

300 - ROADWAYS

STREET CLASSIFICATIONS AND RECOMMENDED STANDARD STREET DIMENSIONS	300-1
TYPICAL SECTIONS AND PAVEMENT COMPOSITION	300-2
STREET DESIGN STANDARDS	300-3
ACCESS CONTROL STANDARDS TEMPORARY DEAD-END STREETS	300-4
CONCRETE CURB DETAILS	300-5
RESIDENTIAL DRIVE APPROACH	300-6
COMMERCIAL AND INDUSTRIAL DRIVE APPROACH	300-7
RESIDENTIAL DRIVE APPROACH AND CONCRETE SIDEWALK DETAIL WITH NO CURB LAWN	300-8
INDUSTRIAL DRIVE APPROACH	300-9
CURB RAMPS	300-10
CONCRETE SIDEWALK DETAIL	300-11
GUIDELINES FOR REPLACEMENT OF SIDEWALKS, CURB & GUTTER, & DRIVEWAYS	300-12
ASPHALT OVERLAY AND MONUMENT	300-13
MISCELLANEOUS ROADWAY NOTES	300-14
ALLEY & PARKING LOT DETAIL	300-15
PUBLIC RIGHT-OF-WAY OPENING AND EXCAVATION	300-16
STREET IMPROVEMENT CONDITIONS	300-17
VISION CLEARANCE ON CORNER LOTS	300-18
TRAFFIC CONTROL DEVICES STATIONARY OPERATIONS IN ONE LANE	300-19
TYPICAL PAVEMENT RESTORATION DETAIL	300-20

500 - GENERAL

STREET LIGHT AND TRAFFIC CONTROL DEVICES	500-1
GENERAL NOTES	500-2
LOW STRENGTH MORTAR BACKFILL AND BORING/JACKING	500-3
CASING PIPE DETAIL	500-4
DEMOLITION PERMIT REGULATIONS	500-5
CONSTRUCTION NEAR TREES	500-6

600 - STORM DRAINAGE

TYPE 1 CATCH BASIN	600-1
TYPE 2-2-B CATCH BASIN	600-2
YARD DRAIN	600-3
TYPE 3 STORM MANHOLE	600-4
TYPE 3 STORM MANHOLE DETAILS	600-5
FULL-HEIGHT HEADWALL	600-6
HALF-HEIGHT HEADWALL	600-7
DETENTION BASIN DETAILS	600-8
STORM SEWER TRENCH DETAILS	600-9
MISCELLANEOUS STORM NOTES	600-10
EROSION CONTROL NOTES	600-11
TEMPORARY EROSION CONTROL	600-12
TEMPORARY EROSION CONTROL	600-13
REPAIR OF EXISTING FIELD TILE OR STORM PIPE DETAIL	600-14

800 - WATER DISTRIBUTION

FIRE HYDRANT	800-1
RESTRAINING JOINTS AND TAPPING SLEEVE FOR WATER MAINS	800-2
CONCRETE BLOCKING FOR WATER MAINS	800-3
WATER MAIN TRENCH DETAIL	800-4
WATER MAIN MATERIAL AND TESTING	800-5

MISCELLANEOUS WATER NOTES	800-6
WATER MAIN SERVICE CONNECTIONS	800-7
METER PIT INSTALLATION, STANDARD LID	800-8
METER PIT INSTALLATION, FROST PROOF LID	800-9
1. 1/2" AND 2" WATER METER PIT (FOR OFF ROAD USE ONLY)	800-10
3" AND 4" METER PIT INSTALLATIONS (FOR OFF ROAD USE ONLY)	800-11
6" AND LARGER METER PIT INSTALLATION (FOR OFF ROAD USE ONLY)	800-12
2" COMPOUND METER WITH BYPASS	800-13
4" COMPOUND METER WITH BYPASS	800-14
TYPICAL LARGER METER LAYOUT IN BUILDING	800-15
4" AND LARGER WATER MAIN SERVICE CONNECTION (DOMESTIC)	800-16
LIMITED AREA SPRINKLER SYSTEM DETAIL	800-17
2" FIRE LINE AND 4" AND LARGER FIRE LINE	800-18
COMBINATION FIRE AND DOMESTIC IN BUILDING	800-19
REDUCED PRESSURE DETECTOR ASSEMBLY	800-20
DOUBLE DETECTOR CHECK VALVE ASSEMBLY DETAIL	800-21
STANDARD INSTALLATION FOR IRRIGATION METERS AND BACKFLOW PREVENTER	800-22
IRRIGATION DETAILS	800-23

900 - SANITARY SEWERS

TYPE 3 SANITARY MANHOLE	900-1
TYPE D SANITARY DROP MANHOLE	900-2
MISCELLANEOUS SANITARY MANHOLE DETAILS	900-3
SANITARY SEWER TRENCH DETAIL	900-4
REPAIR OF EXISTING SANITARY SEWER PIPE DETAIL	900-5
SERVICE RISER AND SERVICE LATERAL	900-6
SANITARY SEWER CONNECTION DETAILS	900-7
SANITARY SEWER CLEAN OUT AND SADDLE DETAILS	900-8
BUILDING CONNECTION DETAIL	900-9
SANITARY SEWER TESTING NOTES	900-10
MISCELLANEOUS SANITARY SEWER NOTES	900-11
SERVICE CONNECTION LOCATION REFERENCE	900-12

VILLAGE OF
GLANDORF



INDEX

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.

1

STREET FUNCTIONAL CLASSIFICATIONS

A. ARTERIAL

A GENERAL TERM DENOTING A HIGHWAY PRIMARILY FOR THROUGH TRAFFIC, CARRYING HEAVY LOADS AND LARGE VOLUMES OF TRAFFIC, USUALLY ON A CONTINUOUS ROUTE.

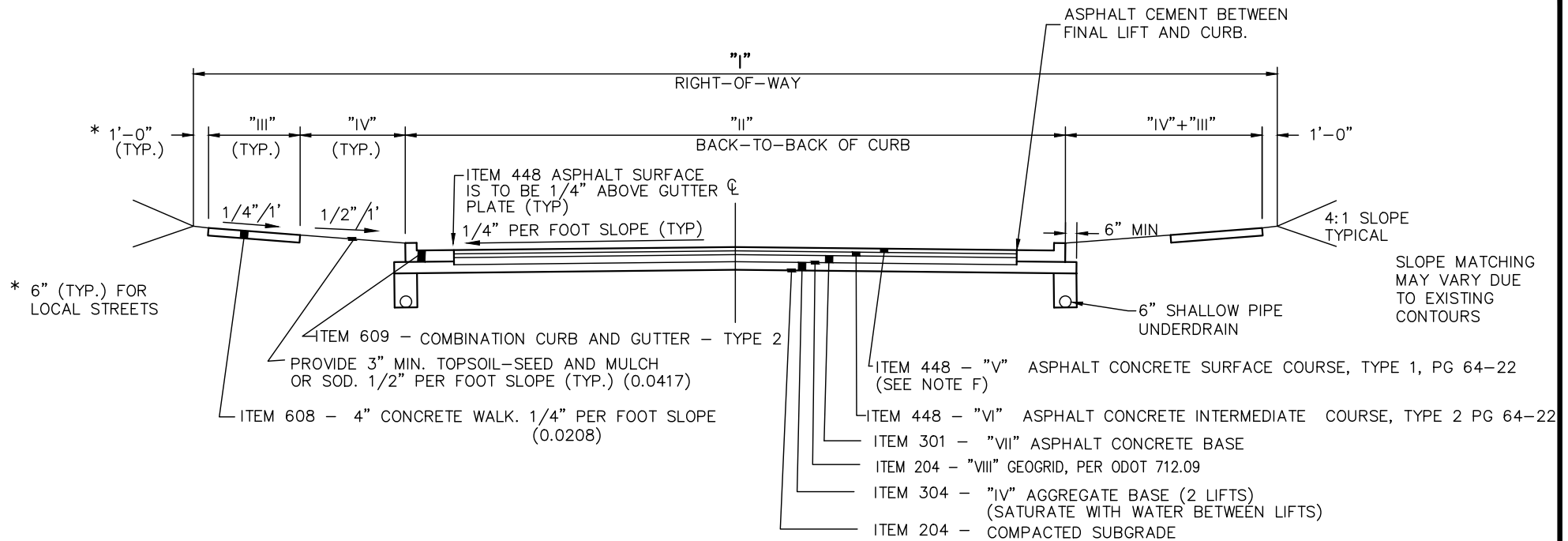
B. COLLECTOR

STREET DESIGNED TO CONDUCT TRAFFIC FROM LOCAL STREETS TO ARTERIALS. COLLECTOR HAS A FURTHER BREAKDOWN OF COLLECTOR—RESIDENTIAL AND COLLECTOR—INDUSTRIAL AND COMMERCIAL.

C. LOCAL

A STREET DESIGNED TO PROVIDE ACCESS TO ABUTTING PROPERTY AND DISCOURAGE THROUGH TRAFFIC.

STREET FUNCTIONAL CLASSIFICATION	RIGHT-OF-WAY WIDTH	BACK-TO-BACK CURB - PARKING BOTH SIDES	BACK-TO-BACK CURB - PARKING ONE SIDE	BACK-TO-BACK CURB NO PARKING
	(L.F.)	(L.F.)	(L.F.)	(L.F.)
ARTERIAL	80	57	50	45
COLLECTOR - RES.	60	37	33	29
COLLECTOR - IND. AND COMM.	60	41	36	32
LOCAL	50	34	30	26



NOTES

A. ALL WORK TO CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS LATEST REVISION UNLESS OTHERWISE SPECIFIED.

B. ITEM 407 TACK COAT, SHALL BE REQUIRED WHEN 10 DAYS HAVE ELAPSED BETWEEN BITUMINOUS PAVEMENT LIFTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. APPLICATION RATE IS 0.10 GALLON PER SQUARE YARD.

C. NO CONCRETE PAVEMENT WILL BE ACCEPTED.

D. SIDEWALKS NOT REQUIRED IN INDUSTRIAL ZONING.

E. ALL BUTT JOINTS SHALL BE SEALED WITH PG 64-22 WITHIN 24 HOURS AFTER PLACEMENT OF ITEM 448.

F. IN AREAS WITH POTENTIAL OF PUSHING, SHOVING, RUTTING, OR HEAVING, USE ITEM 448 ASPHALT CONCRETE SURFACE COURSE TYPE 1 H, PG. 70-22 AS DIRECTED BY THE VILLAGE.

STANDARD DIMENSIONS	ITEM	DESCRIPTION	ARTERIAL	COLLECTOR		LOCAL
				COMM.&IND.	RESIDENTIAL	
	I	RIGHT-OF-WAY	80'	60'	60'	50'
	II	B\B CURB	57'	41'	37'	34'
	III	SIDEWALK WIDTH	4'	4'	4'	4'
	IV	APRON WIDTH	6.5'	4.5'	6.5'	3.5'
	V	ITEM 448 (SEE NOTE F)	1-1/4"	1-1/4"	1-1/4"	1-1/2"
	VI	ITEM 448	1-3/4"	1-3/4"	1-3/4"	2-1/2"
	VII	ITEM 301	7"	7"	3"	-
	VIII	ITEM 204	-	-	-	-
	IV	ITEM 304	2-4" LIFTS	2-4" LIFTS	2-3" LIFTS	2-4" LIFTS

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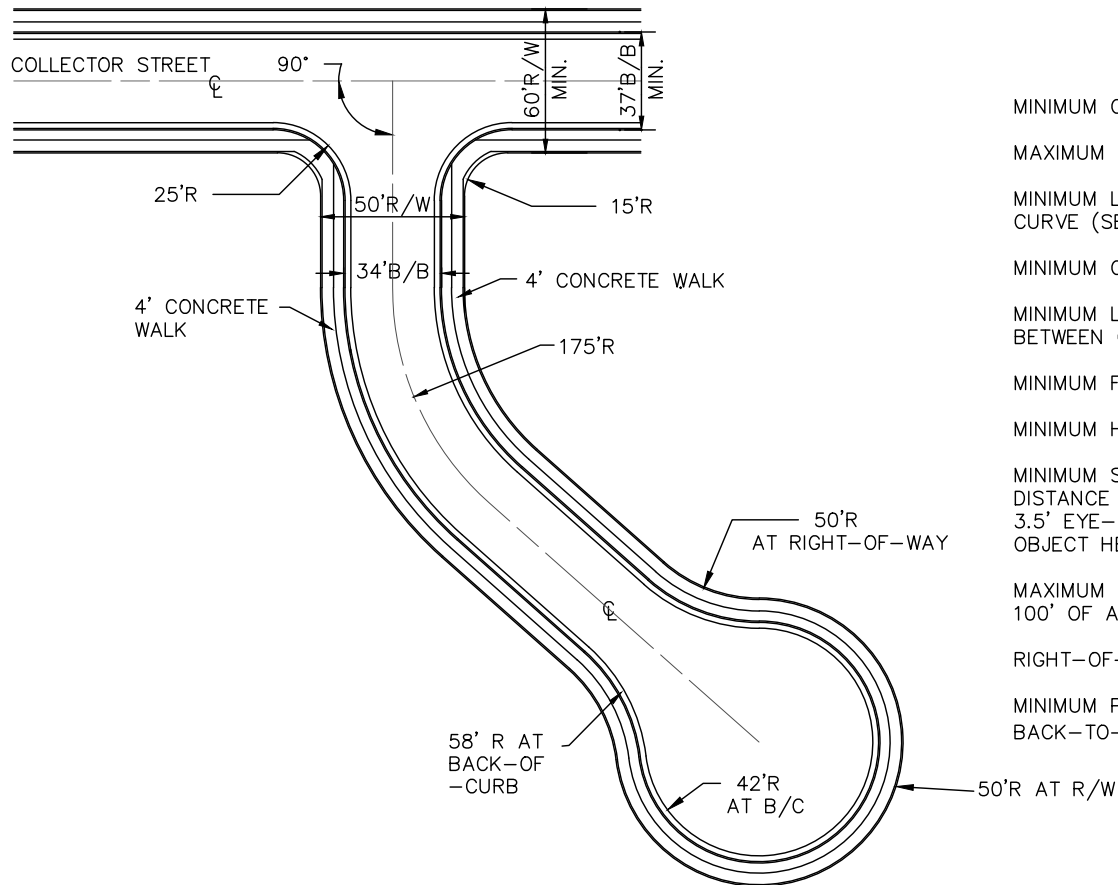
TYPICAL SECTIONS AND PAVEMENT COMPOSITION

