCLUDING THE PUBLIC WALKS (IF INCLUDED), AND THE DETENTION AREA INCLUDING PAVED INVERTS (IF INCLUDED), SHALL BE GRADED TO + OR - 0.1 FOOT OF THE SPECIFIED ELEVATION. BUILDING PADS SHALL BE GRADED AS INDICATED BY THE IMPROVEMENT PLANS WITH A TOLERANCE OF + OR - 0.1 FOOT. WHENEVER A TOLERANCE IS SPECIFIED IT SHALL BE CONSTRUED TO MEAN THAT THE NET RESULT OF THE HIGHS AND LOWS WILL AVERAGE THE TRUE LINE AND GRADE SPECIFIED.</p>	<p>2. THE MINIMUM SANITARY SERVICE SIZE SHALL BE SIX (6) INCH DIAMETER. THE SERVICE LATERAL SHALL SLOPE TOWARD THE MAIN AT A MINIMUM RATE OF ONE (1) PERCENT.</p>	<p>2. ALL WATERMAIN SHALL BE DUCTILE IRON MECHANICAL JOINT, CLASS 52, CEMENT LINED, CONFORMING WITH THE REQUIREMENTS OF ASA A-21.51. JOINTS SHALL BE PUSH-ON (BELL TYPE) CONFORMING TO ASA 21.11. FITTINGS SHALL BE CAST OR DUCTILE IRON CONFORMING TO ANNA C-110 AND ANNA C-111.</p>
<p>3. THE CONTRACTOR SHALL NOTIFY KDC CONSULTANTS INC. 5 WORKING DAYS PRIOR TO ANY REQUIRED CONSTRUCTION STAKING.</p>	<p>3. ANY STORM WATER DRAINAGE STRUCTURES THAT HAVE THE POTENTIAL TO ACCEPT RUNOFF CONTAINING SUSPENDED SOIL PARTICLES SHALL BE SURROUNDED WITH STAKED AND BUTTED HAY BALES.</p>	<p>3. POND VERIFICATION: CONTRACTOR SHALL HAVE THE DETENTION POND VOLUME VERIFIED BY AN ENGINEER OR LAND SURVEYOR PRIOR TO THE INSTALLATION OF TOPSOIL AND SEEDING/SOD. THE COST OF SAID VERIFICATION SHALL BE BORNE BY CONTRACTOR.</p>	<p>3. MANHOLES SHALL BE 48" PRECAST REINFORCED CONCRETE - ASTM C-478 WITH TONGUE AND GROOVE JOINTS SEALED WITH GASKETS CONFORMING TO ASTM C-443 OR BITUMINOUS JOINTING MATERIAL.</p>	<p>3. THE MINIMUM DEPTH OF WATERMAIN SERVICES FROM THE TOP OF THE PIPE TO THE FINISHED GRADE SHALL BE 5 FEET.</p>
<p>4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING DOCUMENTS:</p> <p>"STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS", ILLINOIS DEPARTMENT OF TRANSPORTATION DATED JAN. 1, 2002.</p> <p>"STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", DATED 1996 EDITION.</p> <p>"STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF WATER POLLUTION CONTROL.</p> <p>"SUBDIVISION ORDINANCE FOR THE VILLAGE OF DOWNERS GROVE."</p>	<p>4. ANY EXCESS TOPSOIL THAT IS TO BE STOCKPILED FOR A PERIOD LONGER THAN 3 WEEKS SHALL BE PROTECTED BY EXCAVATING A TRENCH COMPLETELY AROUND THE STOCKPILE TO PREVENT THE ESCAPE OF SOIL MATERIAL THROUGH STORM WATER RUNOFF. STOCKPILES THAT ARE TO REMAIN LONGER THAN TWO (2) MONTHS SHALL BE SEEDDED WITH AN APPROPRIATE GROUND COVER.</p>	<p>4. EXCESS TRENCH MATERIAL: THE SUB-GRADE SHALL BE LEFT SUFFICIENTLY LOW BY THE MASS GRADING CONTRACTOR TO ALLOW FOR THE PLACEMENT OF THE TRENCH SPOIL FROM THE UNDERGROUND UTILITIES. THE UNDERGROUND CONTRACTOR SHALL LEAVE ALL EXCESS TRENCH MATERIAL OVER THE TRENCH AND LEVELLED OFF ADJACENT TO THE TRENCH. THE MASS GRADING CONTRACTOR SHALL SPREAD AND MAINTAIN THE TRENCH SPOIL AS NECESSARY TO OBTAIN THE REQUIRED SUB-GRADE ELEVATIONS. ALL ACCEPTABLE CLAY MATERIAL FROM THE TRENCH SPOIL IS TO BE COMPACTED IN CLAY FILL AREAS AND THE EXCESS UNCLASSIFIED MATERIAL IS TO BE COMPACTED IN UNCLASSIFIED FILL AREAS.</p>	<p>4. NO MORE THAN TWO PRECAST CONCRETE ADJUSTING RINGS WITH A SIX INCH MAXIMUM HEIGHT ADJUSTMENT SHALL BE ALLOWED.</p>	<p>4. POLYVINYL WRAPPING IS REQUIRED FOR ALL DUCTILE IRON PIPE UNLESS SOILS ARE DOCUMENTED TO BE NON-CORROSIVE.</p>
<p>5. THE ENGINEER WARRANTS THE DESIGN, RECOMMENDATIONS AND SPECIFICATIONS TO HAVE BEEN PROMULGATED ON CONDITIONS GENERALLY ENCOUNTERED IN THE INDUSTRY. THE ENGINEER ASSUMES NO RESPONSIBILITY WHATSOEVER, WITH RESPECT TO THE DESIGN, RECOMMENDATIONS AND SPECIFICATIONS, FOR COMPLEX OR UNUSUAL SOIL CONDITIONS ENCOUNTERED ON THE PROJECT. IT SHALL BE THE OWNERS/BIDDERS RESPONSIBILITY TO ASCERTAIN THE EXACT NATURE OF SUBSURFACE CONDITIONS PRIOR TO THE CONSTRUCTION OF THE IMPROVEMENT.</p>	<p>5. ALL BALES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN PAVED OR VEGETATED, AND SHALL ALSO BE CHECKED AT REGULAR INTERVALS TO MAINTAIN THEIR EFFECTIVENESS IN TERMS OF TOTAL CONTACT WITH THE EARTH BELOW. SILT FENCING CAN REMAIN IN PLACE THROUGHOUT THE CONSTRUCTION OF THE HOUSES TO SERVE AS EROSION CONTROL FOR THAT CONSTRUCTION.</p>	<p>5. BALANCE OF MATERIALS: THE MASS GRADING CONTRACTOR SHALL PLACE THE TRENCH SPOIL FROM THE UNDERGROUND UTILITIES. THE UNDERGROUND CONTRACTOR SHALL LEAVE ALL EXCESS TRENCH MATERIAL OVER THE TRENCH AND LEVELLED OFF ADJACENT TO THE TRENCH. THE MASS GRADING CONTRACTOR SHALL SPREAD AND MAINTAIN THE TRENCH SPOIL AS NECESSARY TO OBTAIN THE REQUIRED SUB-GRADE ELEVATIONS. ALL ACCEPTABLE CLAY MATERIAL FROM THE TRENCH SPOIL IS TO BE COMPACTED IN CLAY FILL AREAS AND THE EXCESS UNCLASSIFIED MATERIAL IS TO BE COMPACTED IN UNCLASSIFIED FILL AREAS.</p>	<p>5. ALL PIPE CONNECTION OPENINGS SHALL BE PRECAST WITH RESILIENT RUBBER WATER-TIGHT PIPE TO MANHOLE SLEEVES OR SEALS, PER ASTM C-923.</p>	<p>5. WATERMAIN BEDDING SHALL BE 6" COURSE AGGREGATE, IDOT GRADATION C-1 (3/4 INCH STONE). THE BEDDING STONE SHALL BE EXTENDED TO THE SPRING LINE OF THE PIPE.</p>
<p>6. THE LOCATION OF EXISTING UTILITIES, EASEMENTS, AND RIGHT OF WAYS ARE SHOWN ON THESE PLANS ACCORDING TO SURVEYS CARRIED OUT AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. THIS DOES NOT PRECLUDE THE EXISTENCE OF OTHER UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND TO PROVIDE FOR THEIR PROTECTION FROM DAMAGE DURING THE CONSTRUCTION OPERATIONS. IF OTHER UTILITIES OR CONFLICTS ARE ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THE CONFLICT CAN BE RESOLVED.</p>	<p>6. AS EACH PHASE ON THE ENTIRE SITE IS COMPLETED BALES ARE TO BE REMOVED AND THE ENTIRE AREA EITHER SODDED OR SEEDDED AFTER SEDIMENT HAS BEEN REDISTRIBUTED. IF WEATHER CONDITIONS ARE SUCH THAT SEEDING WOULD NOT BE EFFECTIVE, THEN THE STOCK PILES SHOULD BE EITHER MULCHED COVERED AND GRADED OR SOIL SEDIMENT FROM EROSION WILL BE CONFINED WITHIN THE BOUNDARIES OF THIS SITE.</p>	<p>6. BORROW EXCAVATION: ANY CLAY BORROW EXCAVATION REQUIRED SHALL BE OBTAINED FROM AVAILABLE REAR YARD UNDERCUTS WITHIN THE LOT AREAS. THE LOCATION OF CLAY BORROW EXCAVATIONS MUST BE APPROVED BY THE OWNER, ENGINEER, AND/OR THE SOILS ENGINEER, AND THE MATERIAL MUST BE APPROVED BY THE SOILS ENGINEER AS SUITABLE FOR STRUCTURAL FILL.</p>	<p>6. MANHOLES SHALL INCLUDE INTERNAL CHIMNEY SEALS. THE EXTERIOR OF ALL MANHOLES SHALL BE COATED WITH A WATERPROOFING SEALANT.</p>	<p>6. ELEVATIONS SHOWN AT FIRE HYDRANTS ARE GROUND ELEVATIONS.</p>
<p>7. THE CONTRACTOR, AT HIS EXPENSE, SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND BONDS FOR CONSTRUCTION ALONG OR ACROSS EXISTING ROADWAYS. HE SHALL MAKE THE NECESSARY ARRANGEMENTS FOR PROPER BRACING, SHORING OR OTHER PROTECTION REQUIRED INCLUDING INSTALLATION AND MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AND PROTECTION BEFORE CONSTRUCTION BEGINS. ALL ROADWAYS OPENED WITHIN PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED IN ACCORDANCE WITH APPLICABLE ARTICLES OF SECTIONS 107 & 648 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JAN. 1987, AND THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS."</p>	<p>7. SEEDING WILL BE DONE PER "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", OCT. 1987, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF WATER POLLUTION CONTROL.</p>	<p>7. UNSUITABLE SOIL EXCAVATION: IF CONTRACTOR ENCOUNTERS ANY UNSUITABLE OR POOR BEARING SOIL WITHIN THE PROJECT LIMITS, HE SHALL NOTIFY THE OWNER AT ONCE. ALL UNSUITABLE SOIL UNDERCUT AREAS ARE TO BE CROSS SECTIONED BEFORE EXCAVATION PROCEEDS AND PRIOR TO REFILLING. CONTRACTOR IS TO PROVIDE ASSISTANCE IN SAID CROSS SECTIONING AT NO COST TO THE OWNER. AT ANY TIME DURING CONSTRUCTION.</p>	<p>7. ALL SANITARY SEWER CONSTRUCTION REQUIRES SIX (6) INCHES OF 1/4" - 1" CRUSHED STONE BEDDING UNDER THE PIPE. BEDDING STONE SHALL EXTEND TO A POINT 12 INCHES ABOVE THE TOP OF THE PIPE FOR ALL PVC PIPING.</p>	<p>7. CONCRETE THRUST RESTRAINTS SHALL BE PRECAST OR POURED CONCRETE AND PROVIDED AT ALL TEES, PLUGGED ENDS, HYDRANTS AND BENDS BETWEEN 11-20 DEGREES AND 90 DEGREES. CARE SHOULD BE TAKEN WHEN POURING CONCRETE SO THAT THE MIX WILL NOT INTERFERE WITH ACCESS TO JOINTS OR WITH HYDRANT DRAINAGE.</p>
<p>8. THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO, AND THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONTRACTOR'S FAILURE TO PERFORM OR FURNISH THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.</p>	<p>8. TO PREVENT SOIL FROM LEAVING THE SITE ON CONSTRUCTION VEHICLE WHEELS, WORK ENTRANCES SHALL BE CONSTRUCTED OF GRAVEL AND SHALL EXTEND AT LEAST 100 FEET INTO THE JOB SITE. THE EXISTING PAVEMENT SURFACES SHALL BE INSPECTED DAY FOR SOIL DEBRIS AND SHALL BE CLEANED WHEN NECESSARY.</p>	<p>8. BORROW PIT AREAS ARE TO BE CROSS SECTIONED BEFORE EXCAVATION PROCEEDS AND PRIOR TO REFILLING. CONTRACTOR IS TO PROVIDE ASSISTANCE IN SAID CROSS SECTIONING AT NO COST TO THE OWNER. AT ANY TIME DURING CONSTRUCTION.</p>	<p>8. ALL SANITARY SEWER CONSTRUCTION REQUIRES SIX (6) INCHES OF 1/4" - 1" CRUSHED STONE BEDDING UNDER THE PIPE. BEDDING STONE SHALL EXTEND TO A POINT 12 INCHES ABOVE THE TOP OF THE PIPE FOR ALL PVC PIPING.</p>	<p>8. CASING PIPES SHALL BE STEEL CONFORMING TO ASTM A-120 WITH 0.375 INCH MINIMUM THICKNESS.</p>