REVISIONS:
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DATE
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PAGE No.
300-2

TYPICAL STREET AND CUL-DE-SAC PLAN



STREET DESIGN STANDARDS

	25 mph LOCAL (THRU STREETS)	35 mph COLLECTOR	45 mph ARTERIAL
MINIMUM CENTERLINE GRADES	.40%	.40%	.40%
MAXIMUM CENTERLINE GRADES	10%	7%	4%
MINIMUM LENGTH OF VERTICAL CURVE (SEE NOTE C).	25FT.	50FT.	100FT.
MINIMUM CENTERLINE RADIUS	250FT.	400FT.	600FT.
MINIMUM LENGTH TANGENT BETWEEN CURVES	50FT.	50FT.	100FT.
MINIMUM FACE-OF-CURB RADIUS	25FT.	25FT.	50FT.
MINIMUM HORIZONTAL VISIBILITY	200FT.	300FT.	500FT.
MINIMUM STOPPING SIGHT DISTANCE (MEASURED FROM 3.5' EYE-LEVEL TO 6" OBJECT HEIGHT)	200FT.	300FT.	500FT.
MAXIMUM CENTERLINE GRADE WITHIN 100' OF AN INTERSECTION	3%	3%	3%
RIGHT-OF-WAY WIDTH	50FT.	60FT.	80FT.
MINIMUM PAVEMENT WIDTH BACK-TO-BACK OF CURB	34FT.	37/41FT.	57FT.

NOTES

- A.** THESE ARE MINIMUM DESIGN STANDARDS AND MAY BE REQUIRED TO BE INCREASED TO COMPLY WITH THE VILLAGE'S OFFICIAL THOROUGHFARE PLAN.
- B.** THE MAXIMUM LENGTH FOR CUL-DE-SAC STREET SHALL BE 600' CENTER-OF-STREET TO CENTER OF CUL-DE-SAC.
- C.** MINIMUM LENGTH OF VERTICAL CURVE CAN BE REDUCED OR ELIMINATED TO ALLOW FOR PROPER DRAINAGE, WITH APPROVAL OF THE VILLAGE.

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STREET DESIGN STANDARDS

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DATE
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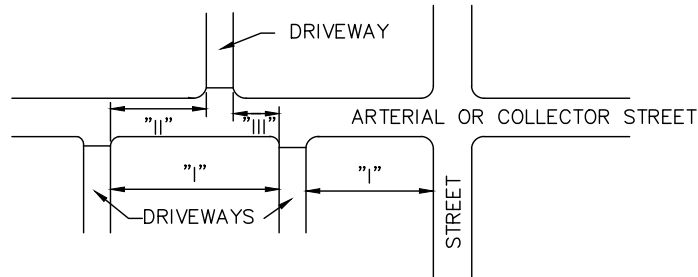
PAGE No.
300-3

ACCESS CONTROL STANDARDS

A. ACCESS CONTROL AS SHOWN ON THE TABLE BELOW SHALL APPLY TO INDUSTRIAL AND COMMERCIAL DRIVEWAYS OR LOCAL STREETS ON ARTERIAL OR COLLECTOR STREETS WITHIN THE VILLAGE.

MINIMUM SPACING
OF ACCESS POINTS.

ITEM	DISTANCE IN FEET
I.	200
II.	120
III.	50



B. THE DISTANCE BETWEEN ACCESS POINTS IS MEASURED TO THE NEAREST CURB OR EDGE LINE.

C. NO MORE THAN ONE (1) ACCESS POINT (UNLESS THERE IS A SEPARATE ENTRANCE AND EXIT ACCESS) PER COMMERCIAL PROPERTY IS PERMITTED WITH THE EXCEPTION THAT AN ACCESS POINT ON EACH ROADWAY OF A CORNER PROPERTY IS PERMITTED AND PROPERTIES WITH FRONTAGES EXCEEDING 300' MAY BE PERMITTED IF THE NEED IS CLEARLY SHOWN FOR MORE THAN ONE DRIVEWAY WITH A MAXIMUM OF TWO.

D. THE DISTANCE BETWEEN INDUSTRIAL AND COMMERCIAL DRIVEWAYS ON LOCAL STREETS MUST BE 100' OR GREATER.

E. THE MINIMUM SPACING BETWEEN A COMMERCIAL DRIVEWAY AND/OR STREET WHICH INTERSECTS AN ARTERIAL OR COLLECTOR STREET SHALL BE 200'. THIS DISTANCE SHALL BE MEASURED FROM THE POINT FORMED BY THE INTERSECTION OF THE EXTENDED CURB LINES OF EACH DRIVEWAY OR STREET.

F. DRIVEWAYS OR MINOR STREETS SHALL BE DIRECTLY OPPOSITE OR SHALL BE OFFSET BY THE DIMENSIONS SHOWN ON THE TABLE ABOVE UNDER ITEM A.

G. DRIVEWAY OPENING WIDTHS SHALL ADHERE TO THE VILLAGE CONSTRUCTION STANDARDS AND DRAWINGS.

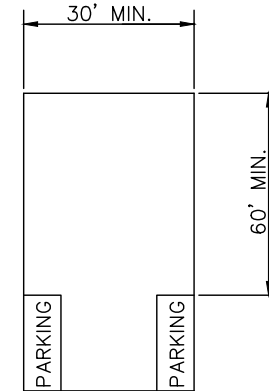
H. IN SPECIAL OR UNIQUE SITUATIONS WHERE STRICT APPLICATION OF THESE STANDARDS WOULD CAUSE UNDUE HARDSHIP UPON THE PROPERTY OWNER, THE VILLAGE ADMINISTRATOR MAY GRANT A VARIANCE TO SAID STANDARDS.

I. DRIVEWAY OPENINGS SHALL BE AT LEAST 40' FROM INTERSECTION OF LOCAL STREETS.

J. AN ACCESS POINT MUST BE A MINIMUM OF 60' FROM THE ADJACENT PROPERTY LINE; SHARED DRIVEWAYS WILL BE ENCOURAGED.

K. ALL DEFINITIONS SHALL BE AS PER THE OHIO MANUAL OF UNIFORM TRAFFIC DEVICES LATEST REVISIONS.

L. ALL DRIVEWAYS AND LOCAL STREET ACCESS POINTS TO COLLECTOR AND ARTERIAL STREETS MUST BE APPROVED BY THE VILLAGE.



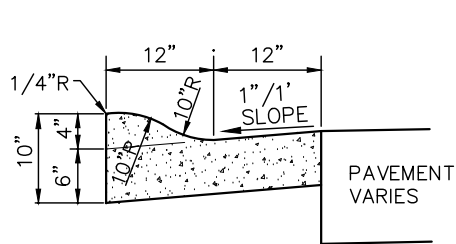
TEMPORARY DEAD-END STREETS

VILLAGE OF
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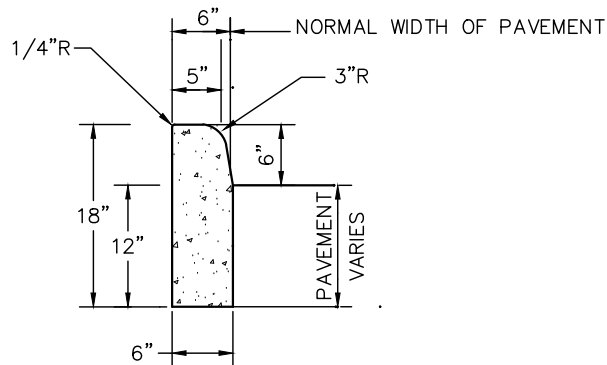


ACCESS CONTROL STANDARDS TEMPORARY DEAD-END STREETS

REVISIONS:	DATE
	APPROVED:
	08-01-2006
	PAGE No.
	300-4

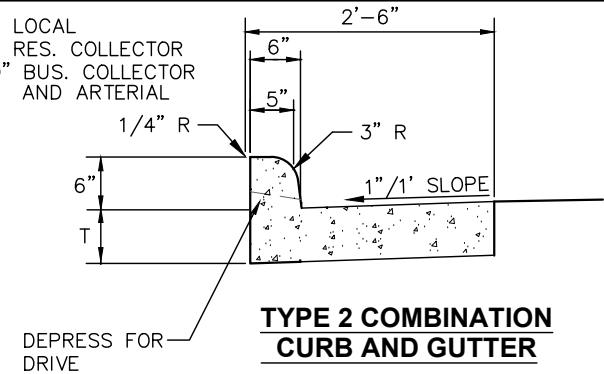


**TYPE 1
COMBINATION ROLL CURB AND GUTTER**



**TYPE 6
BARRIER CURB**

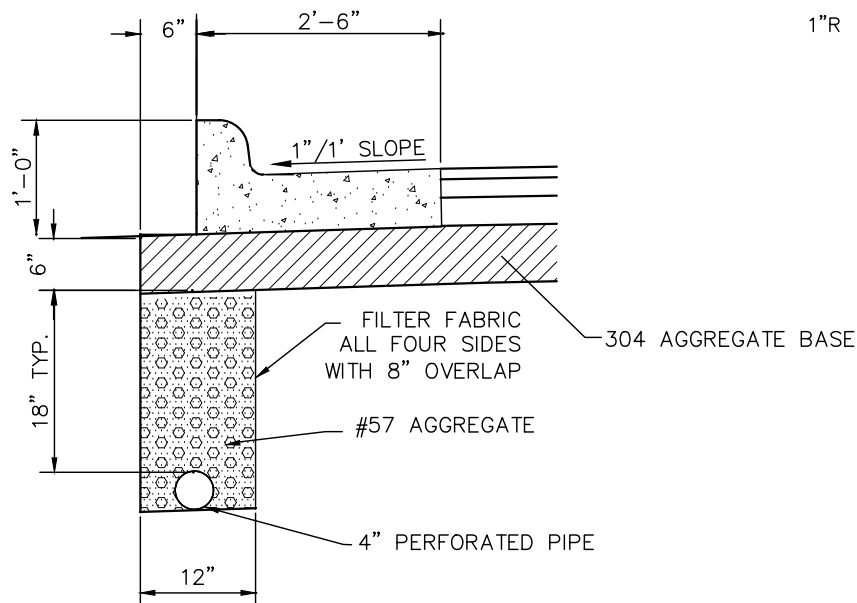
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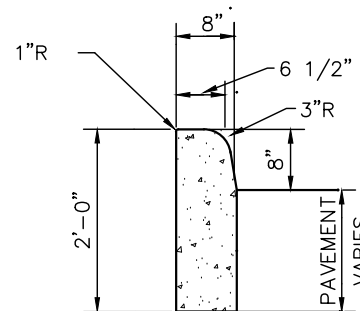
**TYPE 2 COMBINATION
CURB AND GUTTER**

NOTES

- A. CONCRETE AND WORK SHALL MEET THE REQUIREMENT SET FORTH IN ODOT ITEM 609 CURBING.
- B. CURBING SHALL HAVE CONTRACTION JOINTS EVERY 10'.
- C. MINIMUM OF 6\"/>
- D. CURBING SHALL BE BACKFILLED IMMEDIATELY AFTER FORMS ARE REMOVED OR AS SOON AS PRACTICAL WHEN SLIP FORMING PRIOR TO OTHER CONSTRUCTION OPERATIONS.
- E. PROVIDE BROOM FINISH AND EDGING TO ALL EXPOSED SURFACES.
- F. APPLY WHITE PIGMENTED CURING COMPOUND ON ALL SURFACES INCLUDING BACK IMMEDIATELY AFTER FINISHING SURFACES. ANY OTHER METHOD OR TYPE OF CURING COMPOUND MUST BE PREAPPROVED.
- G. CONCRETE SHALL BE ODOT CLASS C (4000 PSI, 600LB/CY CEMENT). PROPORTIONING OPTIONS 1 AND 2 NOT ALLOWED.
- H. CONCRETE SHALL CONTAIN 6% ± 1% OF TOTAL AIR.
- I. TYPE 6 CURBS ARE FOR USE AROUND MEDIAN SECTION.
- J. TYPE 7 CURBS ARE FOR INDUSTRIAL USE.
- K. MINIMUM FLOW LINE SLOPE OF PERFORATED PIPE IS 0.003 FT/FT TO OUTLET.