<p>9. ALL TRENCHES CAUSED BY THE CONSTRUCTION OF SEWERS, WATERMANS, WATER SERVICE PIPES AND IN EXCAVATIONS AROUND CATCH BASINS, MANHOLES, INLETS, AND OTHER APPURTENANCES WHICH OCCUR WITHIN TWO FEET OF THE LIMITS OF EXISTING AND PROPOSED PAVEMENTS, SIDEWALKS AND CURBS AND GUTTERS SHALL BE BACKFILLED WITH TRENCH BACKFILL (AS DEFINED IN SECTION 208 I.D.O.T. STANDARD SPECIFICATIONS).</p>	<p>9. DISPOSAL OF DEBRIS EXCAVATION AND PAVEMENT REMOVAL SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND CONSIDERED AS AN INCIDENTAL EXPENSE.</p>	<p>9. ALL TOPSOIL AND ANY UNSUITABLE MATERIALS SHALL BE REMOVED FROM ROADWAY AREAS, BUILDING PAD AREAS, AND OTHER NECESSARY LOCATIONS AS DIRECTED BY THE SOILS ENGINEER. THE AREAS OF TOPSOIL AND UNSUITABLE UNDERCUT SHALL BE REFILLED AS NECESSARY WITH SELECT MATERIAL AS SPECIFIED FOR EMBANKMENT CONSTRUCTION AND THE PLACEMENT OF FILL MATERIAL.</p>	<p>9. 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:</p> <ol style="list-style-type: none"> CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SEWER-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.) WYE 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. 	<p>9. WHENEVER A SEWER CROSSES OVER A WATERMAIN, THE SEWER SHALL EITHER BE EXCAVATED IN A WATERRIGHT CARRIER PIPE, OR HAVE JOINTS AND JOINT MATERIALS MEETING SPECIFICATIONS ASTM C-361 AND C-443, RESPECTIVELY, FOR A MINIMUM OF 10 FEET ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATERMAIN. A VERTICAL SEPARATION OF 18 INCHES BETWEEN THE INVERT OF THE SEWER AND THE CROWN OF THE WATERMAIN SHALL BE MAINTAINED. THE SEWER SHALL BE SUPPORTED TO PREVENT SETTLING AND BREAKING THE WATERMAIN.</p>
<p>10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ADEQUATE SIGNS AND WARNING DEVICES TO INFORM AND PROTECT THE PUBLIC. THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AS ADOPTED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION, CURRENT EDITION, SHALL BE CONSULTED FOR APPROPRIATE SIGNS AND WARNING DEVICES APPLIED TO THE SPECIFIC SITUATIONS AND TYPES OF CONSTRUCTION OPERATIONS BEING PERFORMED.</p>	<p>10. NO STOCKPILES MAY BE LOCATED IN SPECIAL MANAGEMENT AREAS AT ANY TIME DURING CONSTRUCTION.</p>	<p>10. ALL TOPSOIL AND ANY UNSUITABLE MATERIALS SHALL BE REMOVED FROM ROADWAY AREAS, BUILDING PAD AREAS, AND OTHER NECESSARY LOCATIONS AS DIRECTED BY THE SOILS ENGINEER. THE AREAS OF TOPSOIL AND UNSUITABLE UNDERCUT SHALL BE REFILLED AS NECESSARY WITH SELECT MATERIAL AS SPECIFIED FOR EMBANKMENT CONSTRUCTION AND THE PLACEMENT OF FILL MATERIAL.</p>	<p>10. EXISTING SEPTIC TANKS SHALL BE PUMPED OUT BY A LICENSED SEPTIC PUMPING CONTRACTOR. ALL EXISTING SEPTIC SYSTEMS TO BE REMOVED OR FILLED.</p>	<p>10. HORIZONTAL SEPARATION:</p> <p>A) A WATERMAIN SHALL BE LAID AT LEAST TEN (10) FEET HORIZONTAL SEPARATION FROM ANY EXISTING OR PROPOSED STORM OR SANITARY SEWER LINE.</p>
<p>11. THE CONTRACTOR IS RESPONSIBLE FOR HAVING THE MOST RECENT SET OF THE "APPROVED" FINAL ENGINEERING PLANS WITH THE LATEST REVISION DATE ON THE JOB SITE PRIOR TO THE START OF CONSTRUCTION.</p>	<p>10. TO PREVENT SOIL FROM LEAVING THE SITE ON CONSTRUCTION VEHICLE WHEELS, WORK ENTRANCES SHALL BE CONSTRUCTED OF GRAVEL AND SHALL EXTEND AT LEAST 100 FEET INTO THE JOB SITE. THE EXISTING PAVEMENT SURFACES SHALL BE INSPECTED DAY FOR SOIL DEBRIS AND SHALL BE CLEANED WHEN NECESSARY.</p>	<p>10. ALL TOPSOIL AND ANY UNSUITABLE MATERIALS SHALL BE REMOVED FROM ROADWAY AREAS, BUILDING PAD AREAS, AND OTHER NECESSARY LOCATIONS AS DIRECTED BY THE SOILS ENGINEER. THE AREAS OF TOPSOIL AND UNSUITABLE UNDERCUT SHALL BE REFILLED AS NECESSARY WITH SELECT MATERIAL AS SPECIFIED FOR EMBANKMENT CONSTRUCTION AND THE PLACEMENT OF FILL MATERIAL.</p>	<p>11. EXISTING SEPTIC TANKS SHALL BE PUMPED OUT BY A LICENSED SEPTIC PUMPING CONTRACTOR. ALL EXISTING SEPTIC SYSTEMS TO BE REMOVED OR FILLED.</p>	<p>B) SHOULD LOCAL CONDITIONS PREVAL WHICH WOULD PREVENT A LATERAL SEPARATION OF TEN (10) FEET, A WATERMAIN MAY BE LAID CLOSER THAN TEN (10) FEET PROVIDED THAT THE MAIN IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF THE TRENCH WITH THE TRENCH BENCH LOCATED AT THE OPPOSITE SIDE OF A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED ABOVE CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATERMAIN, THE SEWER SHALL BE CONSTRUCTED TO WATERMAIN STANDARDS.</p>
<p>12. NO HOLES ARE TO BE LEFT OPEN IN THE PAVEMENT OR PARKWAY OVER A HOLIDAY, WEEKEND, OR AFTER 3 P.M. ON THE DAY PRECEDING A HOLIDAY OR A WEEKEND.</p>	<p>11. PAVEMENT THICKNESS SHALL COMPLY WITH THE VILLAGE REQUIREMENTS.</p>	<p>11. ALL SANITARY SEWER PIPES SHALL BE TESTED IN ACCORDANCE WITH SECTION 311-111 OF THE STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS AND THE VILLAGE OF DOWNERS GROVE REQUIREMENTS. ALL FLEXIBLE THERMOPLASTIC SEWER MAIN PIPE SHALL BE DEFLECTION TESTED BY PULLING A MANHOLE. DEFLECTION TESTING THROUGH THE PIPE FROM MANHOLE TO MANHOLE. DEFLECTION TESTING, AIR TESTING AND TELEVISION INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE IEPA STANDARD SPECIFICATIONS. COST OF TESTING, UNTIL APPROVED BY THE VILLAGE, SHALL BE INCLUDED IN THE UNIT PRICE.</p>	<p>12. MANHOLE CASTINGS SHALL BE E.J.L.W. 1020 WITH MACHINED BEARING SURFACES AND SELF SEALING TYPE A HEAVY DUTY LID WITH CONCEALED PICK HOLES. "CITY OF" AND "SANITARY" SHALL BE EMBOSSED ON ALL MANHOLE LIDS.</p>	<p>C) IF IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED IN SUBSECTIONS (A) OR (B) ABOVE, BOTH THE WATERMAIN AND THE LENGTH OF SEWER BETWEEN ADJACENT MANHOLES SHALL BE CONSTRUCTED OF PUSH-ON OR MECHANICAL JOINT DUCTILE IRON PIPE, OR PRESTRESSED CONCRETE PIPE AND SHALL BE PRESSURE TESTED TO ASSURE WATER TIGHTNESS BEFORE BACKFILLING.</p>
<p>13. CONTRACTOR SHALL RESTORE OFF-SITE SURFACES TO ORIGINAL CONDITION IF DAMAGED BY CONSTRUCTION. ANY EXISTING CURBS, PAVEMENT OR SIDEWALK DISTURBED DURING THE CONSTRUCTION PROCESS IS TO BE REPLACED. UNPAVED AREAS TO BE FINE GRADED AND SEEDDED. ALL EXCESS TRENCH MATERIAL IS TO BE REMOVED FROM THE SITE. THE COST OF SAID REPLACEMENT AND REMOVAL SHALL BE CONSIDERED INCIDENTAL TO THE SEWER AND WATER CONTRACT.</p>	<p>12. SIDEWALK SHALL BE 6" PORTLAND CEMENT CONCRETE, 5 FEET WIDE, AND INSTALLED 1 FOOT FROM THE RIGHT OF WAY LINE WITHIN THE PUBLIC RIGHT OF WAY. THE THICKNESS OF THE CONCRETE SHALL BE INCREASED TO 8" WHERE THE SIDEWALK CROSSES A DRIVEWAY. SIDEWALK TO BE PLACED ON A FOUR (4) INCH AGGREGATE BASE COURSE.</p>	<p>12. SANITARY MANHOLES SHALL BE INSPECTED AND LEAKAGE TESTED FOR WATER TIGHTNESS IN ACCORDANCE WITH ASTM C1244 "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE PRESSURE (VACUUM) TEST", OR IN ACCORDANCE WITH ASTM C989.</p>	<p>13. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER.</p>	<p>D) WHENEVER A WATERMAIN MUST CROSS HOUSE SEWERS, STORM DRAINS OR SANITARY SEWERS, THE WATERMAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATERMAIN IS EIGHTEEN (18) INCHES ABOVE THE TOP OF THE DRAIN OR SEWER. THIS VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATERMAIN LOCATED WITHIN TEN (10) FEET HORIZONTALLY, OF ANY SEWER OR DRAIN CROSSED. SAID TEN (10) FEET IS TO BE MEASURED HORIZONTALLY FROM THE WATERMAIN TO THE DRAIN OR SEWER.</p>
<p>14. THE CONTRACTOR IS TO PROVIDE KDC CONSULTANTS INC. WITH RECORD DRAWINGS OF ALL UTILITIES SHOWING LOCATIONS OF ALL SEWER PIPE, MAINS, SERVICE STUBS AND STRUCTURES. THE DEVELOPER IS REQUIRED TO PROVIDE THE VILLAGE WITH AS-BUILT DRAWINGS IN A DIGITAL FORMAT.</p>	<p>13. HANDICAPPED RAMPS AND DEPRESSED CURBS SHALL BE PROVIDED WHEREVER SIDEWALK INTERSECTS CURB IN ACCORDANCE WITH IDOT SPECIFICATIONS.</p>	<p>13. STOCKPILES: WHERE IT IS NECESSARY TO STOCKPILE EXCAVATED MATERIAL, SUCH AS TOPSOIL, CLAY MATERIAL, ORGANIC MATERIAL, ETC., THE MASS GRADING CONTRACTOR SHALL STOCKPILE MATERIALS ON THE SITE AT LOCATIONS DESIGNATED BY THE OWNER AND IN ACCORDANCE WITH THE SPECIFICATIONS. EXCAVATED MATERIALS SHALL BE STOCKPILED IN SUCH A SEQUENCE SO AS TO ELIMINATE ANY REHANDLING OR DOUBLE MOVEMENTS BY THE CONTRACTOR. FAILURE TO PROPERLY SEPARATE THE STOCKPILING OPERATIONS SHALL NOT CONSTITUTE A CLAIM FOR ADDITIONAL COMPENSATION.</p>	<p>14. ALL SANITARY SEWER PIPES SHALL BE TESTED IN ACCORDANCE WITH SECTION 311-111 OF THE STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS AND THE VILLAGE OF DOWNERS GROVE REQUIREMENTS. ALL FLEXIBLE THERMOPLASTIC SEWER MAIN PIPE SHALL BE DEFLECTION TESTED BY PULLING A MANHOLE. DEFLECTION TESTING THROUGH THE PIPE FROM MANHOLE TO MANHOLE. DEFLECTION TESTING, AIR TESTING AND TELEVISION INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE IEPA STANDARD SPECIFICATIONS. COST OF TESTING, UNTIL APPROVED BY THE VILLAGE, SHALL BE INCLUDED IN THE UNIT PRICE.</p>	<p>E) WHERE CONDITIONS EXIST THAT THE MINIMUM VERTICAL SEPARATION SET FORTH ABOVE CANNOT BE MAINTAINED, OR IT IS NECESSARY FOR THE WATERMAIN TO PASS UNDER A SEWER OR DRAIN, ONE OF THE FOLLOWING TWO MEASURES MUST BE TAKEN:</p> <ol style="list-style-type: none"> THE WATERMAIN SHALL BE INSTALLED WITHIN A PVC CARRIER PIPE AND THE CARRIER PIPE SHALL EXTEND ON EACH SIDE OF THE CROSSING UNTIL THE HORIZONTAL DISTANCE FROM THE WATERMAIN TO THE SEWER OR DRAIN LINE IS AT LEAST TEN (10) FEET. THE INVOLVED SEWER OR DRAIN SHALL BE CONSTRUCTED FROM MANHOLE TO MANHOLE WITH "O"-RING PIPE CONFORMING TO ASTM 361 OR OTHER PIPE MATERIAL WHICH WOULD CONFORM TO WATERMAIN STANDARDS.
<p>15. ALL TOP OF FRAMES OF STORM AND SANITARY MANHOLES AND CATCH BASINS, AND ALL WATER VALVE VAULTS AND BOXES SHALL BE ADJUSTED TO MEET FINAL FINISH GRADE BY THE SEWER AND WATER CONTRACTOR AS REQUIRED WHEN CURB AND GUTTER AND PAVING IS BEING CONSTRUCTED. THE ADJUSTMENT COST IS TO BE CONSIDERED INCIDENTAL TO THE CONTRACT OF THE SEWER AND WATER CONTRACTOR.</p>	<p>14. EXPANSION JOINTS SHALL BE PLACED, AS A MINIMUM, AT ALL CURB RADIUS POINTS AND ALL CONSTRUCTION JOINTS, AND SHALL CONSIST OF 3/4 INCH THICK PREFORMED EXPANSION JOINT FILLER AND DOMELS WITH END CAPS.</p>	<p>14. PLACING FILL MATERIAL: THE SELECT FILL MATERIAL SHALL BE PLACED IN LEVEL UNIFORM LAYERS SO THAT THE COMPACTED THICKNESS IS APPROXIMATELY SIX (6) INCHES, HOWEVER, IF THE COMPACTION EQUIPMENT DEMONSTRATES THE ABILITY TO COMPACT A GREATER THICKNESS, THEN A GREATER THICKNESS MAY BE SPECIFIED. EACH LAYER SHALL BE THOROUGHLY MIXED DURING SPREADING TO INSURE UNIFORMITY.</p>	<p>15. SANITARY MANHOLES SHALL BE INSPECTED AND LEAKAGE TESTED FOR WATER TIGHTNESS IN ACCORDANCE WITH ASTM C1244 "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY THE NEGATIVE PRESSURE (VACUUM) TEST", OR IN ACCORDANCE WITH ASTM C989.</p>	<p>F) VALVES SHALL BE RESILIENT WEDGE VALVES, COUNTER CLOCKWISE TO OPEN, AND CONFORMING TO ANNA C-500.</p>