4\"/>



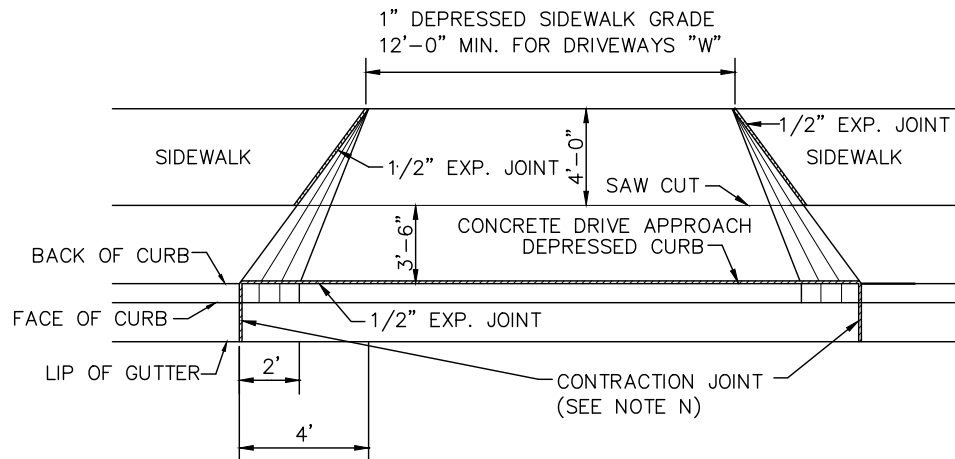
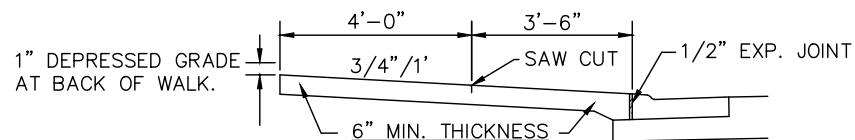
**TYPE 7
BARRIER CURB**

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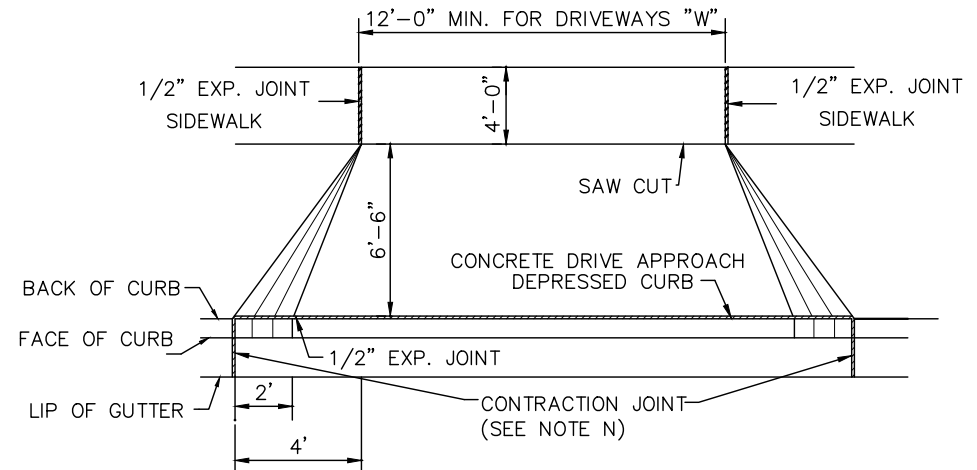
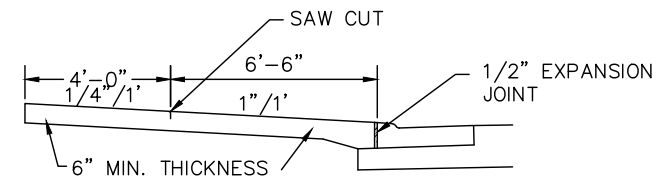
CONCRETE CURB DETAILS

REVISIONS:	DATE
	APPROVED:
	08-01-2006
	PAGE No.
	300-5



FOR LOCAL STREETS

3'-6" TREE LAWN



FOR COLLECTOR STREETS

6'-6" TREE LAWN

NOTES

A. DRIVE APPROACHES SHALL MEET THE REQUIREMENTS OF ODOT ITEM 452 AND 499 CAST-IN-PLACE CONCRETE.

B. DRIVE APPROACHES SHALL NOT BE POURED MONOLITHICLY WITH CURB.

C. MAXIMUM JOINT SPACING SHALL BE 10' LONGITUDINALLY, TRANSVERSELY AND AT TAPERS.

D. DRIVE APPROACHES SHALL BE KEYED AT ALL CONSTRUCTION JOINTS.

E. EXPANSION MATERIAL SHALL BE 1/2" PREMOLDED.

F. 3" OF GRAVEL SHALL BE PLACED UNDER DRIVE APPROACHES IF DETERMINED NECESSARY BY THE VILLAGE.

G. PROVIDE BROOM FINISH AND EDGING TO ALL EXPOSED SURFACES.

H. WHERE CURB AND GUTTER HAS NOT BEEN DROPPED AT DRIVE APPROACHES, THE CURB SHALL BE ENTIRELY REMOVED AND REPLACED AS DIRECTED BY THE VILLAGE.

I. WHERE ASPHALTIC CONCRETE PAVEMENT IS DISTURBED, THE ASPHALT SHALL BE REPLACED AS DIRECTED BY THE VILLAGE.

J. JOINTS SHALL BE CLEANED AND EDGED BY A 1/4" RADIUS EDGER. LONGITUDINAL JOINTS SHALL BE AS DIRECTED BY THE VILLAGE. EXPANSION JOINTS SHALL BE OF SUCH DIMENSIONS AS SHOWN ON STANDARD DRAWINGS FOR CONSTRUCTION JOINTS.

K. "W"=12' MINIMUM TO 24' MAXIMUM UNLESS OTHERWISE APPROVED BY THE VILLAGE.

L. CONCRETE SHALL BE ODOT CLASS C (4000 PSI, 600 LB/CY) CEMENT. PROPORTIONING OPTIONS 1 AND 2 NOT ALLOWED.

M. CONCRETE SHALL CONTAIN 6% ± 1% OF TOTAL AIR.

N. IF CURB IS REMOVED AND REPLACED DURING DRIVEWAY CONSTRUCTION, JOINTS BETWEEN EXISTING AND NEW CURB ARE TO BE 1/2" EXPANSION JOINTS.

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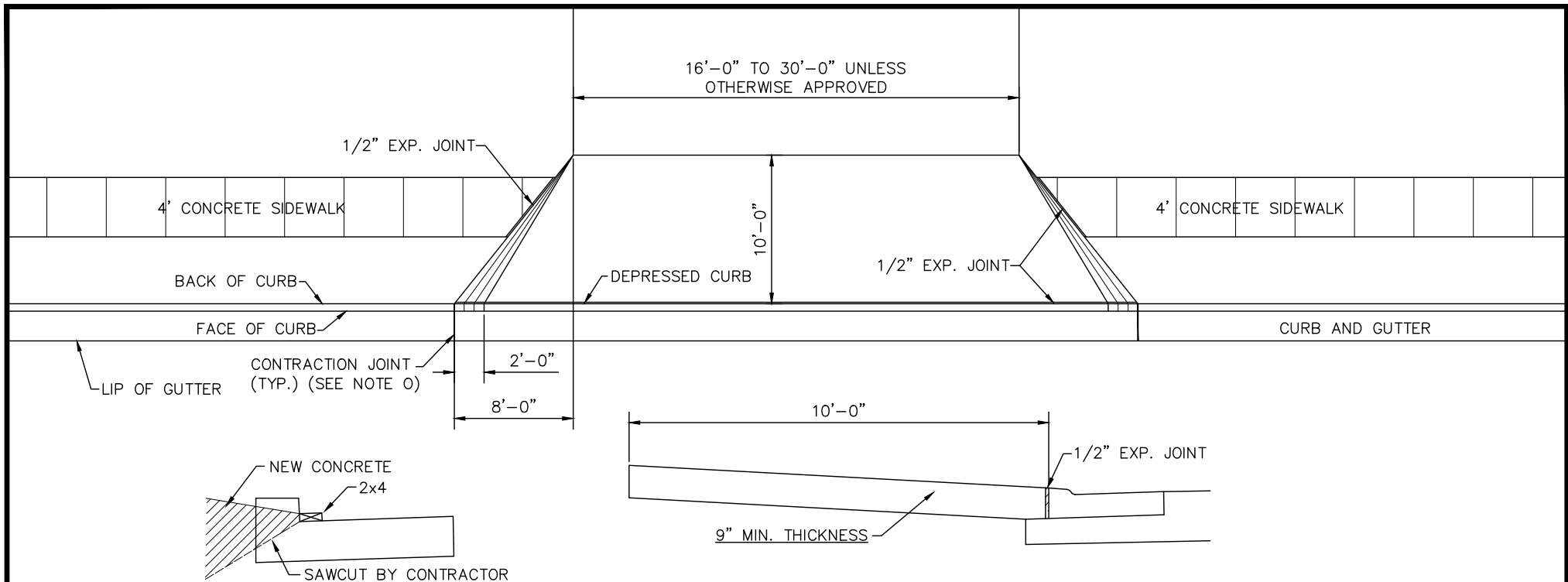


RESIDENTIAL DRIVE APPROACH

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
300-6



NOTES

A. DRIVE APPROACHES SHALL MEET THE REQUIREMENTS OF ODOT ITEM 452 AND 499 CAST IN PLACE CONCRETE.

B. DRIVE APPROACHES SHALL NOT BE POURED MONOLITHICLY WITH CURB.

C. MAXIMUM JOINT SPACING SHALL BE 10' LONGITUDINALLY AND TRANSVERSELY WITH JOINTS AT TAPERS.

D. DRIVE APPROACHES SHALL BE KEYED AT ALL CONSTRUCTION JOINTS.

E. EXPANSION MATERIAL SHALL BE 1/2" PREMOLDED.

F. 3" OF GRAVEL SHALL BE PLACED UNDER DRIVE APPROACHES IF DETERMINED NECESSARY BY THE VILLAGE.

G. PROVIDE BROOM FINISH AND EDGING TO ALL EXPOSED SURFACES.

H. WHERE CURB AND GUTTER HAS NOT BEEN DROPPED AT DRIVE APPROACHES, THE CONTRACTOR WILL CUT AND REMOVE CURB.(SEE DETAIL) EXPANSION JOINT BETWEEN DRIVE AND CURB WILL NOT BE USED.

I. WHERE ASPHALTIC CONCRETE PAVEMENT IS DISTURBED, THE ASPHALT SHALL BE REPLACED AS DIRECTED BY THE VILLAGE.

J. JOINTS SHALL BE CLEANED AND EDGED BY A 1/4" RADIUS EDGER. LONGITUDINAL JOINTS SHALL BE AS DIRECTED BY THE VILLAGE. EXPANSION JOINTS SHALL BE OF SUCH DIMENSIONS AS SHOWN ON STANDARD DRAWINGS FOR CONSTRUCTION JOINTS.

K. MINIMUM WIDTH FOR ONE-WAY TRAFFIC IS 16'-0". MINIMUM WIDTH FOR TWO-WAY TRAFFIC IS 25'-0". MAXIMUM WIDTH IS 30'-0" UNLESS OTHERWISE APPROVED BY THE VILLAGE.

L. THIS STANDARD DRAWING IS FOR GUIDELINE PURPOSES. EACH INDIVIDUAL DRIVE WILL NEED TO BE DESIGNED AND SUBMITTED TO THE VILLAGE FOR REVIEW AND APPROVAL.

M. CONCRETE SHALL BE ODOT CLASS C. (4000 PSI, 600 LB/CY CEMENT. PROPORTIONING OPTIONS 1 AND 2 NOT ALLOWED.

N. CONCRETE SHALL CONTAIN 6% ± 1% OF THE TOTAL AIR.

O. IF CURB IS REMOVED AND REPLACED DURING DRIVEWAY CONSTRUCTION, JOINTS BETWEEN EXISTING AND NEW CURB ARE TO BE 1/2" EXPANSION JOINTS.