DATED: JULY 27, 2006		KDC CONSULTANTS INC. 16144 S. BELL ROAD HOMER GLEN, ILLINOIS 60491 (708) 645-0545 Fax: 645-0546
REVISION	DATE	
ORIGINAL	4/01/05	
VILLAGE COMMENTS	9/16/05	
VILLAGE COMMENTS	12/12/05	BRIAN COURT SUBDIVISION NOTES
VILLAGE COMMENTS	7/27/06	
PROJECT		7 PAGE 04-09-099-ENG
DATE		
11. ALL FOOTING DRAINS, DOWNSPOUTS AND SLUMP PUMPS SHALL DISCHARGE TO THE STORM SYSTEM OR OVER GROUND.		© COPYRIGHT, ALL RIGHTS RESERVED
12. WHERE A STORM SEWER CONNECTS TO A FLARED END SECTION, THE LENGTH OF PIPE DENOTED DOES NOT INCLUDE THE LENGTH OF THE FLARED END SECTION.		
13. PROVIDE GRATES OVER OPEN ENDS OF ALL FLARED END SECTIONS.		



PLAN
APPROX. WEIGHT OF STEEL = 210 LBS

GENERAL NOTES

GRADING DETAILS SHOWN ARE INTENDED FOR USE WITH PARTICULAR SIZES OF PRECAST REINFORCED CONCRETE FLARED END SECTIONS AS SHOWN ON STANDARD 2282 AND 2240

STRUCTURAL STEEL SHAPES AND PLATES SHALL BE IN ACCORDANCE WITH ARTICLE 710.04 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

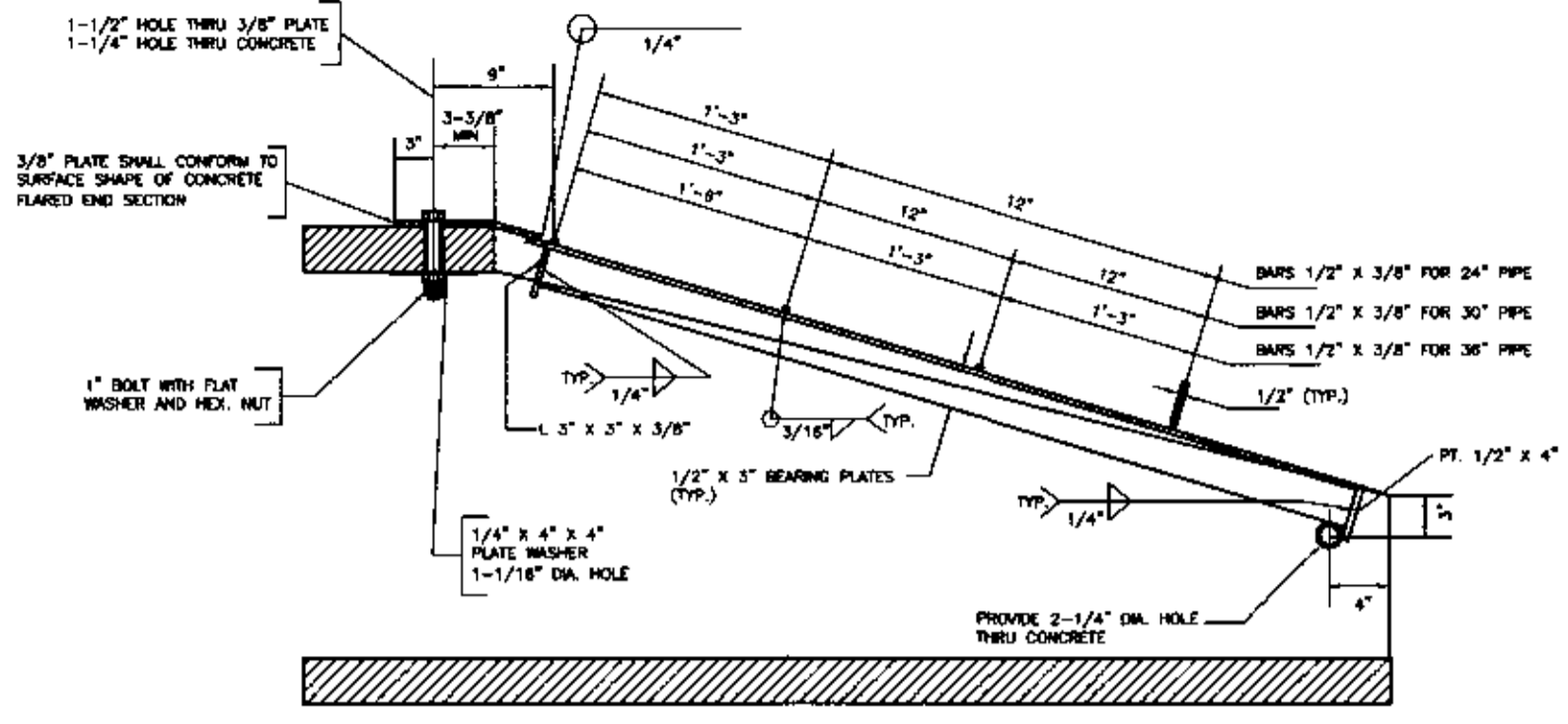
GALVANIZED STEEL PIPE SHALL BE IN ACCORDANCE WITH ARTICLE 710.33(b) OF THE STANDARD SPECIFICATIONS

BOLTS, NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH ARTICLE 710.33(g) OF THE STANDARD SPECIFICATIONS

ALL FABRICATION SHALL BE COMPLETED AND READY FOR ASSEMBLY BEFORE GALVANIZING

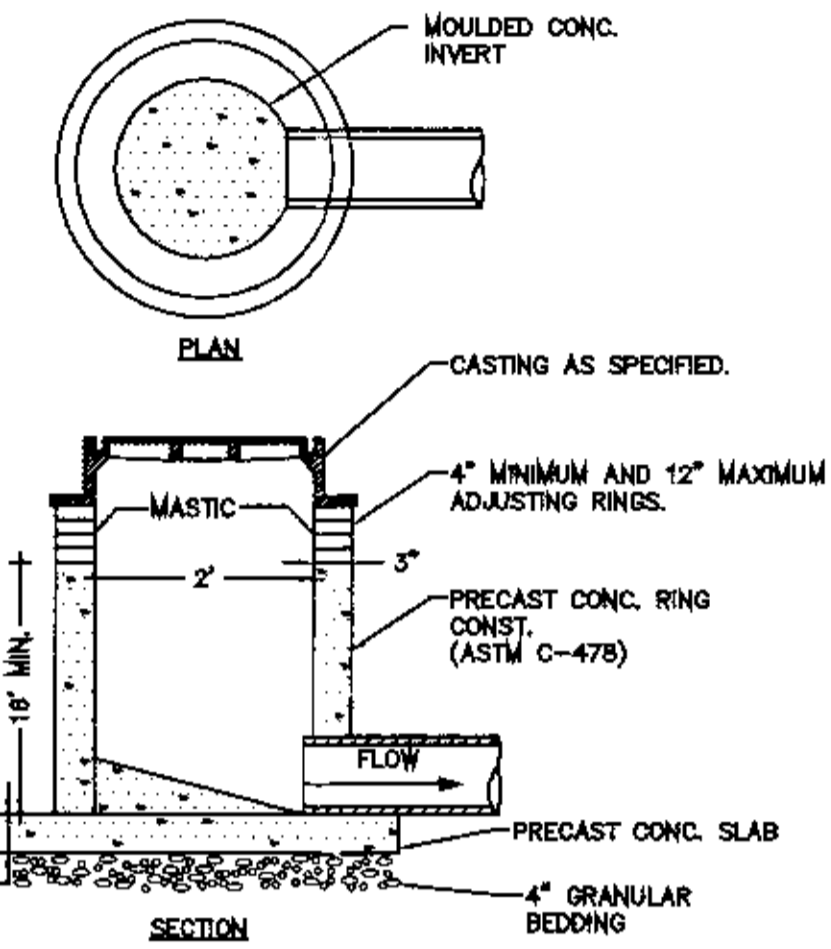
THE CORED HOLES IN THE PRECAST CONCRETE FLARED END SECTIONS SHALL BE TO THE DIAMETER NOTED. IF COME-OUT ON THE OTHER END OF THE HOLE OCCURS, THE SHALL BE FILLED WITH GROUT TO CORRECT DIAMETER OF THE HOLE

APPROXIMATE WEIGHT OF STEEL SHOWN INCLUDES TOTAL WEIGHT OF GRATING, BOLTS, WASHERS, NUTS AND STEEL PIPE

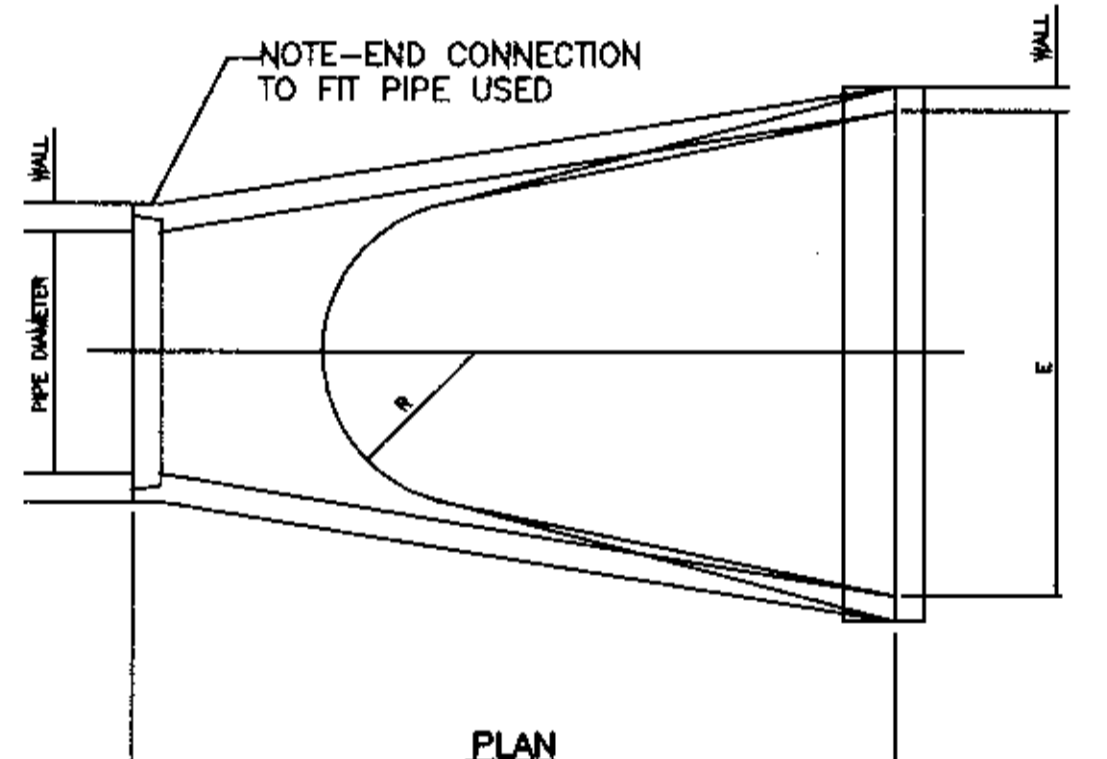


SECTION A-A

GRATING FOR CONCRETE FLARED END SECTION

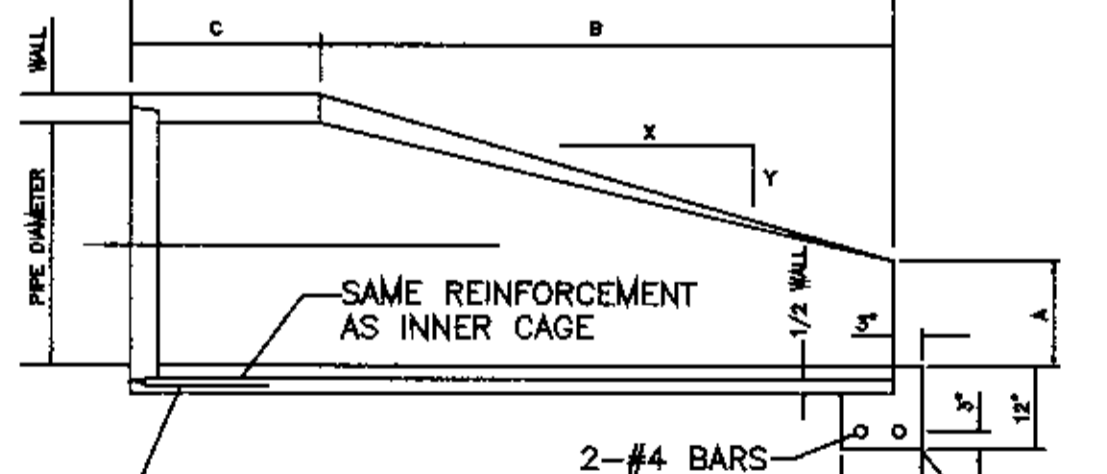


FLARED END SECTION GRATING DETAIL



PLAN

PIPE DIA.	WALL	A	B	C	D	E	R	SLOPE
12"	2"	4"	2'-0"	4'-7/8"	6'-7/8"	2'-0"	9"	3:1
15"	2 1/4"	6"	2'-3"	3'-10"	6'-1"	2'-6"	11"	3:1
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	12"	3:1
21"	2 3/4"	9"	2'-11"	3'-2"	6'-1"	3'-6"	13"	3:1
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	14"	3:1
27"	3 1/4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	4'-6"	14 1/2"	3:1
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	15"	3:1
33"	3 3/4"	1'-1 1/2"	4'-10 1/2"	3'-3 1/4"	8'-1 3/4"	5'-6"	17 1/2"	3:1
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	20"	3:1
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	8'-6"	22"	3:1
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	22"	3:1
54"	5 1/2"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	24"	2.4:1



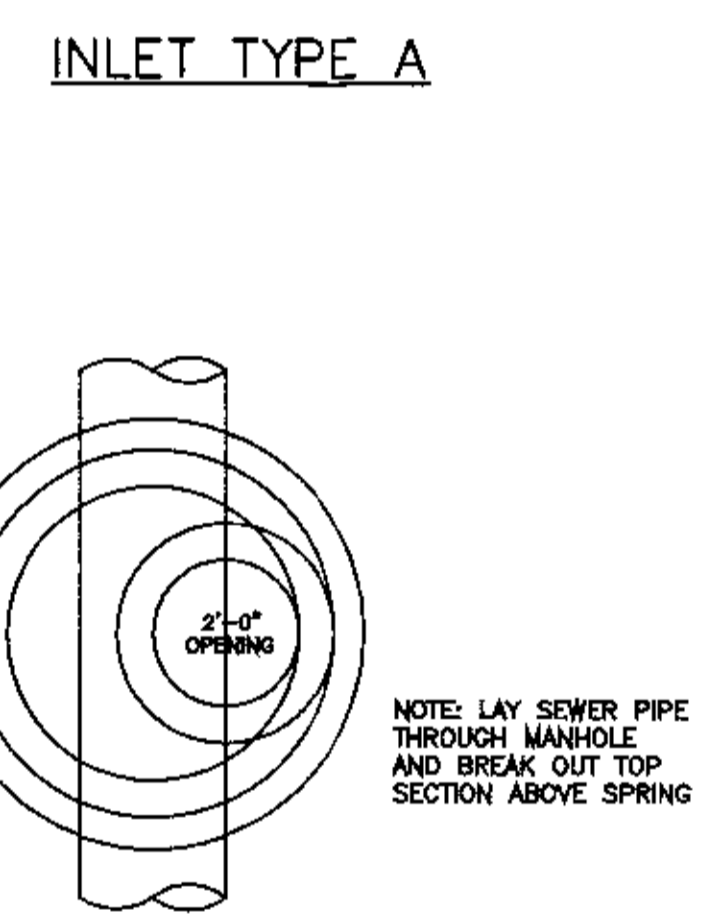
LONGITUDINAL SECTION

NOTES

PRECAST CONCRETE FLARED END SECTIONS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-170 CLASS III, WALL B REINFORCED CONCRETE PIPE.

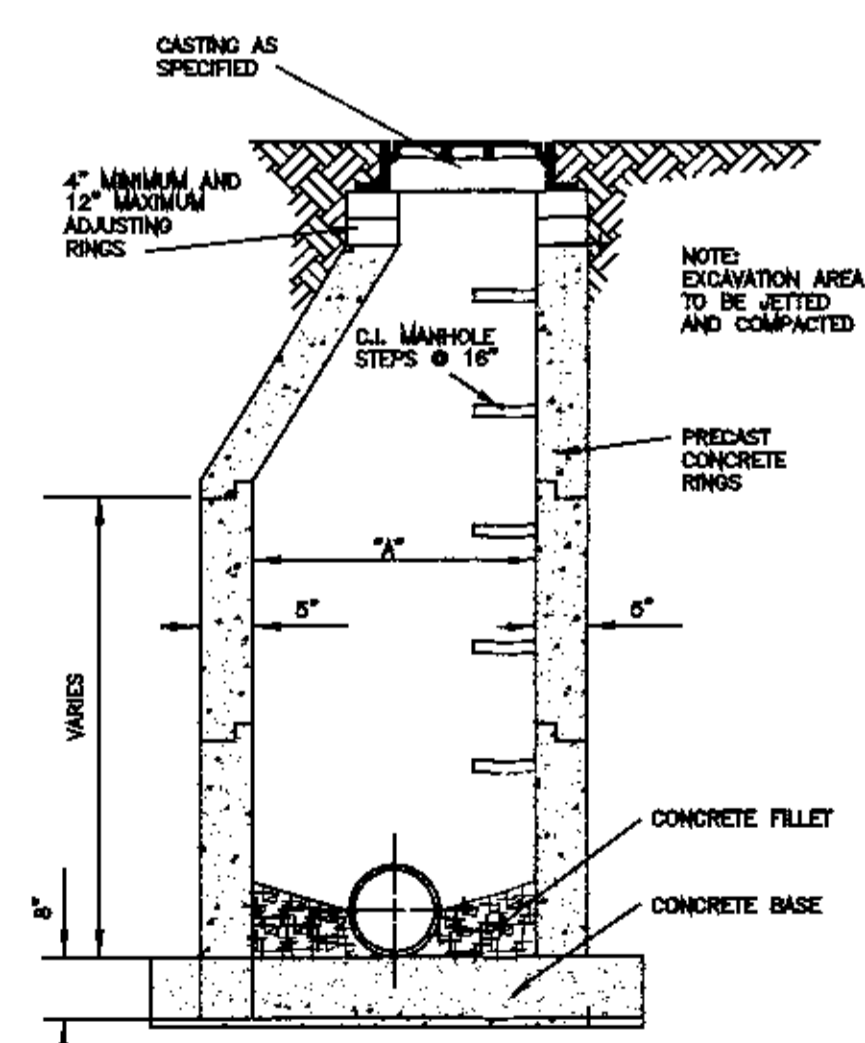
PRECAST CONCRETE FLARED END SECTION FOR PIPE DIAMETER REQUIRED SHALL BE AS INDICATED ON DETAIL PLAN FOR EACH INDIVIDUAL INSTALLATION.

FLARED END SECTION DETAIL



INLET TYPE A

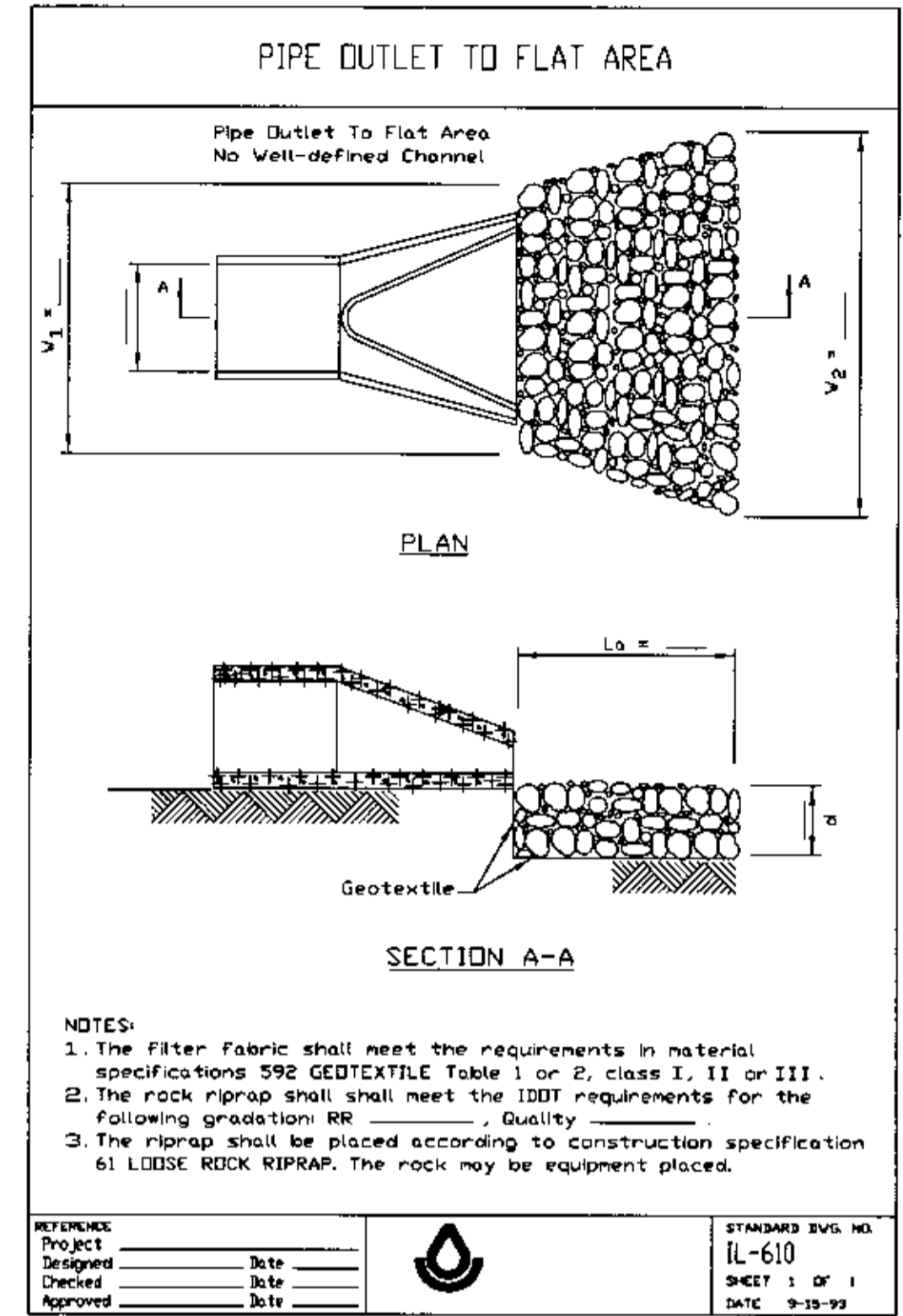
NOTE: LAY SEWER PIPE THROUGH MANHOLE AND BREAK OUT TOP SECTION ABOVE SPRING



NOTE: DIAMETER OF BASE IS 12" LARGER THAN OUTSIDE DIAMETER OF MANHOLE WALLS.

NOTE: "A" DIMENSION = 48" DIAMETER FOR 24" DIAMETER SEWER AND SMALLER, 60" DIAMETER FOR 27"-36" DIAMETER SEWER, 72" DIAMETER FOR 42"-64" DIAMETER SEWER.