VILLAGE OF
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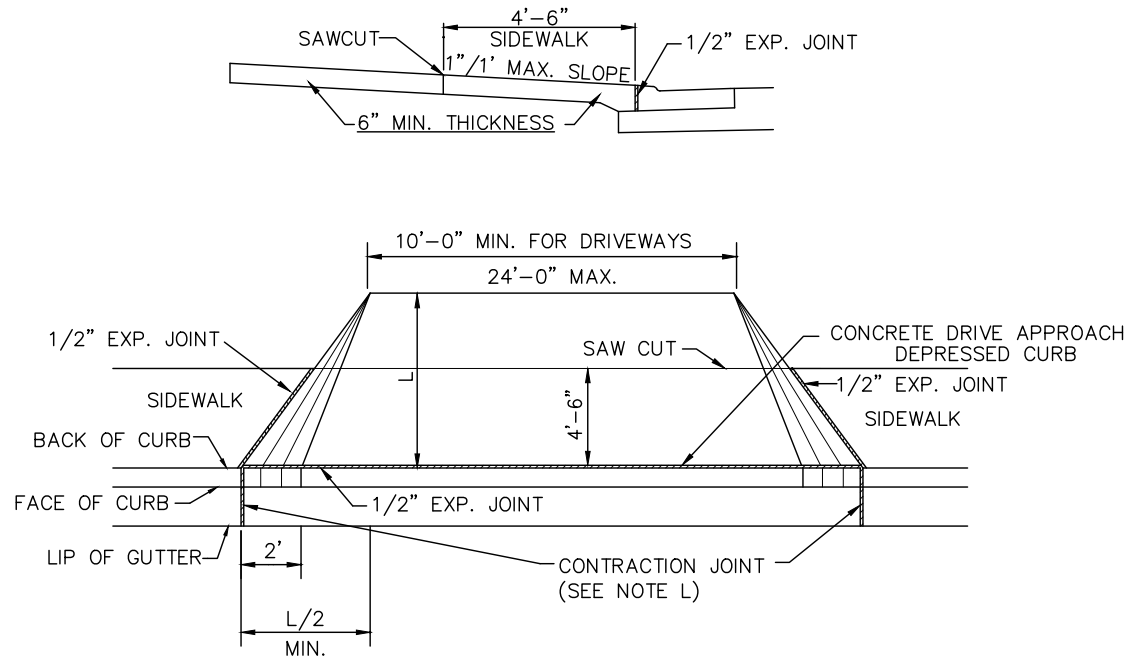


COMMERCIAL AND INDUSTRIAL DRIVE APPROACH

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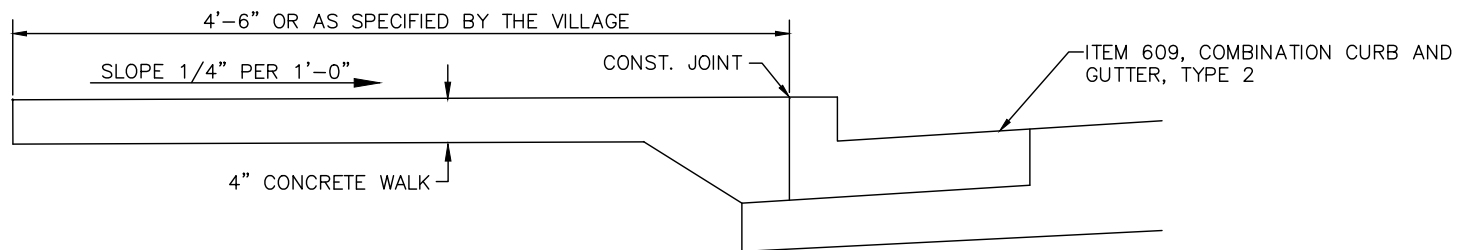
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APPROVED:
08-01-2006

PAGE No.
300-7



DRIVE APRON WITH NO CURB LAWN

FOR DRIVEWAY NOTES SEE PAGE 300-7



CONCRETE SIDEWALK ABUTTING TYPE 2 CURB DETAIL

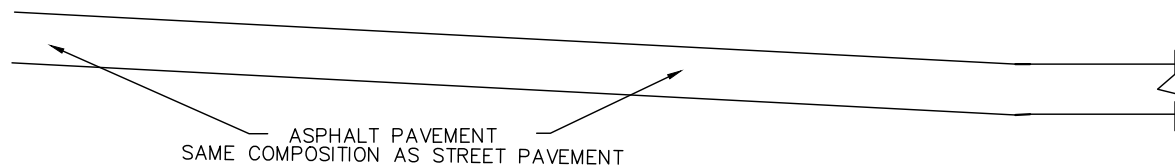
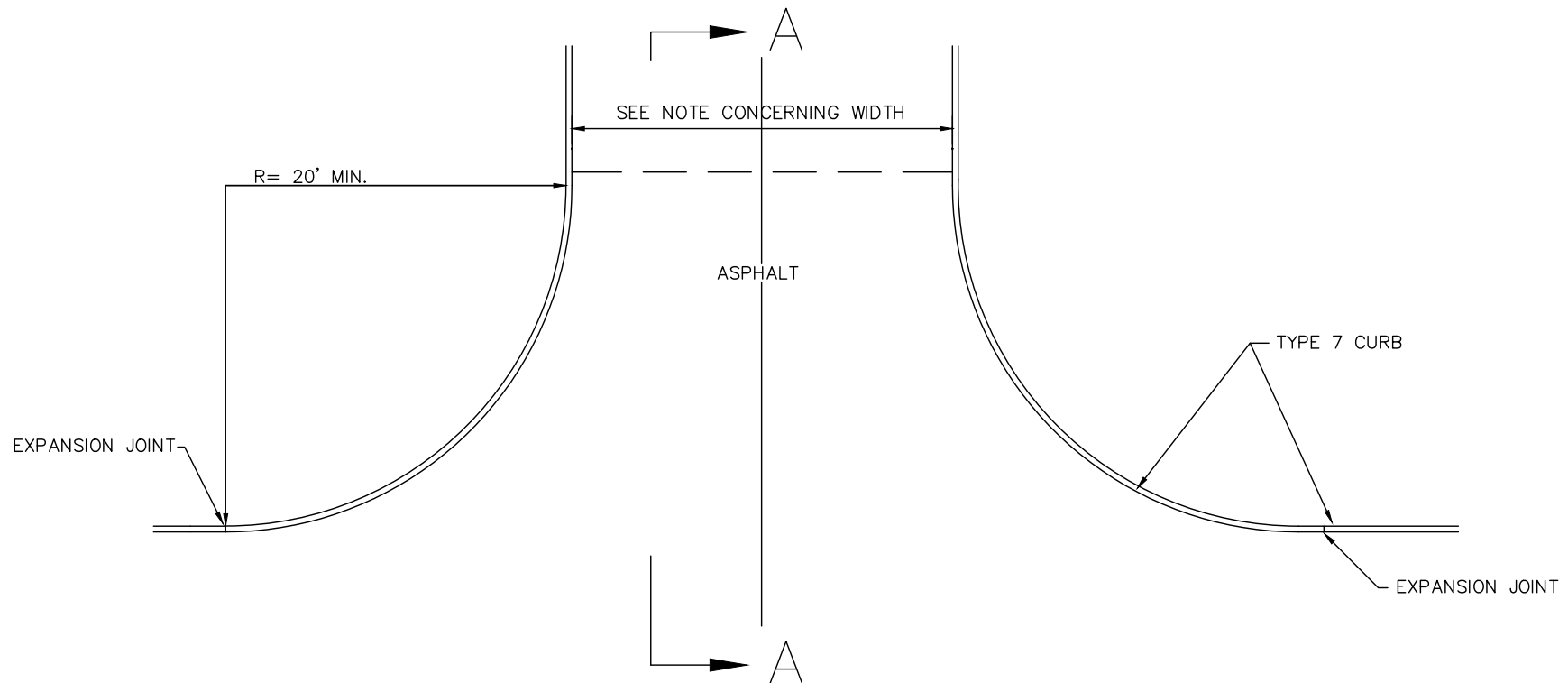
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RESIDENTIAL DRIVE APPROACH AND CONCRETE SIDEWALK DETAIL WITH NOCURB LAWN

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DATE
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08-01-2006
PAGE No.
300-8



SECTION A-A

NOTES

- A. MINIMUM WIDTH FOR ONE-WAY TRAFFIC IS 16'-0".
- B. MINIMUM WIDTH FOR TWO-WAY TRAFFIC IS 25'-0".
- C. MAXIMUM WIDTH IS 30'-0" UNLESS OTHERWISE APPROVED BY THE VILLAGE.
- D. THIS STANDARD DRAWING IS FOR GUIDELINE PURPOSES. EACH INDIVIDUAL DRIVE WILL NEED TO BE DESIGNED AND SUBMITTED TO THE VILLAGE FOR REVIEW AND APPROVAL.

VILLAGE OF
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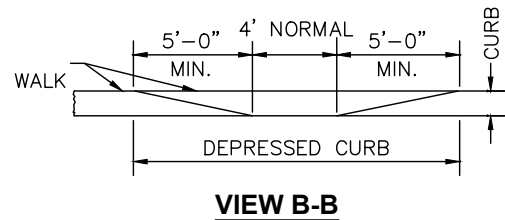
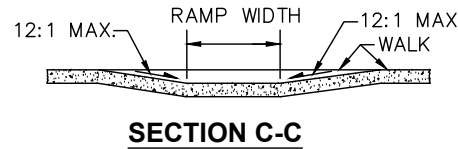
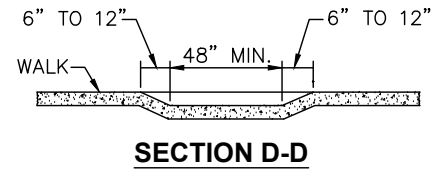
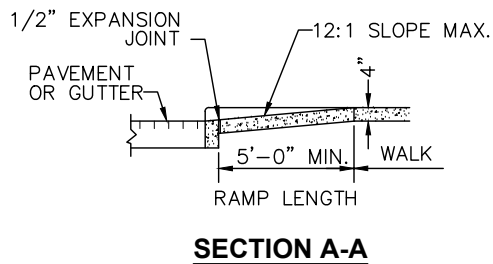
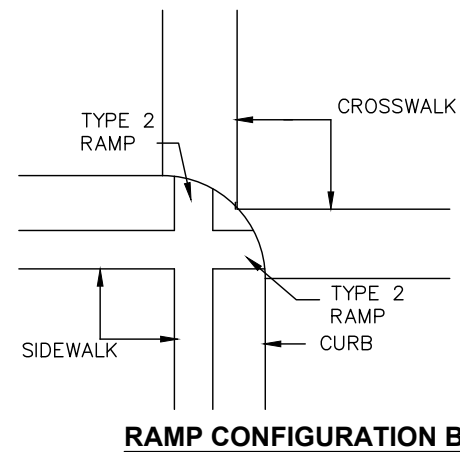
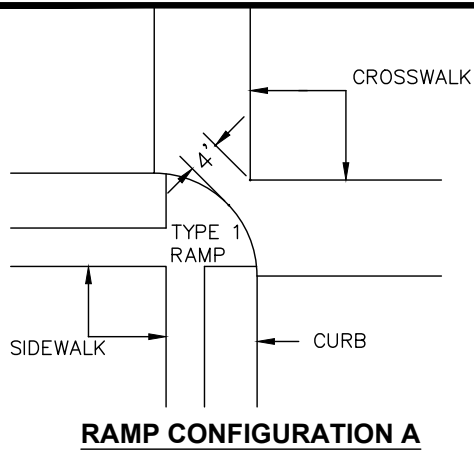


INDUSTRIAL DRIVE APPROACH

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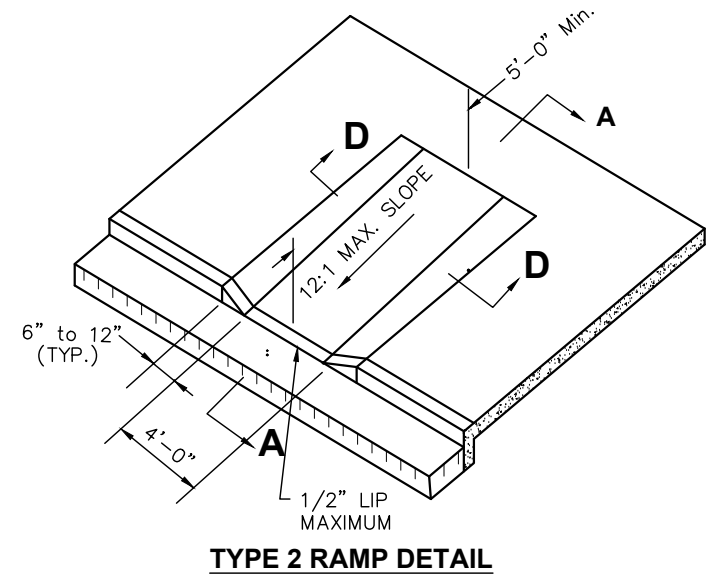
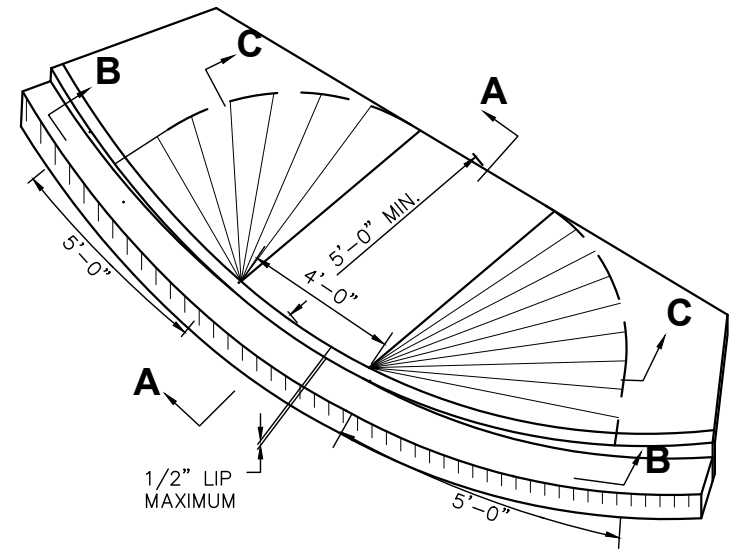
DATE
APPROVED:
08-01-2006

PAGE No.
300-9



NOTES

- A. VILLAGE TO SPECIFY TYPE 1 OR TYPE 2 CURB RAMP.
- B. ANY COMBINATION OF SIDE SLOPES ON OPPOSITE SIDES OF A RAMP MAY BE USED TO BEST FIT THE SITE CONDITIONS.
- C. THE MINIMUM RAMP LENGTH IS 5' FROM BACK OF A 6" CURB AND MAY BE INCREASED WHERE FEASIBLE TO OBTAIN A FLATTER RAMP SLOPE OR TO BETTER BLEND WITH THE WALK CONFIGURATION.
- D. WALK THICKNESS IN THE RAMP SLOPES SHALL BE 4" MINIMUM OR THICKER AS NECESSARY TO MATCH ADJACENT WALK THICKNESS.
- E. CURB RAMPS SHALL MEET AND BE FINISHED TO A.D.A. STANDARDS.
- F. CURB RAMPS SHALL MEET THE REQUIREMENTS OF ODOT ITEM 608 UNLESS OTHERWISE SPECIFIED WITHIN.
- G. CONCRETE SHALL BE ODOT CLASS C (4000 PSI, 600 LB/CY CEMENT). PROPORTIONING OPTIONS 1 AND 2 NOT ALLOWED.
- H. CONCRETE SHALL CONTAIN 6% $\pm$ 1% OF TOTAL AIR.

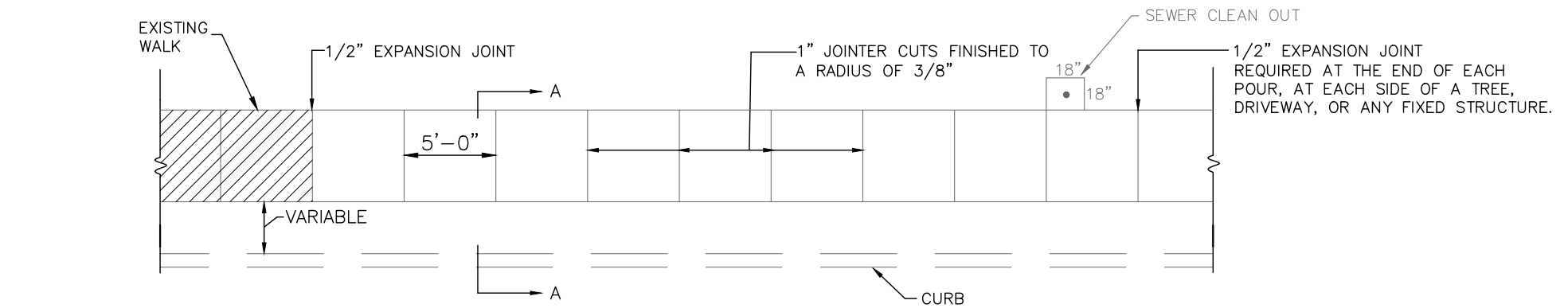


VILLAGE OF
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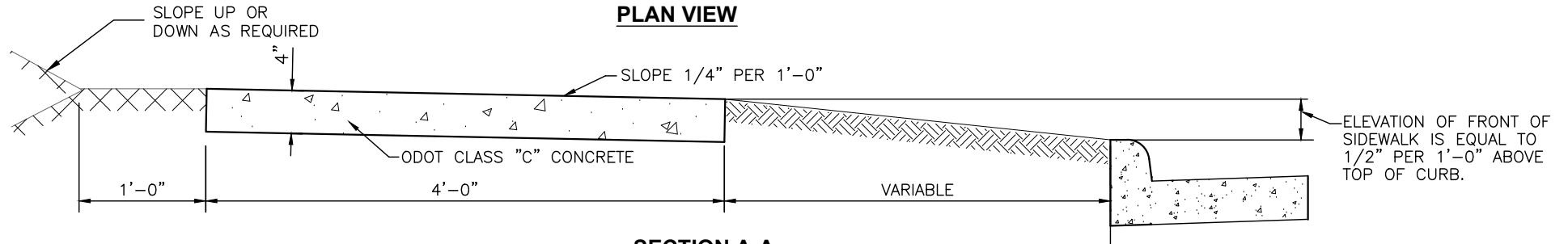
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CURB RAMPS

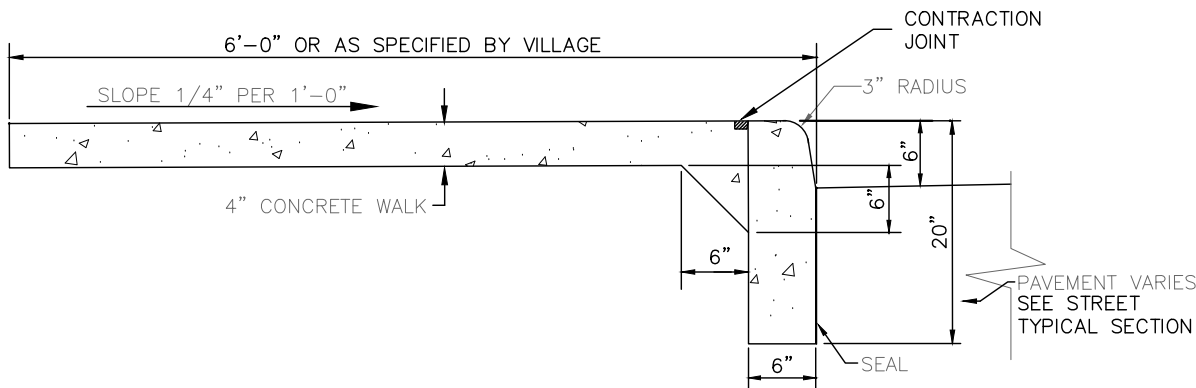
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	PAGE No. 300-10



PLAN VIEW



SECTION A-A



COMBINED CURB AND SIDEWALK DETAIL

NOTES

- A.** WALK TO BE POURED ON UNDISTURBED EARTH OR COMPACTED GRANULAR BEDDING.
- B.** PROVIDE BROOM FINISH TO ALL EXPOSED SURFACES.
- C.** CONCRETE SHALL CONFORM TO ODOT ITEM 499 CONCRETE. CONCRETE WORK SHALL CONFORM TO ODOT ITEM 608, UNLESS OTHERWISE SPECIFIED WITHIN.
- D.** PROVIDE EDGING AROUND ALL EXPOSED SURFACES.
- E.** USE WHITE PIGMENTED CURING COMPOUND IMMEDIATELY AFTER FINISHING SURFACES. ANY OTHER METHOD OR TYPE OF CURING COMPOUND MUST BE PREAPPROVED.
- F.** WHEN RENOVATING EXISTING STREETS, THE SIDEWALKS SHALL BE REPLACED TO CONFORM WITH VILLAGE CONSTRUCTION STANDARDS AND DRAWINGS.
- G.** CONCRETE SHALL BE ODOT CLASS C (4000 PSI, 600LB/CY CEMENT) PROPORTIONING OPTIONS 1 AND 2 NOT ALLOWED.
- H.** CONCRETE SHALL CONTAIN 6% $\pm$ 1% OF TOTAL AIR.

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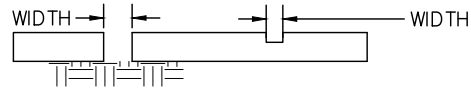


CONCRETE SIDEWALK DETAIL

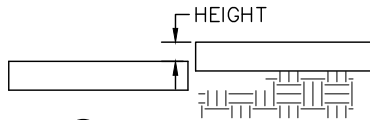
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08-01-2006
PAGE No.
300-11

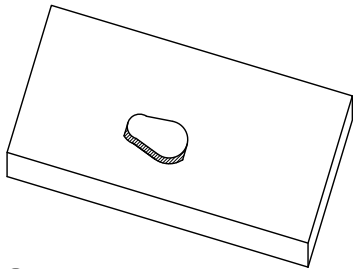
TYPES OF SIDEWALK DEFICIENCIES



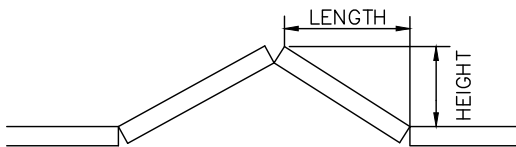
A. OPENING
— MAXIMUM WIDTH



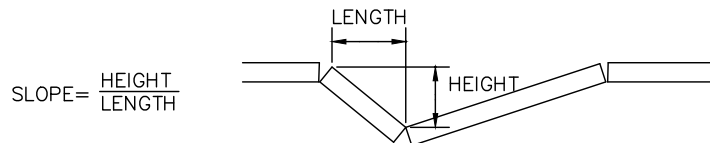
B. STEP HUMP
— HEIGHT



C. DEPRESSIONS
— 2 S.F. PER BLOCK



E. HUMP — MAXIMUM SLOPE



E. SUNKEN SECTION — MAXIMUM SLOPE

SIDEWALK DEFICIENCIES

A. ANY BLOCK HAVING A CRACK OR CRACKS IN IT MORE THAN 1/4" WIDE OR IN EXCESS OF 5 L.F. IN ONE BLOCK.

B. ADJOINING BLOCKS OR PORTIONS THEREOF WHOSE EDGES DIFFER VERTICALLY BY MORE THAN 3/4".

C. BLOCKS HAVING DEPRESSIONS, REVERSE CROSS-SLOPE (SLOPING AWAY FROM THE STREET) OR BELOW CURB GRADE SO AS TO IMPOUND MUD OR WATER.

D. BLOCKS HAVING A CROSS-SLOPE IN EXCESS OF 3/4" VERTICAL PER 1' HORIZONTAL EXCLUDING DRIVEWAYS.

E. BLOCKS THAT CAUSE AN ABRUPT CHANGE IN EXCESS OF 1" PER FOOT IN THE LONGITUDINAL GRADE OF THE SIDEWALK.

F. CELLAR DOORS OR OTHER COVERS THAT ARE NOT FLUSH WITH THE SIDEWALK, HAVE A SMOOTH SURFACE, OR ARE STRUCTURALLY UNSAFE.

G. GRATING THAT HAS OPENINGS MEASURING MORE THAN 3/4", PROJECT ABOVE THE SIDEWALK, OR ARE STRUCTURALLY UNSAFE.

NEW SIDEWALKS

A. NEW SIDEWALKS MUST BE INSTALLED TO THE EXTREMITIES OF EACH LOT (PROPERTY LINE).

GENERAL

A. NO PERSON SHALL TEAR UP OR DIG INTO ANY PUBLIC RIGHT-OF-WAY OR STREET FOR THE PURPOSE OF CONSTRUCTING OR REPAIRING THE SIDEWALK, CURBING, OR GUTTERS THEREON OR FOR ANY OTHER PURPOSE, WITHOUT HAVING FIRST OBTAINED FROM THE VILLAGE ADMINISTRATOR A PERMIT TO DO SO.

B. THE CONTRACTOR MUST CALL THE VILLAGE FOR AN INSPECTION AT LEAST THREE WORKING HOURS BEFORE HE PLANS TO POUR THE CONCRETE. THE CONTRACTOR OR HIS FOREMAN MUST BE ON THE JOB WHEN THE INSPECTOR ARRIVES. IF, BECAUSE OF WEATHER CONDITIONS OR FOR SOME OTHER REASON, IT WILL NOT BE POSSIBLE TO HAVE A MAN ON THE JOB, THE CONTRACTOR IS REQUIRED TO CALL AND CANCEL THE INSPECTION.

C. THE CONTRACTOR IS CAUTIONED AGAINST ORDERING CONCRETE BEFORE THE INSPECTION IS MADE DUE TO POSSIBLE CORRECTION OF FORMS OR GRADE.

D. THE CONTRACTOR SHALL PROVIDE PROTECTION AND TRAFFIC CONTROL BARRICADES, LIGHTS, SIGNS, AND OTHER DEVICES AS HEREIN SPECIFIED TO PROVIDE WARNING AND PROTECTION FOR VEHICULAR TRAFFIC, PEDESTRIANS, AND THE WORK DURING THE REMOVAL, CONSTRUCTION, AND CURING OF SIDEWALK, CURB AND GUTTER, AND DRIVEWAY APRONS.