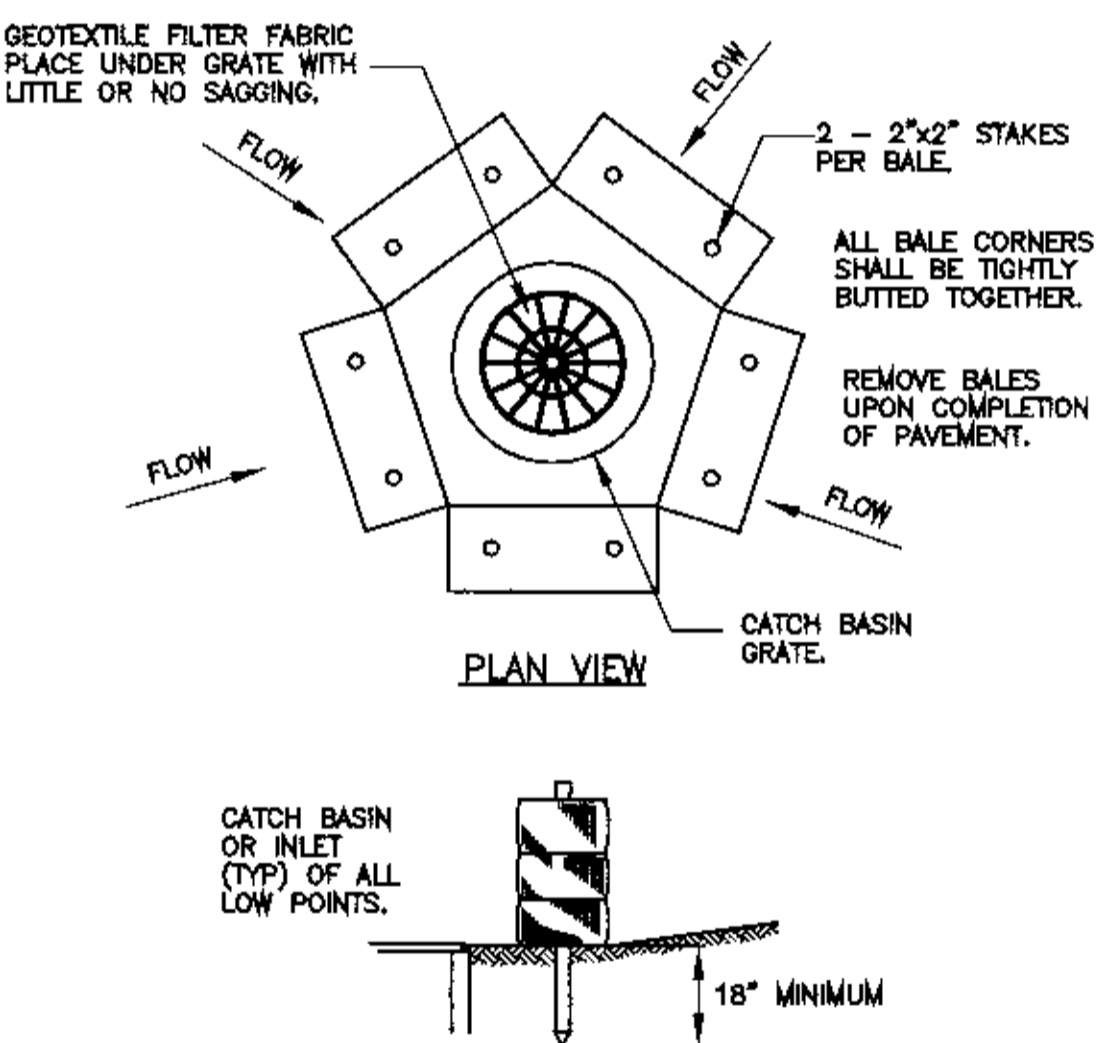
STORM MANHOLE DETAIL



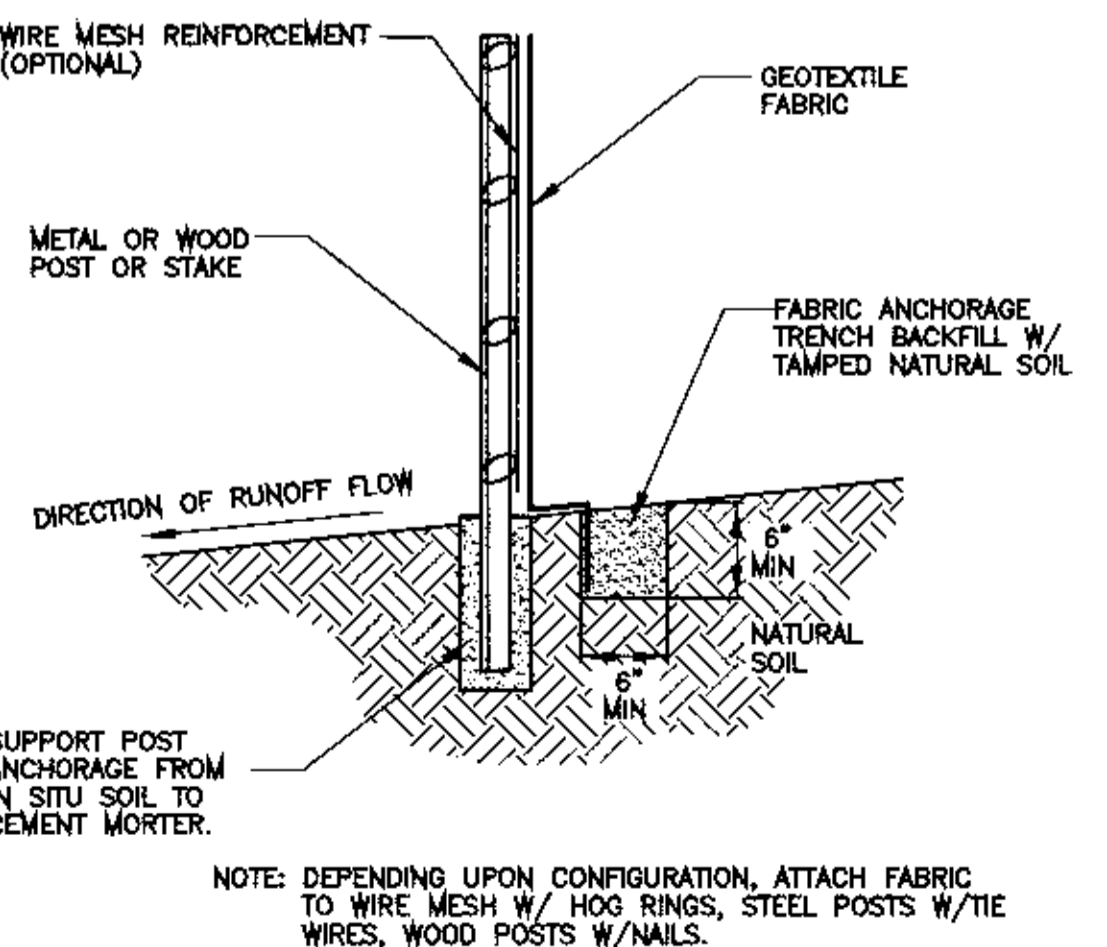
NOTES:

- The filter fabric shall meet the requirements in material specifications 592 GEOTEXTILE Table 1 or 2, class I, II or III.
- The rock riprap shall meet the IDOT requirements for the following gradation RR _____, Quality _____.
- The riprap shall be placed according to construction specification 61 LOOSE ROCK RIPRAP. The rock may be equipment placed.

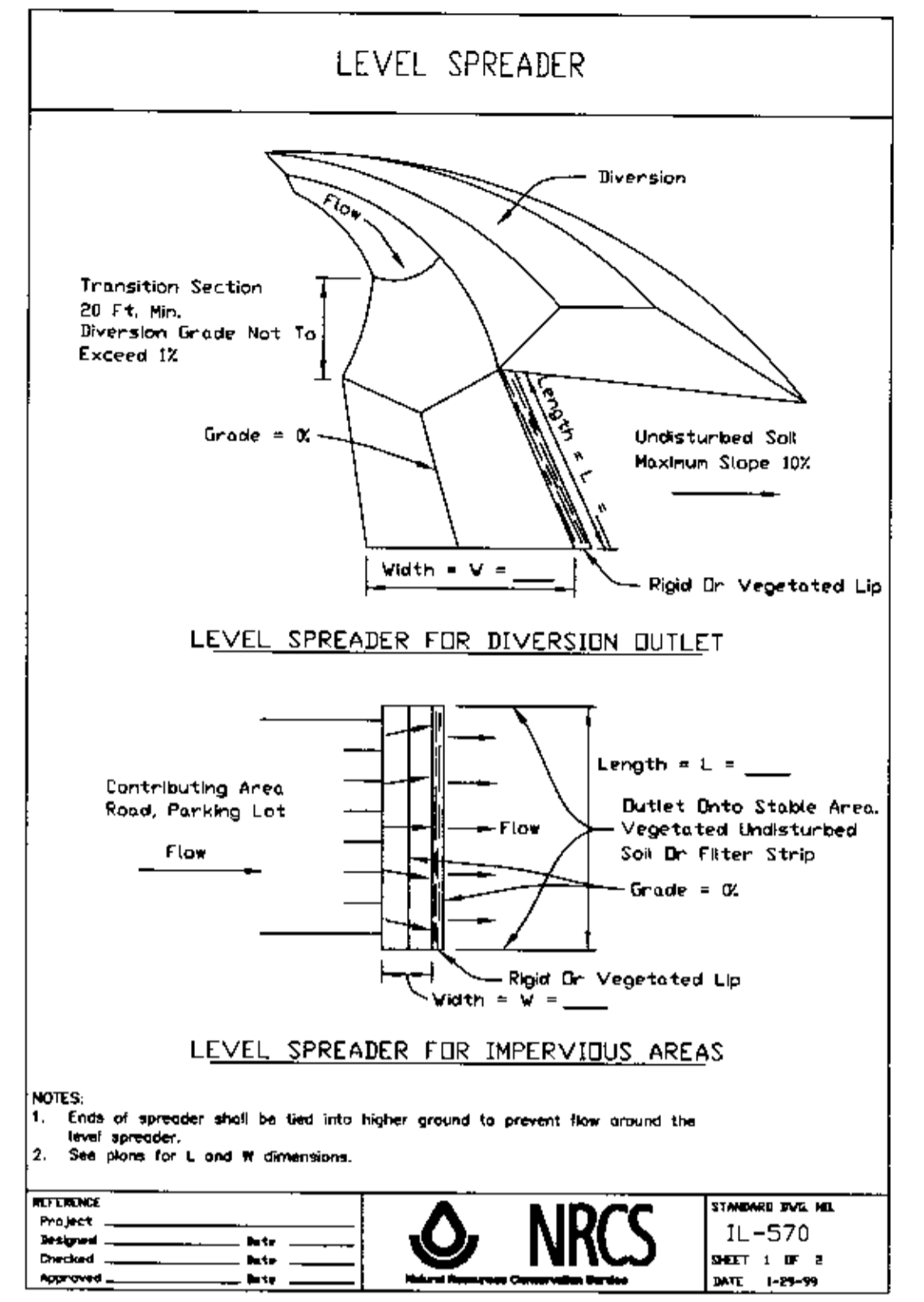
REFERENCE Project	Date	STANDARD DIV. NO. IL-610
Designed	Date	SHEET 1 OF 1
Checked	Date	DATE 9-19-99
Approved	Date	



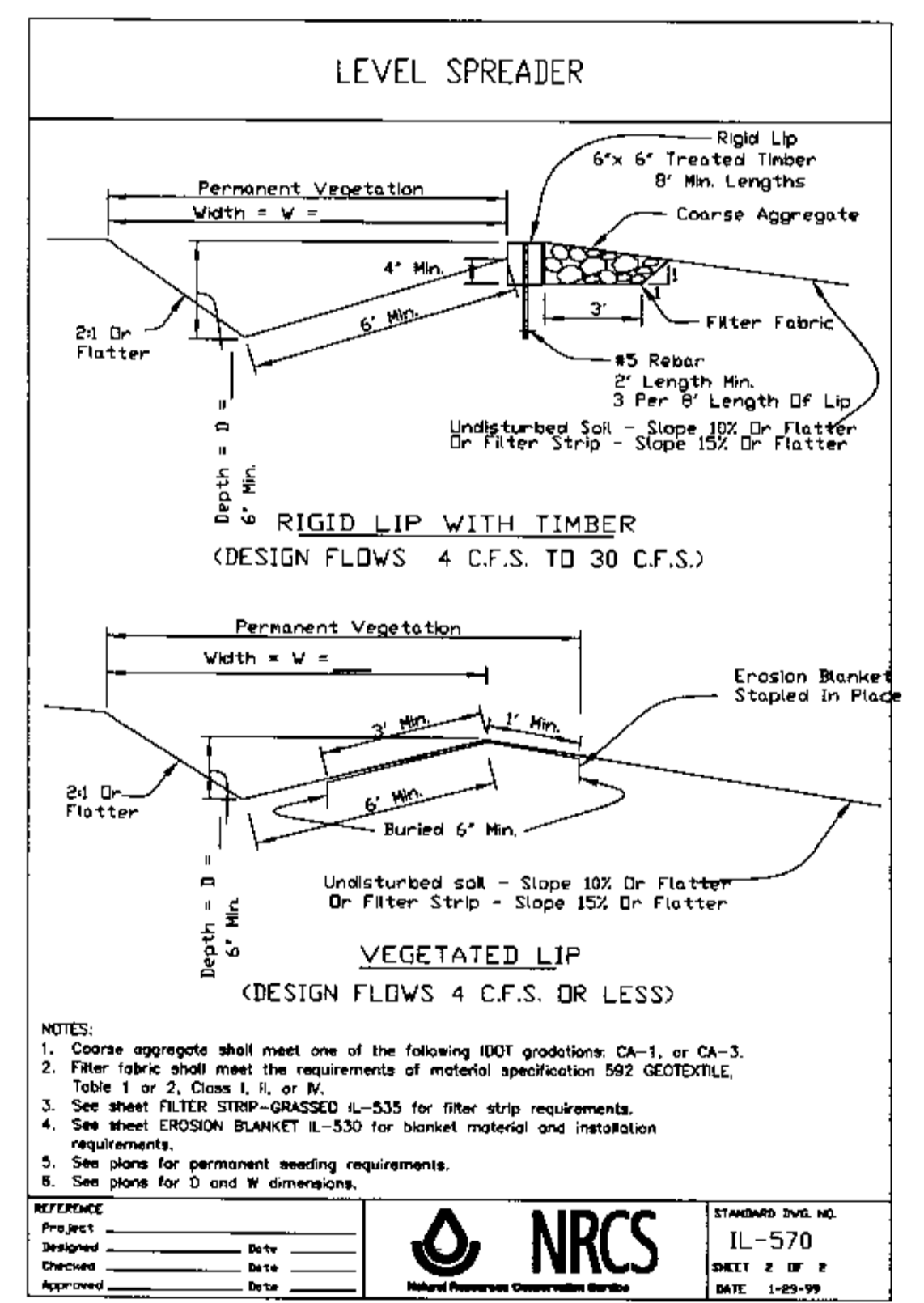
SOIL EROSION CONTROL FOR INLETS & CATCH BASINS



SILT FENCE DETAIL



REFERENCE Project	Date	STANDARD DIV. NO. IL-570
Designed	Date	SHEET 1 OF 2
Checked	Date	DATE 1-29-99
Approved	Date	

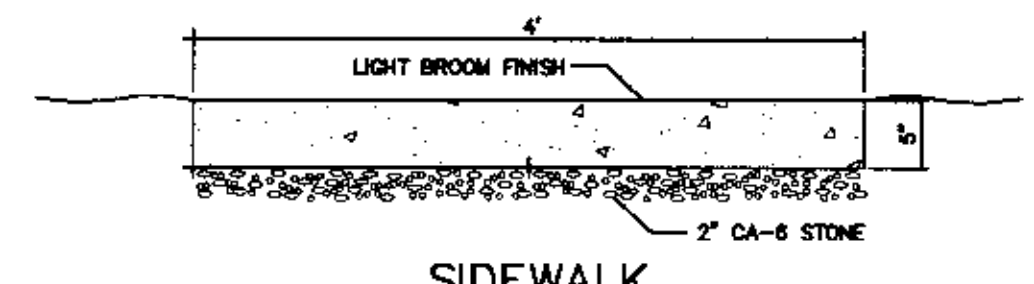


REFERENCE Project	Date	STANDARD DIV. NO. IL-570
Designed	Date	SHEET 2 OF 2
Checked	Date	DATE 1-29-99
Approved	Date	

DATE: <u>July 27, 2006</u>	
REVISION	DATE
ORIGINAL	4/01/05
VILLAGE COMMENTS	8/26/05
VILLAGE COMMENTS	12/12/05
VILLAGE COMMENTS	1/06/06

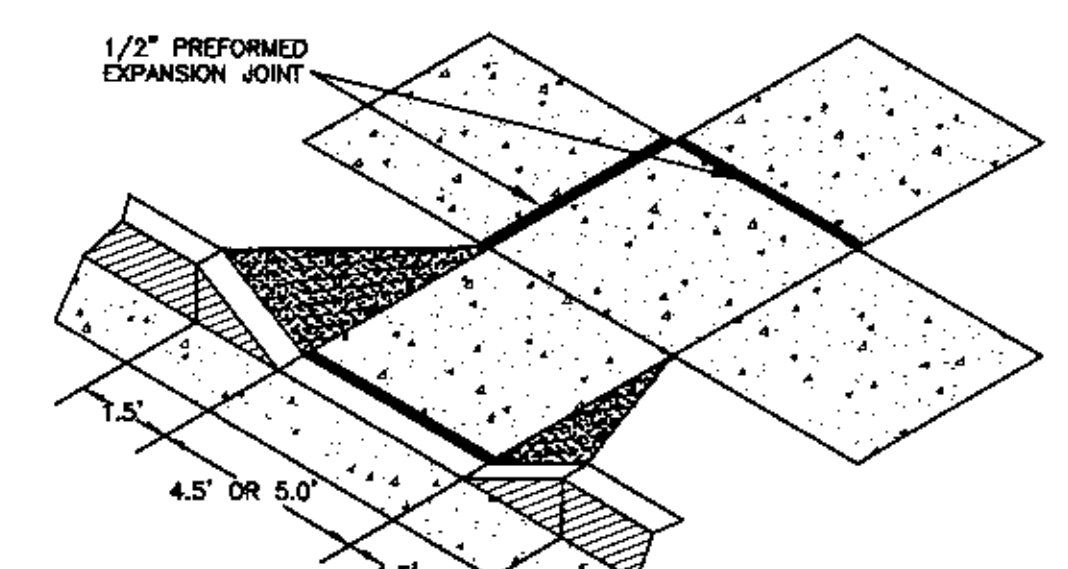
KDC CONSULTANTS INC.
16144 S. BELL ROAD
HOMER GLEN, ILLINOIS 60491
(708) 645-0545 Fax: 645-0546

BRIAN COURT SUBDIVISION
DETAILS

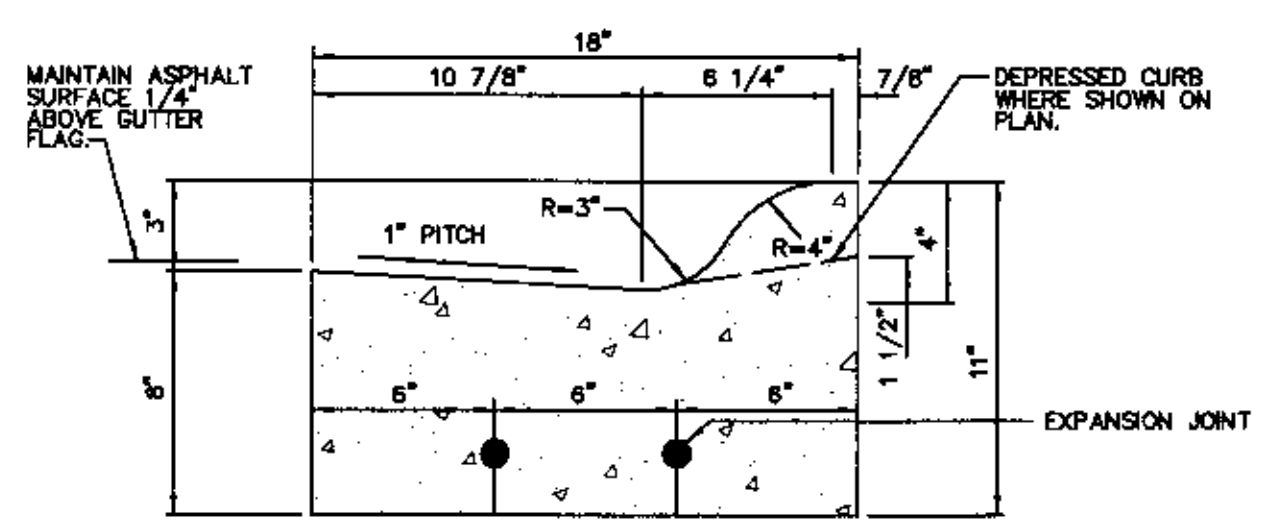


SIDEWALK

- REMOVE ALL TOPSOIL, PLACE CONCRETE ON 2" COMPACTED CA-8 STONE.
- 1/2" DEEP SAW CUT CONTROL JOINTS SHALL BE AT 5' INTERVALS AND 3/4" THICK EXPANSION BOARD WHERE SIDEWALK ADJUTS CURB, DRIVEWAY OR OTHER STRUCTURE AND AT 100' INTERVALS.
- INCREASE CONCRETE THICKNESS TO 6" AT DRIVEWAY CROSSINGS.



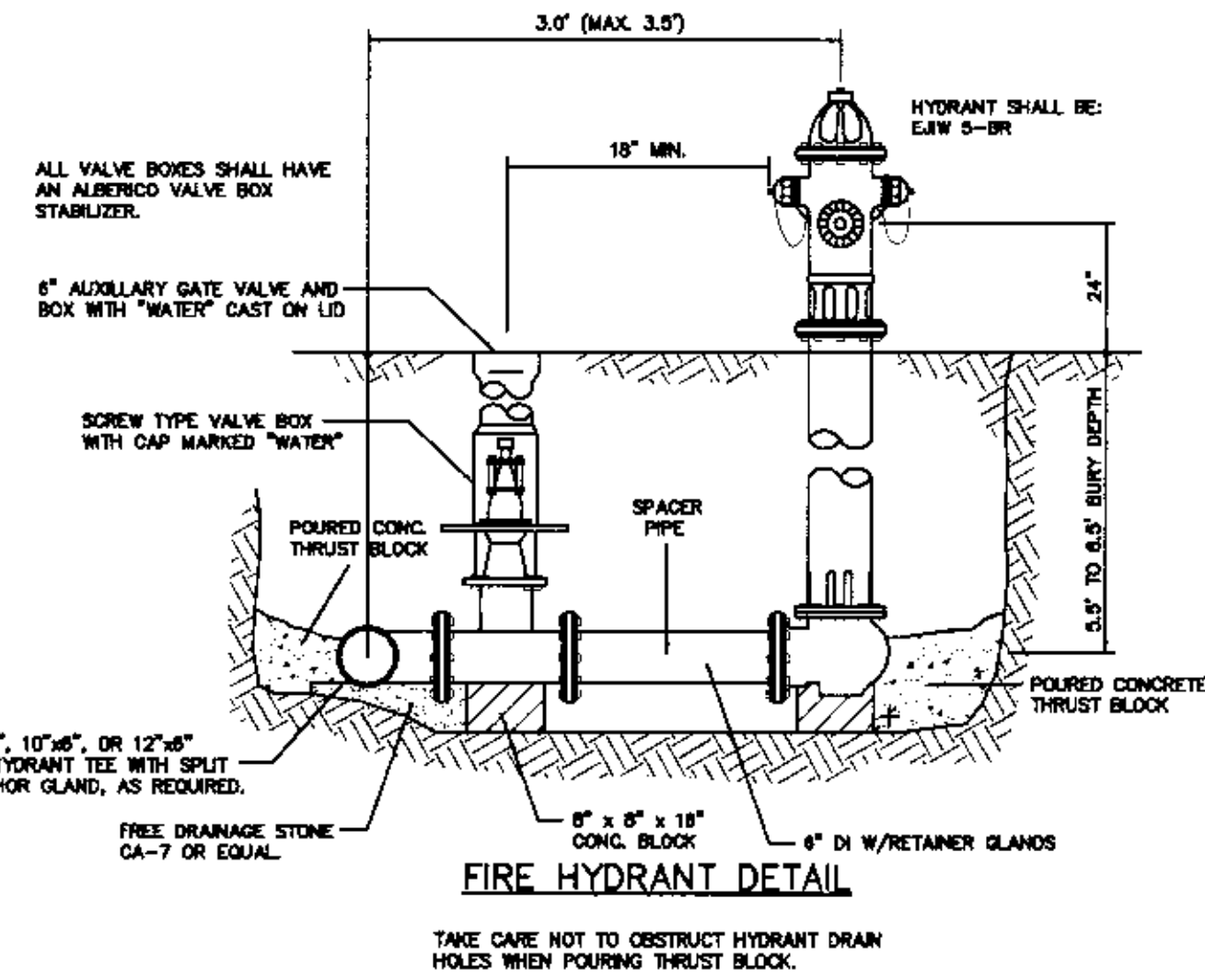
SIDEWALK RAMPS



NOTES:

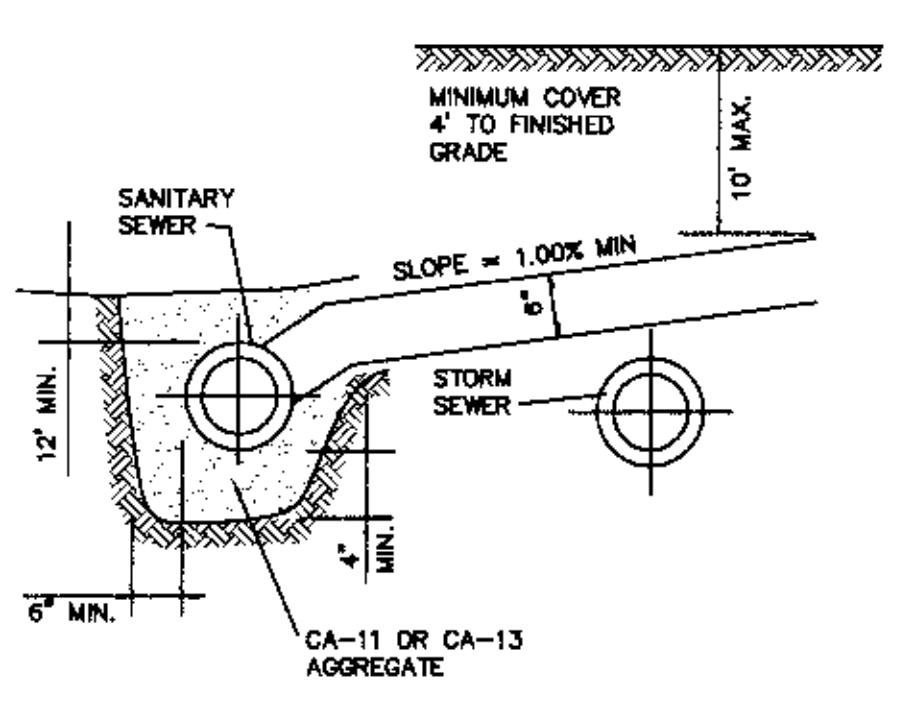
- EXPANSION JOINT: PLACE AT ENDS OF ALL PAV. PROVIDE NO. 6 X 18" LG SMOOTH STEEL DOWEL BARS W/ 1" # GREASE CAP THRU EXPANSION JOINTS (3/4" THICK BITUMINOUS FILLER MATERIAL).
- CONTRACTION JOINT: PROVIDE 2" DEEP CONTRACTION JOINTS AT 20' INTERVALS.

ROLLED CURB AND GUTTER

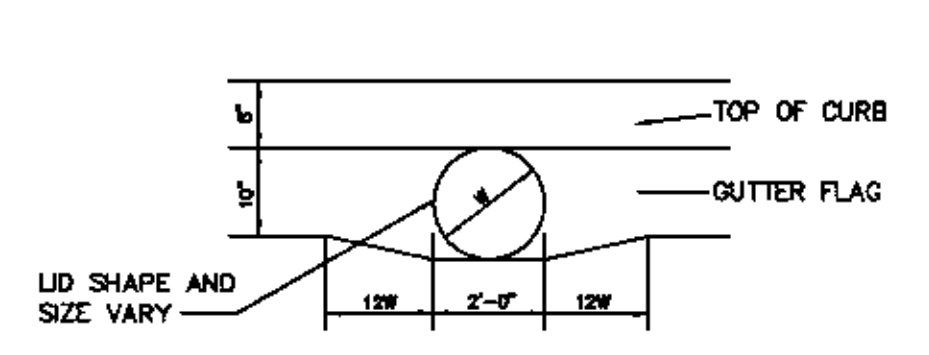


FIRE HYDRANT DETAIL

TAKE CARE NOT TO OBSTRUCT HYDRANT DRAIN HOLES WHEN POURING THRUST BLOCK.