E. THE CONTRACTOR WILL BE RESPONSIBLE FOR AN IMMEDIATE REMOVAL AND CLEAN UP OF ALL EXCAVATED MATERIAL. NO EXCAVATED MATERIAL SHALL BE STORED ON THE PAVEMENT.

F. ALL SIDEWALK SHALL BE REPLACED ON STREET RECONSTRUCTION PROJECTS TO MEET THESE CONSTRUCTION STANDARDS AND DRAWINGS.

CURB AND GUTTER

ALL CONTRACTORS INSTALLING NEW CURB WITH GUTTER PLATE ARE CAUTIONED THAT IT IS YOUR RESPONSIBILITY TO REPAIR THE STREET PER VILLAGE SPECIFICATIONS BEFORE REMOVING YOUR BARRICADES.

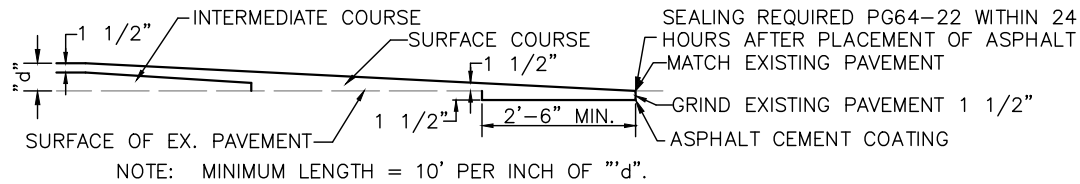
VILLAGE OF
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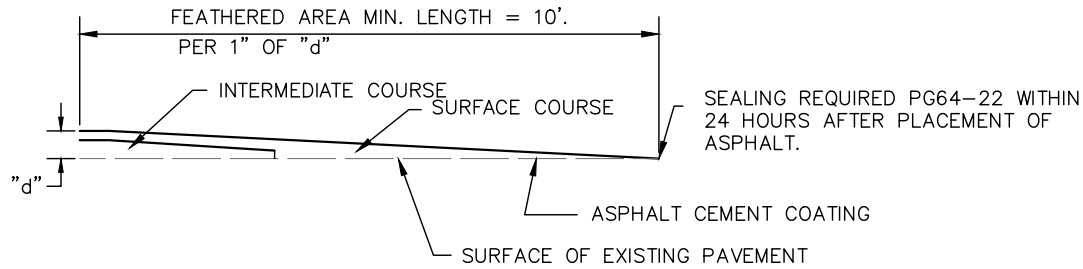
GUIDELINES FOR REPLACEMENT OF SIDEWALKS, CURB & GUTTER, & DRIVEWAYS

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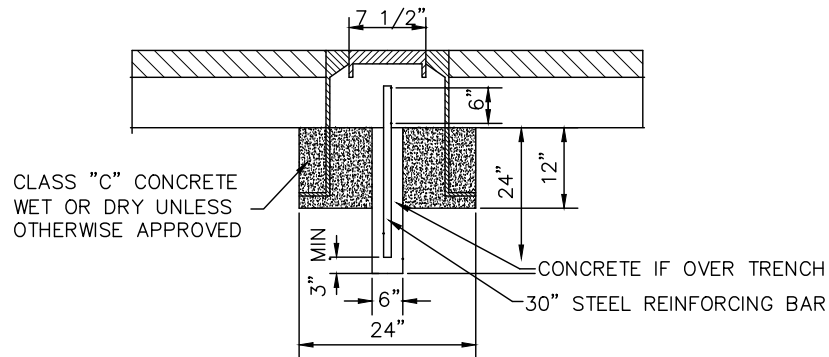
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08-01-2006
PAGE No.
300-12



BUTT JOINT DETAIL



FEATHERING DETAIL

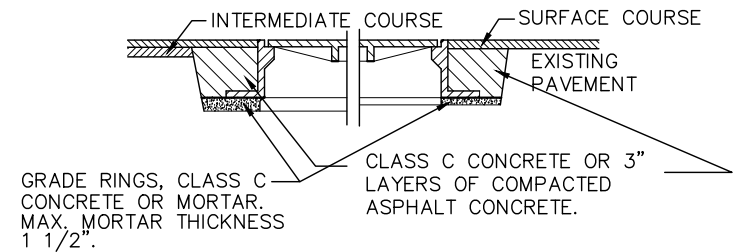


SURVEY MONUMENT DETAIL

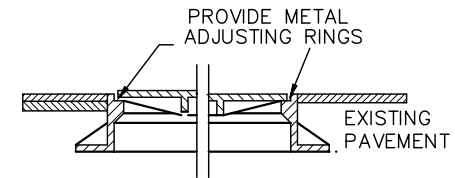
NOTES

- A.** MONUMENT BOXES SHALL BE SET AT ALL STREET INTERSECTIONS AND P.I.'S OF TANGENT LINES OF ALL CURVES. IF A MONUMENT BOX CANNOT BE SET FOR A P.I. IN THE PAVEMENT AREA, BOXES MUST THEN BE SET ON THE P.C. AND P.T. OF A CURVE.
- B.** MONUMENT BOXES SHALL BE SET PRIOR TO THE LAYING OF ODOT ITEM 404 ASPHALT UNLESS OTHERWISE PREAPPROVED.
- C.** MONUMENT ASSEMBLIES SHALL BE NEENAH R-1978-A2 OR EAST JORDAN 8375.
- D.** MONUMENT BOXES SHALL MEET THE REQUIREMENTS OF ODOT ITEM 604 UNLESS OTHERWISE SPECIFIED WITHIN.

MANHOLES ADJUSTED TO GRADE FOR OVERLAYS



USING CONCRETE OR MORTAR



USING METAL ADJUSTING RINGS

NOTES

METAL ADJUSTING RINGS SHALL:

- A.** ATTACH SECURELY TO THE EXISTING FRAME BY WELDING OR MECHANICAL DEVICES.
- B.** CONSIST EITHER OF CAST METAL HAVING AN INTEGRAL RIM AND SEAT, OR BE FABRICATED METAL WITH A STURDY CONNECTION BETWEEN THE SEAT AND RIM.
- C.** PROVIDE AN EVEN SEAT FOR THE MANHOLE COVER.
- D.** SHALL BE TYPE DESIGN ACCEPTABLE TO THE VILLAGE.
- E.** ANY INSTALLATION UNACCEPTABLE TO THE VILLAGE SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.

VILLAGE OF
GLANDORF



ASPHALT OVERLAY AND MONUMENT

REVISIONS: DATE
APPROVED:
08-01-2006
PAGE No.
300-13

GENERAL

A. ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH ODOT SPECIFICATIONS, LATEST REVISION.

PAVEMENT REPLACEMENT

A. IMMEDIATELY AFTER PLACEMENT OF BACKFILL IN EXISTING STREETS, A TEMPORARY PAVEMENT SHALL BE INSTALLED AND THE STREET OPENED. TEMPORARY PAVEMENT SHALL CONSIST OF 8" OF COMPACTED ODOT SPECIFICATION 411 BASE AND A SURFACE COURSE OF ODOT SPECIFICATION 405 OR 409. THE SURFACE SHALL BE KEPT FLUSH WITH THE EXISTING STREET.

B. PERMANENT PAVEMENT REPLACEMENT SHALL EQUAL OR EXCEED THE EXISTING PAVEMENT. (MINIMUM PAVEMENT COMPOSITION, SEE PAGE 300-2).

C. ANY SETTLEMENT OF A TRENCH CAUSING A DEPRESSION SHALL BE REFILLED AS REQUIRED BY THE VILLAGE AT THE CONTRACTOR'S EXPENSE. THIS PROVISION APPLIES FOR A ONE-YEAR PERIOD AFTER WORK IS ACCEPTED BY THE VILLAGE.

D. ALL TEMPORARY PAVEMENT AND SIDEWALK SHALL BE MAINTAINED BY THE CONTRACTOR OR DEVELOPER AT HIS OWN EXPENSE IN A SUITABLE AND SAFE CONDITION FOR TRAFFIC UNTIL PERMANENT REPLACEMENT IS MADE OR THE PROJECT IS FINALLY ACCEPTED BY THE VILLAGE. COLD PATCH ALL TRENCHES TO 1" TO 1 1/2" WHEN FINAL ASPHALT WILL NOT BE REPLACED WITHIN 24 HOURS.

TRAFFIC CONTROL

A. THE CONTRACTOR SHALL MAINTAIN TRAFFIC CONTROL AT ALL TIMES WITH THE PROPER BARRICADES AS PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THESE CONTROL DEVICES SHALL BE IN PLACE PRIOR TO ANY WORK COMMENCING.

B. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE VILLAGE.

CURB STAKING AND ROADWAY

A. LINE AND GRADE EVERY 25' ON A CONVENIENT OFFSET.

PAVEMENT (ASPHALT)

A. THE CONTRACTOR SHALL PROVIDE THE VILLAGE WITH A COPY OF THE NORMAL (MEDIUM TRAFFIC) ODOT 404 JOB MIX FORMULA FOR EACH PLANT THAT PROVIDES HOT MIXED ASPHALT TO THIS PROJECT. ALL MIXES SHALL FOLLOW ODOT JOB MIX FORMULA WITH THE EXCEPTION THAT THE BITUMEN CONTENT SHALL BE 0.2% HIGHER. SECTION 401.02 COMPOSITION OF THE CURRENT ODOT SPECIFICATIONS SHALL BE USED FOR ACCEPTANCE BASED ON THE INCREASED BITUMEN. A 448 OR 446 JOB MIX FORMULA WILL NOT BE ACCEPTABLE. RECYCLED ASPHALT SHALL NOT EXCEED 15% OF ANY 402 MIX PRODUCED. NO RECYCLED ASPHALT MAY BE USED IN THE ITEM 404 SURFACE COURSE.

B. THREE-WHEEL STEEL ROLLER SHALL BE USED FOR INITIAL BREAKDOWN ON ALL PROJECTS.

C. ALL WORK SHALL ADHERE TO ODOT'S LATEST REVISIONS AND TO THE VILLAGE SPECIFICATIONS WHICHEVER IS MORE STRINGENT SHALL PREVAIL UNLESS OTHERWISE APPROVED.

D. PATCHED AREAS SHALL BE SEALED ON THE PERIMETER OF THE PATCH WITH ASPHALT CEMENT.

E. ALL UTILITY ADJUSTMENTS -- MANHOLE, WATER VALVES, ETC., -- SHALL BE RAISED TO FINISHED GRADE BEFORE THE FINAL ASPHALT COURSE IS LAID.

F. ASPHALT CEMENT SHALL BE USED NEXT TO THE LIP OF GUTTER PRIOR TO THE FINAL ASPHALT LIFT BEING PLACED. (SS-1 TACK OR PG64-22 SEAL.)

G. TACK COAT SHALL BE APPLIED PRIOR TO THE PLACEMENT OF THE FINAL LIFT OF ASPHALT IF THE EXISTING ASPHALT LIFT IS DIRTY OR AFTER TEN DAYS UNLESS OTHERWISE APPROVED. TEMPERATURE MUST BE 50°F OR HIGHER.

H. PRIME COAT SHALL BE APPLIED ON NEW AGGREGATE WHEN TEMPERATURE IS 50°F OR HIGHER. ALL DRIVEWAYS SHALL BE PRIMED PRIOR TO PLACEMENT OF ASPHALT UNLESS OTHERWISE APPROVED.

I. NO ASPHALT SHALL BE PLACED OVER EXCAVATED TRENCHES UNLESS TRENCHES HAVE BEEN COMPACTED AS PER VILLAGE SPECIFICATIONS.

J. NO ASPHALT SHALL BE LAID UNLESS THE VILLAGE IS GIVEN PRIOR NOTICE AND THE AMBIENT TEMPERATURE IS 50°F OR GREATER UNLESS OTHERWISE APPROVED.

K. FINAL LIFT OF ASPHALT SHALL BE FINISHED TO 1/4" ABOVE THE LIP OF GUTTER.

L. TEMPERATURES FOR BREAKDOWN ROLLING SHALL BE 260°F PLUS 15°F AND FOR FINAL ROLLING 175°F PLUS 15°F.

M. ASPHALT CEMENT SHALL BE USED ON ALL JOINTS AND FEATHERED SURFACES PRIOR TO PLACEMENT OF THE NEXT COURSE OF ASPHALT TO THE ABUTTING JOINT, UNLESS OTHERWISE APPROVED.