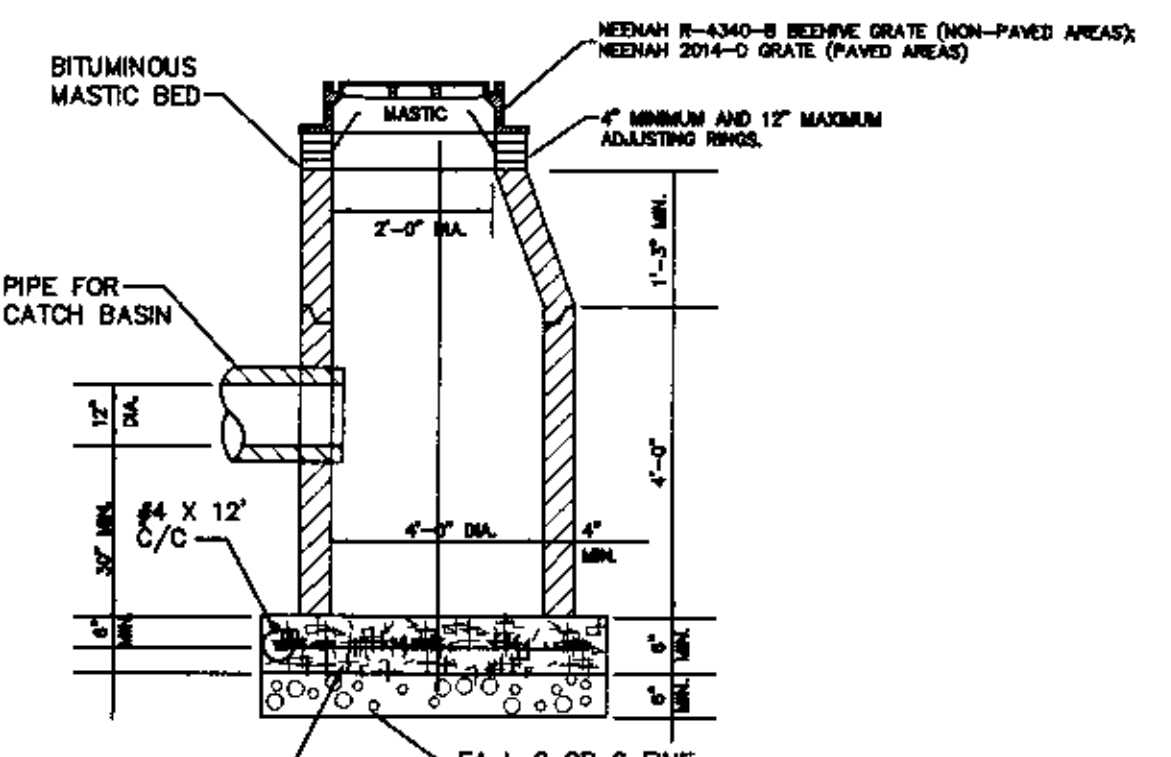
SANITARY SERVICE DETAIL



CATCH BASIN DETAIL

NOTE:
1. CA-11 OR CA-13 AGGREGATE BACKFILL AROUND CATCH BASIN TO SUBGRADE ELEVATION

POURED IN PLACE OR PRECAST CONCRETE BASE COMPRESSIVE STRENGTH 3500 PSI MIN. AT 28 DAYS

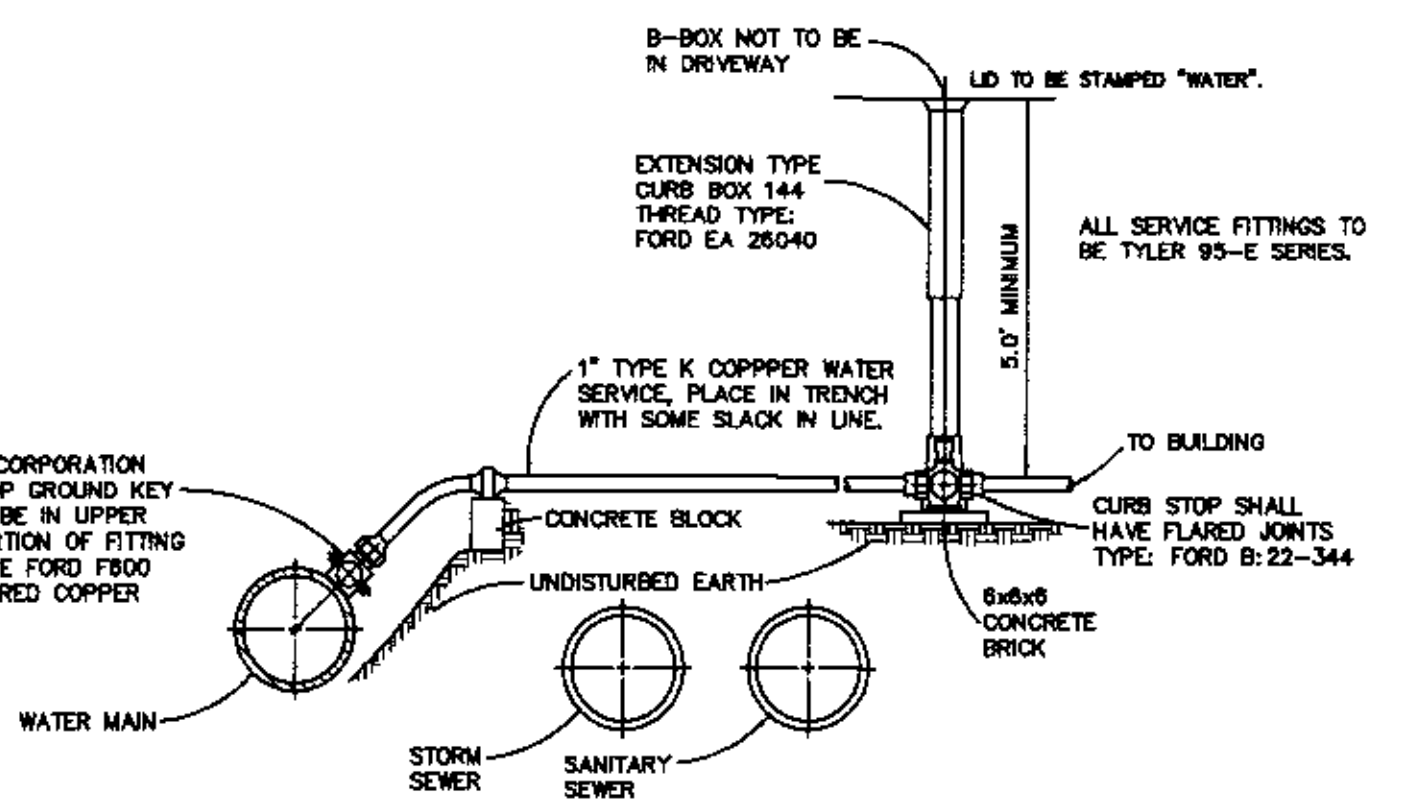


EXTERNAL JOINT SEALS: ALL MANHOLE JOINTS SHALL BE INSTALLED WITH AN EXTERNAL JOINT SEAL CONFORMING TO ALL APPLICABLE REQUIREMENTS OF ASTM C-877. THE EXTERNAL JOINT SEAL SHALL BE MACWRAP EXTERIOR JOINT SEALER AS MANUFACTURED BY MAR-MAC MANUFACTURING CO., INC., OR APPROVED EQUAL, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

THE SEAL SHALL CONSIST OF A COLLAR 6 INCHES WIDE WITH AN OUTER LAYER OF POLYETHYLENE AND AN UNDER LAYER OF RUBBERIZED MASTIC THAT IS REINFORCED WITH WOVEN POLYPROPYLENE FABRIC. TWO 5/8 INCHES STEEL STRAPS SHALL BE LOCATED WITHIN THE COLLAR 3/4 INCHES FROM EACH EDGE. THE STRAPS SHALL BE CONFINED IN TUBES THAT ISOLATE THEM FROM THE MASTIC AND ALLOW THEM TO SLIP FREELY WHEN TIGHTENED AROUND THE MANHOLE. THE SEAL SHALL BE CENTERED ON THE JOINT AND THE STRAPS TIGHTENED WITH THE APPROPRIATE TOOLS. THE COLLAR SHALL BE FURNISHED WITH A MINIMUM 6" OVERLAP AND A CLOSING FLAP TO COVER ANY REMAINING EXPOSED STRAP.

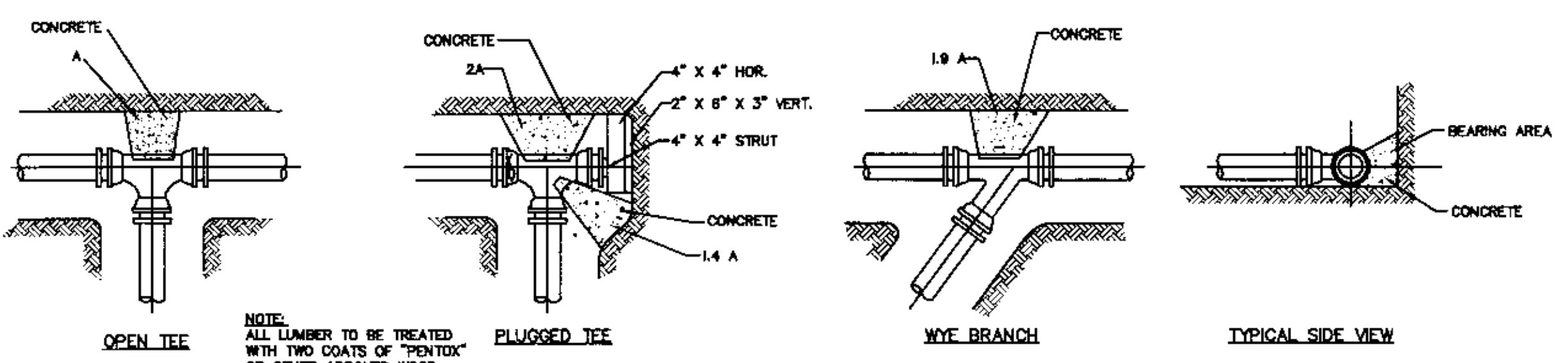
ALL COSTS FOR FURNISHING AND INSTALLING THE EXTERNAL JOINT SEALS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR SANITARY MANHOLES.

THESE PRODUCTS MAY BE OBTAINED THROUGH MARATHON MATERIALS, INC., 25523 W. SCHULTZ, PLAINFIELD, IL 60544; TELEPHONE (708) 983-9494; FAX (708) 983-9560.



- NOTES:
- A MINIMUM 24 HOUR NOTICE MUST BE GIVEN TO THE DEPARTMENT OF COMMUNITY DEVELOPMENT BEFORE WORK CAN BE COMMENCED.
 - TAPS AT ANGLES UP TO 90° WILL BE PERMITTED IF CONDITIONS DO NOT ALLOW TAPPING AT 45°.
 - TAPS MUST BE MADE 3 FEET FROM THE BELL OF THE PIPE WHERE TWO OR MORE TAPS ARE MADE. THEY MUST BE 18" APART.
 - SEWER SEPARATION REQUIREMENTS MUST BE SATISFIED IN ALL CASES.
 - MINIMUM COVER OVER THE TOP OF WATER LINES AND SERVICES IS 5'-0".
 - TRENCH CURB TO BE RESTORED TO EXISTING CONDITIONS. SEE TRENCH CUT RESTORATION DETAIL.

TYPICAL WATER SERVICE DETAIL



PIPE SIZE:	4	6	8	10	12	14	16
A (FT)	0.25	1.00	3.40	5.30	7.63	10.36	13.57

TABLE 1: THRUST BLOCK BEARING AREA (A) BASED ON 100 PSI WATER PRESSURE AND 2000 PSF ALLOWABLE SOIL BEARING PRESSURE.

NOTE: THRUST BLOCKING TO PREVENT MOVEMENT OF LINES UNDER PRESSURE AT BENDS, TEES, CAPS, VALVES, HYDRANTS, AND AT POINTS SPECIFIED BY ENGINEER SHALL BE PORTLAND CEMENT CONCRETE, A MINIMUM OF 12" THICK PLACED BETWEEN SOLID GROUND AND FITTING, AND SHALL BE ANCHORED IN SUCH A MANNER THAT PIPE AND FITTING WILL BE ACCESSIBLE FOR REPAIRS. ALL BENDS OF 11 1/4" OR MORE, ALL TEES, AND ALL PLUGS SHALL BE THRUST PROTECTED AS SHOWN. WHERE CONDITIONS PREVENT THE USE OF CONCRETE THRUST BLOCKS, TIED JOINTS OF A TYPE APPROVED BY THE ENGINEER MAY BE USED.

TYPICAL WATERMAIN THRUST BLOCKING

Roadway Series 115

Roadway Lighting Luminaires - Cutoff Style Cobrahead

PRODUCT OVERVIEW

Features:

NOTE: ALL WIRE BOLTS & NUTS USED IN THE FABRICATION OF THE POLE SHALL BE STAINLESS STEEL EXCEPT FOR ANY ANCHORAGE HARDWARE.

SCHEDULE

CODE #	QTY	A	B	C	D	E	F	G	H	I
1	1	1	1	1	1	1	1	1	1	1

FLAPOSLES, INC. 99 GARFIELD HOLLOWED EASY SETTING, N.Y. 11759

REV.	DATE	BY
1		
2		
3		
4		
5		

Roadway Series 115

Roadway Lighting Luminaires - Cutoff Style Cobrahead

PRODUCT OVERVIEW

Features:

NOTE: ALL WIRE BOLTS & NUTS USED IN THE FABRICATION OF THE POLE SHALL BE STAINLESS STEEL EXCEPT FOR ANY ANCHORAGE HARDWARE.

SCHEDULE

CODE #	QTY	A	B	C	D	E	F	G	H	I
1	1	1	1	1	1	1	1	1	1	1

FLAPOSLES, INC. 99 GARFIELD HOLLOWED EASY SETTING, N.Y. 11759

REV.	DATE	BY
1		
2		
3		
4		
5		

Roadway Series 115

Roadway Lighting Luminaires - Cutoff Style Cobrahead

PRODUCT OVERVIEW

Features:

NOTE: ALL WIRE BOLTS & NUTS USED IN THE FABRICATION OF THE POLE SHALL BE STAINLESS STEEL EXCEPT FOR ANY ANCHORAGE HARDWARE.