N. 325°F IS THE MAXIMUM TEMPERATURE ASPHALT MATERIAL IS TO BE MIXED.

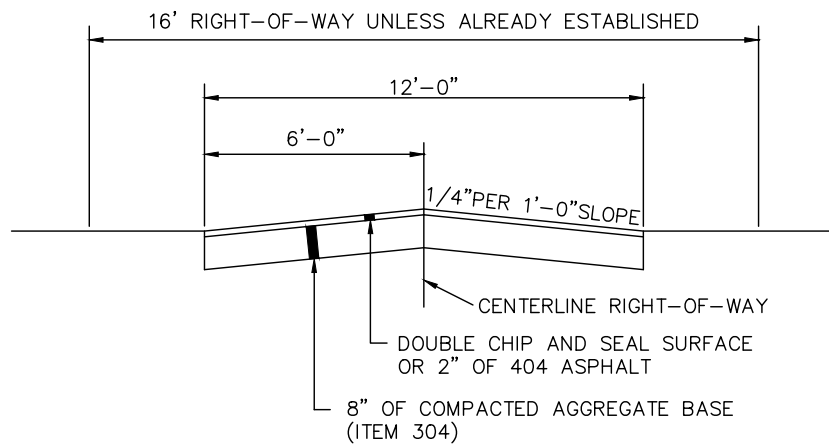
O. ALL EDGES TO BE TRIMMED BACK TO SOLID MATERIAL AND BE STRAIGHT AND NEAT AS PER THE VILLAGE'S INSTRUCTIONS.

VILLAGE OF
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MISCELLANEOUS ROADWAY NOTES

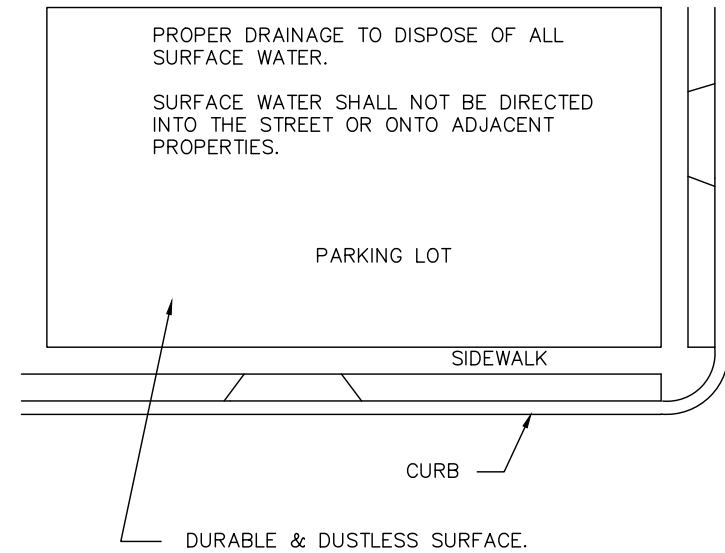
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	08-01-2006
	PAGE No.
	300-14



TYPICAL ALLEY CONSTRUCTION

- A. MINIMUM STANDARD (UNLESS OTHERWISE APPROVED.)
- B. FOR RENOVATION OF EXISTING ALLEYS ONLY. NO NEW ALLEY'S WILL BE APPROVED WITHIN THE VILLAGE.

ADJACENT PARKING AREAS SHALL BE CONNECTED TO LIMIT THE NUMBER OF ACCESS DRIVES TO THE STREET.



PARKING LOT DETAIL

THE FOLLOWING ARE ACCEPTED LOT SURFACES (UNLESS OTHERWISE APPROVED).

- A. DOUBLE CHIP AND SEAL.
- B. ASPHALT CONCRETE ITEM 404.
- C. CONCRETE

VILLAGE OF
GLANDORF



ALLEY & PARKING LOT DETAIL

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
300-15

NOTES

A. A RIGHT-OF-WAY PERMIT TO PERFORM ANY WORK ON OR WITHIN A PUBLIC RIGHT-OF-WAY, (STREET, ALLEY, ETC.) IS REQUIRED. A PERMIT IS REQUIRED FOR ANY TUNNEL, SIDEWALK, OPENING OR EXCAVATION UNDER OR IN THE RIGHT-OF-WAY PUBLIC GROUNDS.

B. PERMIT FORMS ARE AVAILABLE FROM THE VILLAGE ADMINISTRATIVE OFFICE. THE PERMIT FORM WILL BE COMPLETED BY THE PERSON OR FIRM PLANNING THE WORK WITHIN THE RIGHT-OF-WAY. ALL APPROVALS AND FEES MUST BE OBTAINED BEFORE ANY WORK IS STARTED. 72 WORKING HOUR LEAD TIME IS RECOMMENDED.

C. THE APPLICANT SHALL HAVE SUFFICIENT BARRICADES, WARNING SIGNS, AND LIGHTS DURING THE ENTIRE PERIOD THAT THE WORK IS BEING PERFORMED AND SHALL ADHERE TO APPLICABLE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

D. ALL UTILITIES ARE REQUIRED TO OBTAIN A PERMIT, BUT THEY ARE EXEMPT FROM THE BOND REQUIREMENT. ANY UTILITY THAT FAILS TO OBTAIN A PERMIT WILL THEN BE REQUIRED TO OBTAIN A PERMIT AND POST THE REQUIRED BOND.

E. A PERMIT IS REQUIRED FOR WORK TO BE PERFORMED ON PRIVATE PROPERTY AND ACCESS ACROSS THE RIGHT-OF-WAY IS NOT AT A DESIGNATED AREA (DRIVEWAY, ALLEY, ETC.)

F. A PERMIT FEE OF \$25 WILL BE REQUIRED OF EACH APPLICANT. A PERMIT IS REQUIRED FOR ANY WORK ON RIGHT-OF-WAY, EQUIPMENT, SCAFFOLDING, LADDERS, ETC. (EXCAVATION IS NOT REQUIRED TO NEED A PERMIT.)

G. A PERFORMANCE BOND IS REQUIRED WITH EVERY PERMIT. THE MINIMUM BOND IS \$100, WITH OTHER INCREMENTS BEING \$500, \$1,000, \$2,000, \$3,000, ETC. THE BOND AMOUNT WILL BE DETERMINED BY THE LENGTH OF EXCAVATION AND IF THE EXCAVATION IS WITHIN PAVEMENT, OR THE AREA OF PUBLIC RIGHT-OF-WAY THAT COULD BE DAMAGED BY CONSTRUCTION.

1. PAVEMENT BOND – \$50/FT.
2. STONE BOND – \$30/FT.
3. EARTH BOND – \$10/FT.

4. FOR CONSTRUCTION/ALTERATION ESTIMATED OVER \$1,000 TO \$5,000 – \$500 CASH OR INSURANCE BOND.

5. FOR CONSTRUCTION/ALTERATION ESTIMATED OVER \$5,000 TO \$10,000 – \$2,000 CASH OR INSURANCE BOND.

6. FOR CONSTRUCTION/ALTERATION ESTIMATED OVER \$10,000 TO \$50,000 – \$5,000 CASH OR INSURANCE BOND.

7. FOR CONSTRUCTION/ALTERATION ESTIMATED OVER \$50,000 – \$10,000 CASH OR INSURANCE BOND.

GENERAL LIABILITY INSURANCE COVERING PROPERTY DAMAGE IS ACCEPTABLE.

H. THE EXISTING PAVEMENT SHALL BE NEATLY CUT PRIOR TO EXCAVATION. ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE JOB SITE. THE APPLICANT IS RESPONSIBLE FOR ALL PAVEMENT DAMAGED OUTSIDE THE TRENCH AREA.

I. BACKFILLING SHALL BE IN ACCORDANCE WITH VILLAGE SPECIFICATIONS.

J. ALL EXCAVATIONS OR TRENCH EDGES UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREAS OR WALKS SHALL EITHER BE BACKFILLED WITH LOW STRENGTH MORTAR BACKFILL ODOT ITEM 613, TYPE 1 ONLY OR BACKFILLED WITH ODOT 603 TYPE 1 OR TYPE 2 GRANULAR MATERIAL, COMPACTED IN 6" LAYERS. A DENSITY TEST OF 98% OF ASTM D698 STANDARD PROCTOR CURVE SHALL BE PERFORMED BY A COMMERCIAL TESTING LAB SATISFACTORY TO THE VILLAGE.

K. THE VILLAGE MAY WAIVE TESTING REQUIREMENTS FOR ALL EXCAVATIONS IN ALLEYS OR STONE AREAS THAT ARE BACKFILLED WITH ODOT 603 TYPE 1 OR TYPE 2 GRANULAR MATERIAL, COMPACTED IN 6" LAYERS.

L. ALL EXCAVATION OR TRENCH EDGES NOT UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREAS OR WALKS CAN BE COMPACTED EXISTING NATIVE MATERIAL IN 12" MAXIMUM LIFTS OR AS APPROVED BY THE VILLAGE.

M. ALL DISTURBED AREAS MUST BE RETURNED TO AS GOOD OR BETTER CONDITION. ALL REPAIRS MUST MEET VILLAGE SPECIFICATIONS. THE VILLAGE MUST INSPECT AND APPROVE ALL REPAIRS. THE BOND WILL BE RETURNED AFTER ALL REPAIRS ARE APPROVED. WHERE SETTLING COULD OCCUR, THE BOND MAY BE HELD FOR ONE YEAR.

O. COLD PATCH SHALL BE PLACED TO 1 1/2"+ THICKNESS OVER BACKFILLED TRENCH WITHIN ONE WORKING DAY AFTER THE BACKFILL HAS BEEN COMPACTED, IF THE ASPHALT PAVEMENT ISN'T PLACED IMMEDIATELY.

VILLAGE OF
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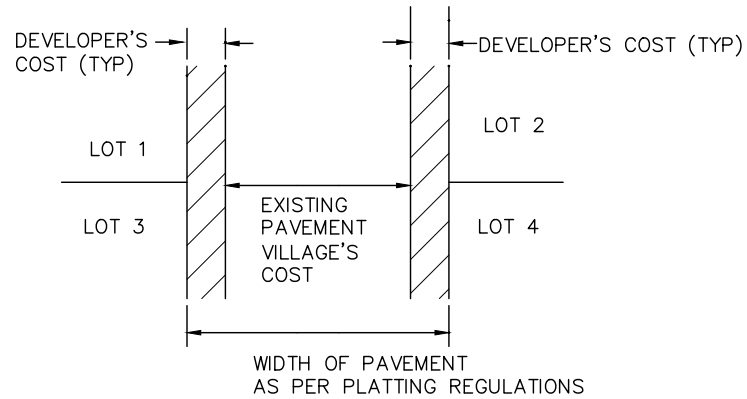
PUBLIC RIGHT-OF-WAY OPENING AND EXCAVATION

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DATE
APPROVED:
08-01-2006

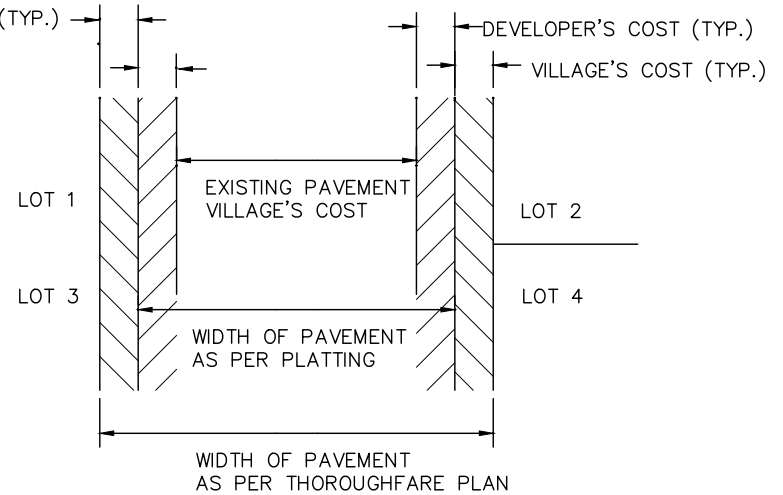
PAGE No.
300-16

EXAMPLE "A"



STREET IMPROVEMENTS FROM EXISTING STREET WIDTH TO PLATTING REGULATION WIDTH

EXAMPLE "B"



STREET IMPROVEMENTS FROM EXISTING STREET WIDTH TO THOROUGHFARE PLAN WIDTH

NOTES

A. IF BOTH SIDES OF A STREET ARE INCLUDED IN THE SUBDIVISION, THE DEVELOPER PAYS THE TOTAL COST FOR ADDITIONAL WIDTH OF EXCAVATION, PAVEMENT, CURB AND SIDEWALK INCLUDING COST TO BRING THE STORM SEWER SYSTEM UP TO STANDARDS.

B. IF ONE SIDE OF THE SUBDIVISION ABUTS AN EXISTING STREET, THE DEVELOPER SHALL PAY FOR THE TOTAL COST OF ONE SIDE FOR ADDITIONAL WIDTH OF EXCAVATION, PAVEMENT, CURB AND SIDEWALK INCLUDING COST TO BRING THE STORM SEWER SYSTEM UP TO STANDARDS.