SCHEDULE

CODE #	QTY	A	B	C	D	E	F	G	H	I
1	1	1	1	1	1	1	1	1	1	1

FLAPOSLES, INC. 99 GARFIELD HOLLOWED EASY SETTING, N.Y. 11759

REV.	DATE	BY
1		
2		
3		
4		
5		

DATED: JULY 27, 2006

REVISION	DATE
ORIGINAL	4/01/05
VILLAGE COMMENTS	12/12/05
VILLAGE COMMENTS	7/27/06

KDC CONSULTANTS INC.
16144 S. BELL ROAD
HOMER GLEN, ILLINOIS 60491
(708) 645-0545 Fax: 645-0548

BRIAN COURT SUBDIVISION
DETAILS

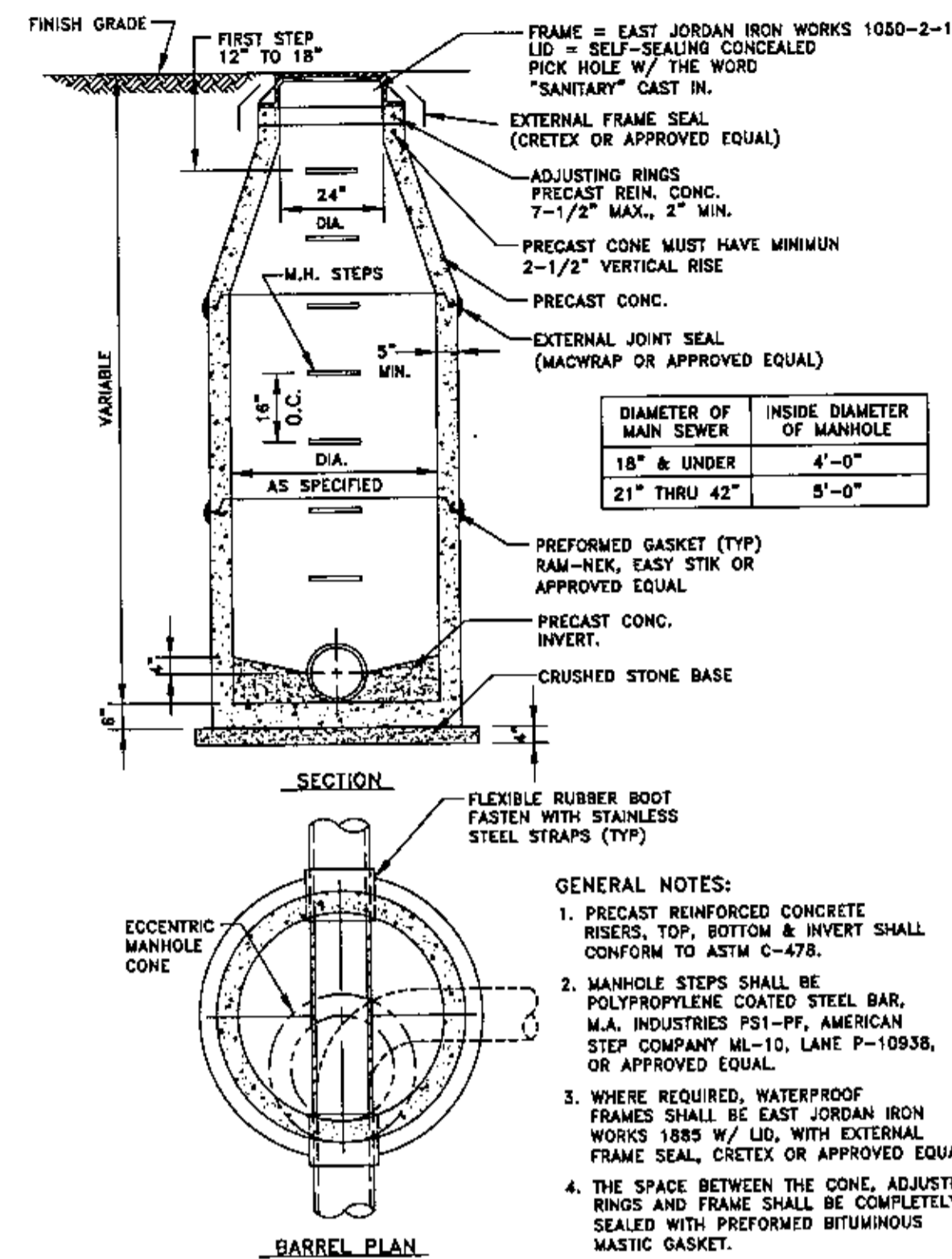
PROJECT: 04-09-099-ENG

PAGE 9 OF 10

© COPYRIGHT, ALL RIGHTS RESERVED

**DOWNERS GROVE SANITARY DISTRICT
SPECIFICATION FOR LOW PRESSURE AIR TESTING**

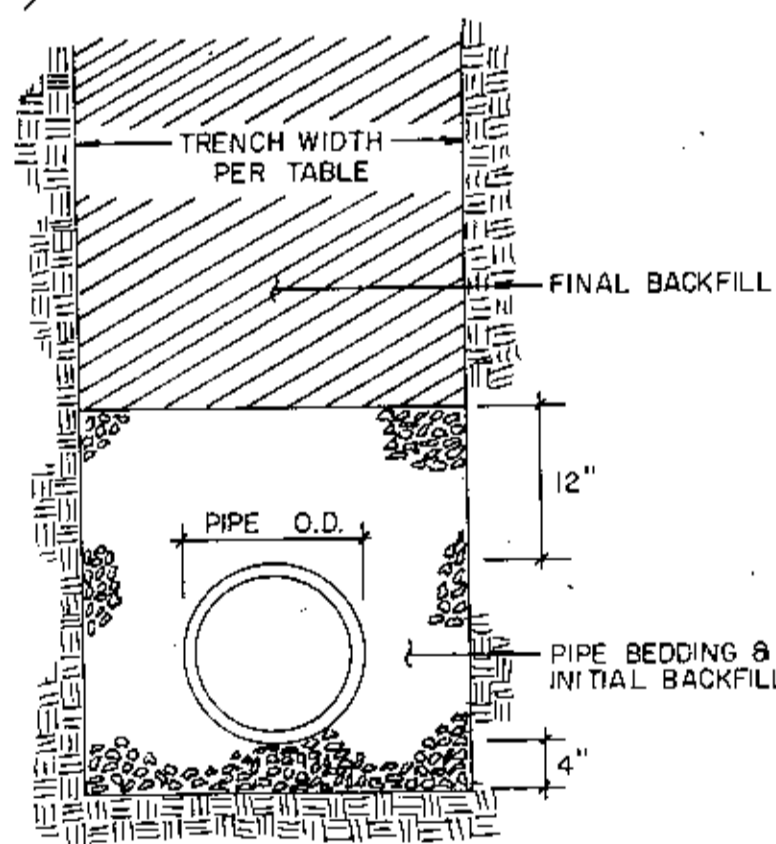
Effective Date: September 21, 1976



STANDARD MANHOLE DETAIL (OVER 5 FEET)

DOWNERS GROVE SANITARY DISTRICT

10-20-84
REV. 9-12-87
REV. 4-23-88
REV. 7-14-88



ALLOWABLE TRENCH WIDTH	
PIPE SIZE (")	MAXIMUM TRENCH WIDTH
6"	2' - 0"
8"	2' - 6"
10"	2' - 6"
12"	3' - 0"
15"	3' - 0"
18"	3' - 0"
21"	3' - 6"
24"	3' - 9"

PIPE BEDDING & BACKFILL
NTS
DOWNERS GROVE SANITARY DISTRICT

MATERIALS SHALL BE LIMITED TO CRUSHED STONE 1/4" TO 3/4" IN DIAMETER, PLACED IN MAXIMUM 6" LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY PER AASHTO T-99.

IN PAVEMENT AREAS AND WHERE TRENCH FALLS WITHIN A 4:1 TO 1 SLOPE EXTENDED FROM THE EDGE OF PAVEMENT, MATERIAL SHALL BE GRANULAR TRENCH BACKFILL AS SPECIFIED BY THE CONTROLLING ROAD AUTHORITY (FA-6 FOR I.D.O.T. - CA 6 FOR VILLAGES OF DOWNERS GROVE AND WESTMONT) COMPACTED TO 95% STANDARD PROCTOR DENSITY PER AASHTO T-99.

IN LANDSCAPE AREAS MATERIAL SHALL BE SELECT, EXCAVATED MATERIAL, FREE OF ROCKS AND DEBRIS COMPACTED TO 85% STANDARD PROCTOR DENSITY PER AASHTO T-99.

GENERAL

After installation, backfilling and prior to acceptance by the District, all sanitary sewers shall be tested for leakage with low-pressure air in accordance with these specifications.

This work includes the furnishing of all labor, tools, and equipment and work area safety to perform a low-pressure air test of all sanitary sewers. The Contractor, without additional compensation, shall determine the sources of leakage and make all repairs to the sewers failing to pass this low-pressure air test. Repairs shall be done in accordance as directed by the District.

SAFETY

The air test may be dangerous if a line is improperly prepared. It is important that the various plugs be installed and braced in such a way as to prevent blowouts. As a safety precaution, pressurizing equipment shall include a regulator set as 10-psi gage to avoid over-pressurizing.

TESTING PREREQUISITES

Prior to air testing, the following conditions shall be met:

- All backfilling of sanitary sewers and appurtenances shall be completed 30 days prior to testing.
- Where the existing ground surface, at time of construction, is less than 6 feet above the top of the sewer or the proposed ground surface after construction, will be less than 6 feet above the top of the sewer, then all clean-up and surface restoration to final grade shall be completed prior to air testing.

TESTING PREREQUISITES (Continued)

- Where sanitary sewers are being installed with other underground installations and utilities then all crossings less than 6 feet above the top of the sewer and all installations less than 6 feet above and less than 10 feet horizontally from the sanitary sewer shall be completed prior to air testing for acceptance.

TEST PROCEDURE

All low-pressure air testing for acceptance shall be done under the direct supervision of the test procedure by the district or its authorized representative(s). The District shall be notified by the Contractor 48 hours prior to testing.

Air test equipment, to be furnished by the Contractor, shall consist of test plugs, bracing, air hoses, air supply equipment and control equipment. The control equipment shall contain suitable valves, pressure regulators and pressure gage(s). The pressure gage used to determine pressure loss must have a minimum of 4 1/2" diameter dial face with a 0-10 psi range having minor gradations of 0.1 psi and accuracy of ± 0.1 psi over the full range.

- Testing shall be done between two (2) consecutive manholes.
- If required, clean the pipe to be tested by flushing in a manner approved by the District.
- Plug all pipe outlets with test plugs and brace each plug.
- Add air slowly until a constant pressure is reached of 4.5 p.s.i.g. greater than the average back pressure of any ground water above the invert of the pipe. The air pressure must be regulated to prevent inside pressure from exceeding 5 p.s.i.g. greater than the average back pressure of ground water.

E. When the pressure has reached 4.5 p.s.i.g. plus correction for ground water, throttle the air supply to maintain the air pressure above 4.0 p.s.i.g. (plus correction for ground water) for at least 5 minutes.

F. After the stabilization period, adjust the air pressure to 4.5 psig (plus correction for ground water), shut-off the air supply, and allow the air pressure to drop to 4.0 psig. If this occurs in less than 15 minutes, the time for the air pressure to decrease for 4.9 psig to 3.5 psig (plus correction for ground water) shall be measured. If the air pressure does not drop to 4.0 psig. within 15 minutes, the section is considered to have passed the test.

G. If the time in seconds for the air pressure to drop 0.5 p.s.i.g. is greater than that shown in the following tables, the section is considered to pass the air test. If the time is less than that shown in the tables, the section is considered to have failed the test and must be repaired and retested.

ADJUSTMENTS FOR GROUND WATER

When the ground water, at time of testing, is above the sewer invert (as determined by measurements from observation risers) the test pressure shall be increased 0.433 psi for each foot the ground water is above the invert.

MANHOLES

Manholes shall be observed during wet conditions and all observed sources of infiltration shall be corrected.

DOWNERS GROVE SANITARY DISTRICT

SPECIFICATION

FOR

MANHOLE TESTING

Effective Date: November 1, 1993

- Each manhole shall be tested no sooner than 30 days after completion of manhole construction.
- All lift holes shall be plugged with an approved non-shrink grout.
- No grout will be placed in the horizontal joints before testing.
- All pipes entering the manhole shall be plugged, taking care to securely brace the plug; from being drawn into the manhole.
- The test head shall be placed at the inside of the top of the manhole frame and the seal inflated in accordance with the manufacturer's recommendation.
- A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches. The manhole shall pass if the time is greater than 60 seconds for a 48" diameter manhole, 75 seconds for 60", and 90 seconds for 72".
- If the manhole fails the initial test, necessary repairs shall be made with a non-shrink grout. Retesting shall proceed until a satisfactory test is obtained.
- All manhole testing for acceptance shall be done under the direct supervision of the test procedure by the District or its authorized representative(s). The District shall be notified by the Contractor 48 hours prior to testing.

DOWNERS GROVE SANITARY DISTRICT

DEFLECTION TESTING PROCEDURE

All sanitary sewers constructed of flexible pipe (PVC) which are to be owned, operated, and maintained by the Downers Grove Sanitary District must be tested for deflection in accordance with the following procedures:

- All sanitary sewers between manholes shall be tested for deflection.
- The deflection test is to be run using a rigid ball or mandrel with a diameter equal to 95% of the base diameter of the pipe being tested, as established in proposed ASTM D-3034. The test shall be performed without mechanical pulling devices.
- The individual lines to be tested shall be so tested no sooner than 30 days after they have been installed.
- Wherever possible and practical, the testing shall initiate at the downstream lines and proceed towards the upstream lines.
- No pipe shall exceed a deflection of 5%.
- Where deflection is found to be in excess of 5% of the original pipe diameter, the contractor shall excavate to the point of excess deflection and carefully compact around the point where excess deflection was found. The line shall then be retested for deflection. However, should after the initial testing the deflected pipe fail to return to the original size (inside diameter) the line shall be replaced.
- All testing must be done in the presence of a District representative.

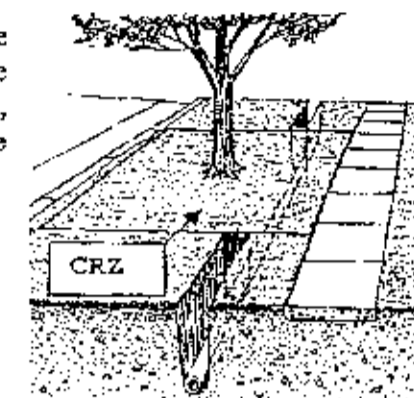


Downers Grove Tree Protection Requirements

Ordinances regarding trees, including tree protection requirements for public trees, are located in Chapter 24 of the Downers Grove Municipal Code. The Forestry Division of the Public Works Department implements and enforces these codes. The following identifies tree protection requirements for projects near public parkway trees.

Tree protection shall include avoiding damage to the above ground tree branches and trunk, and the below ground root system and surrounding soil. Roots are one of the most vital parts of a tree and must be protected from severing or changes in their soil environment caused by compaction and regrading. The majority of a tree's nutrient and water absorbing roots are in the upper 18 to 24 inches of soil. Damage to the roots can lead to irreversible tree decline or death in the coming years, unless the area around the tree trunk is protected during construction activities. The Critical Root Zone, or CRZ, is the area immediately surrounding a tree that needs to be protected from damage. The size of this area, measured from the center of the tree, is generally a circle with a radius of one foot for each inch of trunk diameter. The depth of the CRZ extends to 4 feet below the natural ground surface level.

In a municipal parkway setting with utilities and paved or concrete surfaces, the size of the CRZ has been adjusted to form a rectangle around the parkway tree trunk with the minimum dimensions listed in the following table. At a minimum, the listed CRZ shall be fenced. Whenever possible, the entire parkway shall be fenced in except where access has been permitted.



Parkway Tree diameter at 4.5'	Width from street to property (minimum curb to sidewalk)	Length along street (minimum)	Depth
0 - 12.0 inches	10.0 feet	10 feet	4 feet
12.1 - 24.0 inches	10.0 feet	20 feet	4 feet
24.1 or more inches	10.0 feet	30 feet	4 feet



For public parkway trees, roots located within the determined CRZ shall be protected from compaction, severing, and the storage of materials or equipment. If utilities pass through a CRZ, they must be augered underneath the tree. In cases when severing of roots within a portion of the CRZ may be unavoidable (ex. sidewalk installation, curb replacement), subject to the approval of the Village Forester, sharp clean cuts shall be made on root ends to promote wound closure and root regeneration. All fencing around each tree's CRZ is to be 4 feet high, secured to metal posts spaced no further than 10 feet apart, and maintained daily in good condition.

In addition to fines and citations that may be assessed for violations of any Chapter 24 municipal code (such as not maintaining fencing around the CRZ or unauthorized removal of protected trees), violators may be subject to the following provisions:

- issuance of an invoice for the value or partial value of the tree lost due to damage to either the above ground or below ground portions of the parkway tree, or unauthorized tree removal.
- forfeiture of bonds issued for the work should funds be sufficient to cover tree values and fines.
- costs of repairs, such as pruning or cabling, or costs for removal of the damaged parkway tree along with the stump if the tree cannot remain in the right-of-way.
- fines of \$500 for the 1st offense; \$1,000 for the 2nd offense; \$2,500 for 3rd and subsequent offenses.
- each day during which a violation continues shall be construed as a separate and distinct offense.

For more information, contact the Forestry Division at 434-5475 or 434-5476.



MAY 2005

Page 1 of 1

DATED: JULY 27, 2006		KDC CONSULTANTS INC. 16144 S. BELL ROAD HOMER GLEN, ILLINOIS 60491 (708) 645-0545 Fax: 645-0548
REVISION	DATE	
ORIGINAL	4/01/05	
VILLAGE COMMENTS	12/12/05	
VILLAGE COMMENTS	7/27/06	BRIAN COURT SUBDIVISION DETAILS
PROJECT	04-09-099-ENG	10 PAGE OF 10