C. THE VILLAGE PAYS CONSTRUCTION COST ON EXISTING STREET WIDTH AND ANY OVERSIZING TO MEET THOROUGHFARE PLAN.

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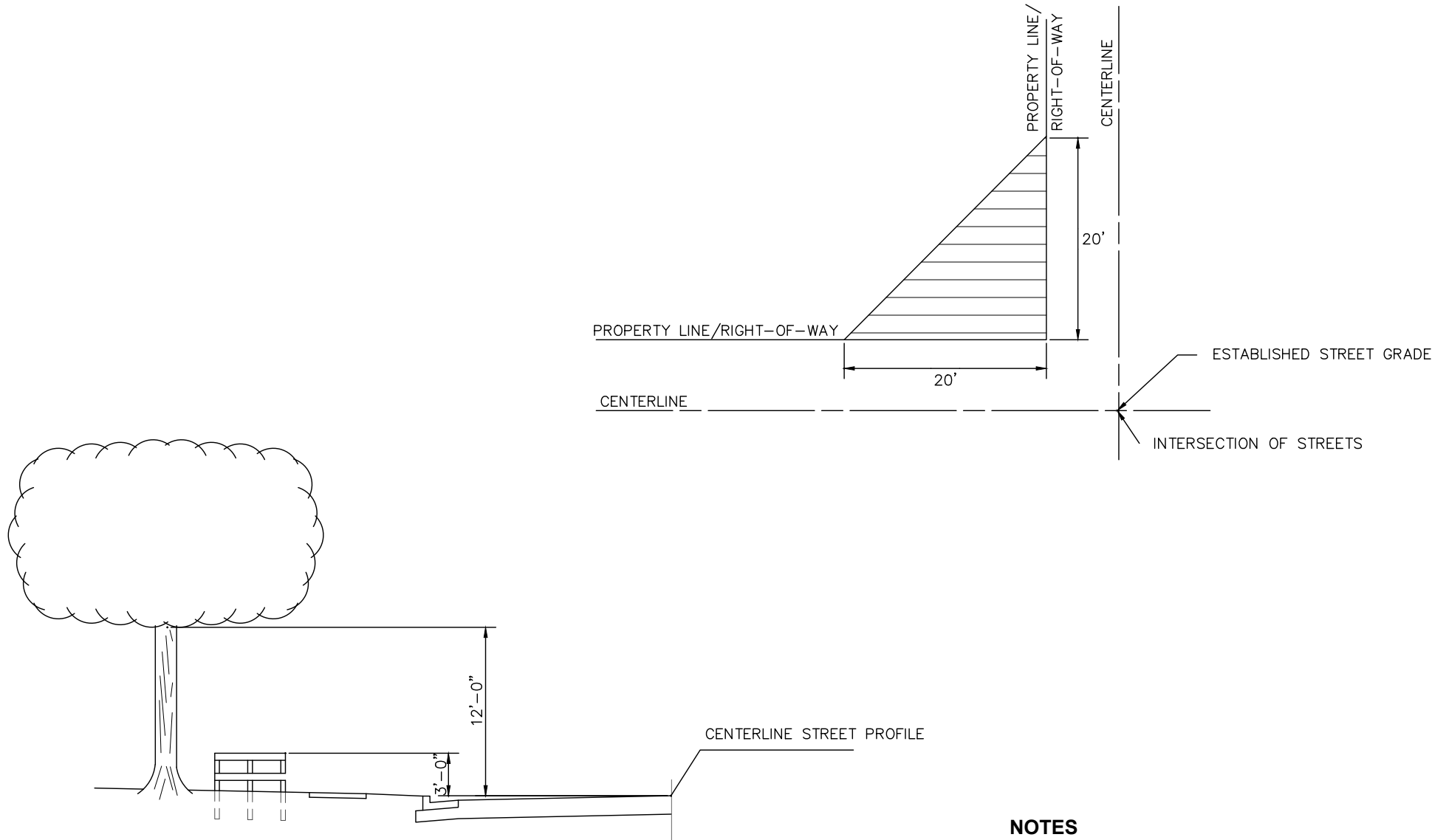


STREET IMPROVEMENT CONDITIONS

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
300-17



VISION CLEARANCE EXHIBIT

NOTES

THERE SHALL NOT BE ANYTHING ABOVE 3' OR BELOW 12' OF THE ESTABLISHED STREET GRADE IN THE TRIANGULAR SHADED AREA.

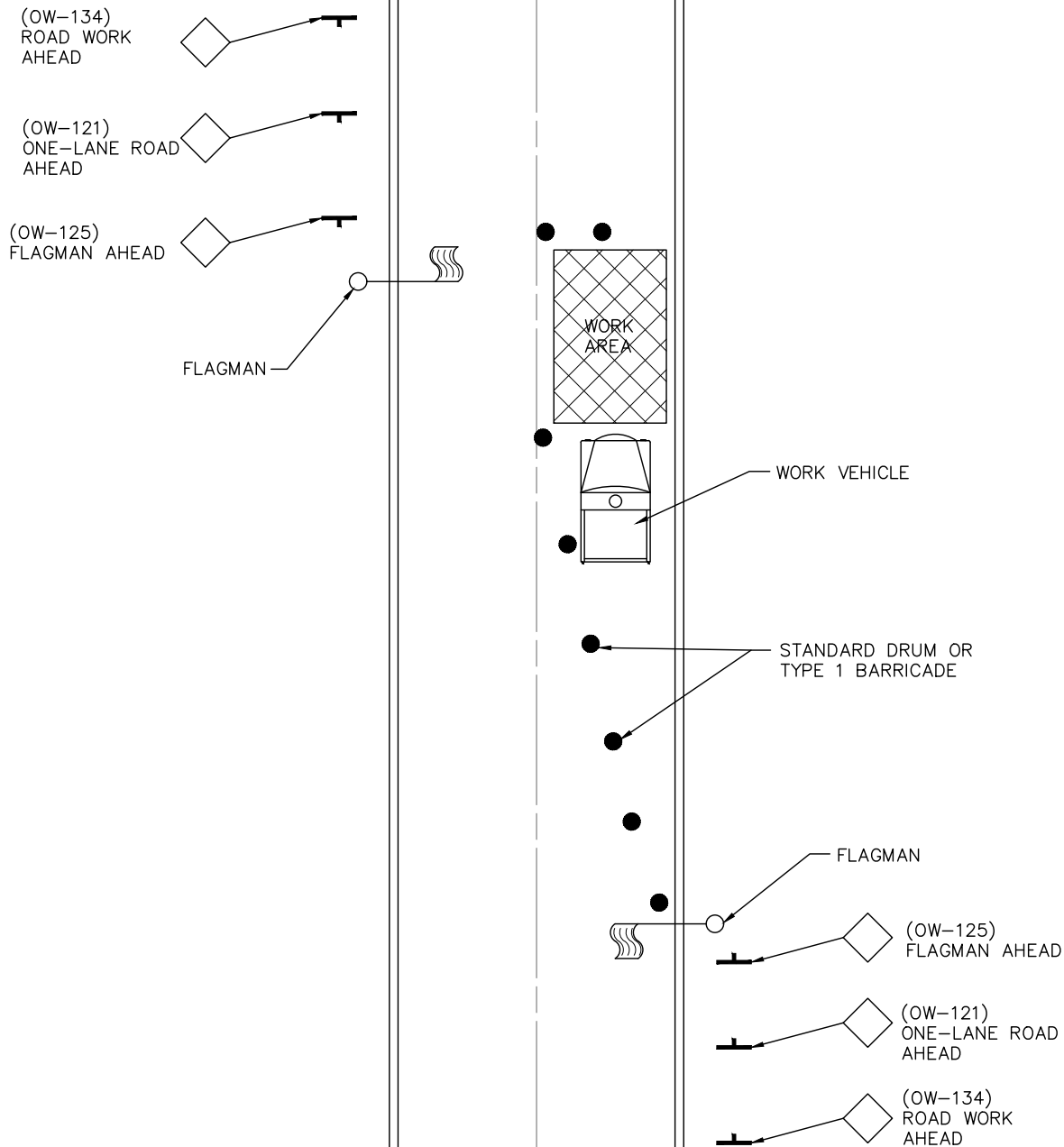
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VISION CLEARANCE ON CORNER LOTS

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
300-18



NOTES

- A.** THE POLICE AND FIRE DEPARTMENTS SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF ANY CONSTRUCTION. NO STREET SHALL BE CLOSED WITHOUT THE APPROVAL OF THE VILLAGE.
- B.** IF THE WORK IS TO COVER THE ENTIRE WIDTH OF THE STREET, ONE HALF OF THE STREET SHALL BE MAINTAINED FOR TRAFFIC WHILE ONE HALF OF THE STREET IS REPAIRED.
- C.** BARRICADE DISTANCE AND SEPARATION OF WARNING TO BE SPACED AS PER JOB SITE ACCORDING TO THE VILLAGE.
- D.** IF BARRICADES ARE TO BE LEFT UP OVERNIGHT, WARNING LIGHTS (FLASHERS) ARE TO BE USED.
- E.** ALL STREET CONTROL DEVICES APPLICABLE TO DIFFERENT WIDTH STREETS, TYPE OF CONSTRUCTION, ETC., SHALL CONFORM TO THE LATEST REVISION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, UNLESS OTHERWISE APPROVED BY THE VILLAGE AND SHALL BE IN PLACE AND PROPERLY DISPLAYED PRIOR TO THE COMMENCEMENT OF ANY WORK.

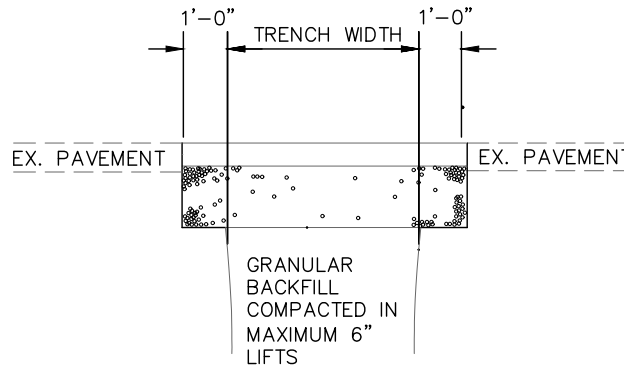
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TRAFFIC CONTROL DEVICES STATIONARY OPERATIONS IN ONE LANE

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DATE
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08-01-2006
PAGE No.
300-19



TYPICAL PAVEMENT RESTORATION DETAIL

TYPICAL PAVEMENT RESTORATION NOTES

MINIMUM GRAVEL PAVEMENT REPLACEMENT

2" OF ODOT #67 ON
12" OF ODOT ITEM 304, IN LIFTS OF 3" MAXIMUM

MINIMUM ASPHALT PAVEMENT REPLACEMENT

PERMANENT PAVEMENT REPLACEMENT SHALL EQUAL OR EXCEED THE EXISTING PAVEMENT COMPOSITION. (MINIMUM PAVEMENT COMPOSITION SEE PAGE 300-2 UTILIZING APPROPRIATE STREET CLASSIFICATION).

SOIL BORINGS SHALL BE CAPPED WITH A MINIMUM OF 9" OF ODOT CLASS C CONCRETE.

VILLAGE OF
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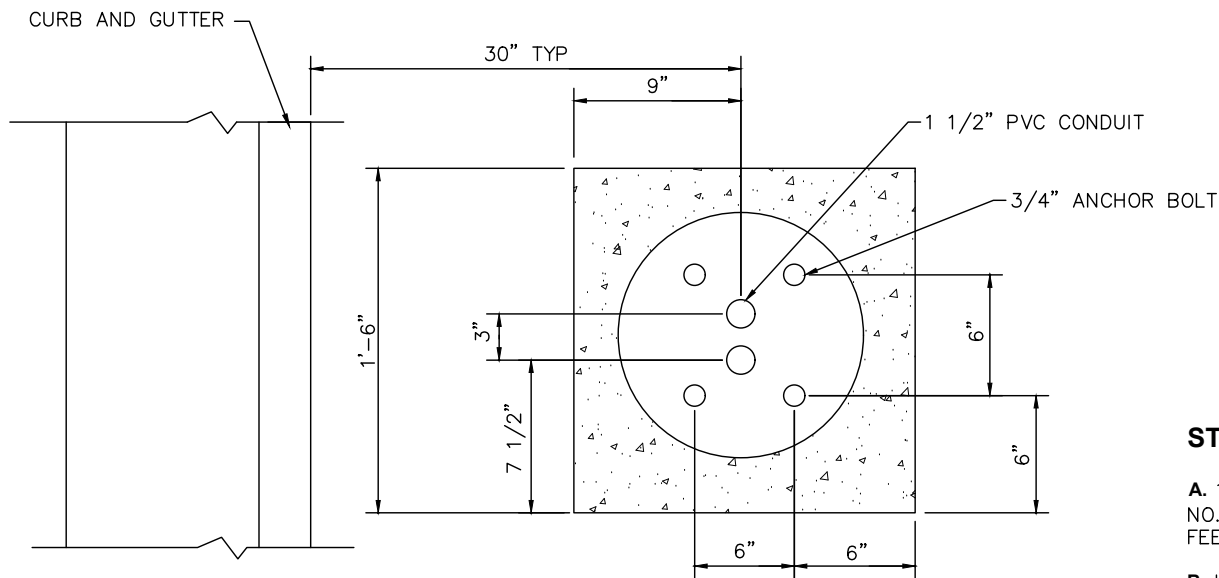


TYPICAL PAVEMENT RESTORATION DETAIL

REVISIONS:

DATE
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08-01-2006

PAGE No.
300-20

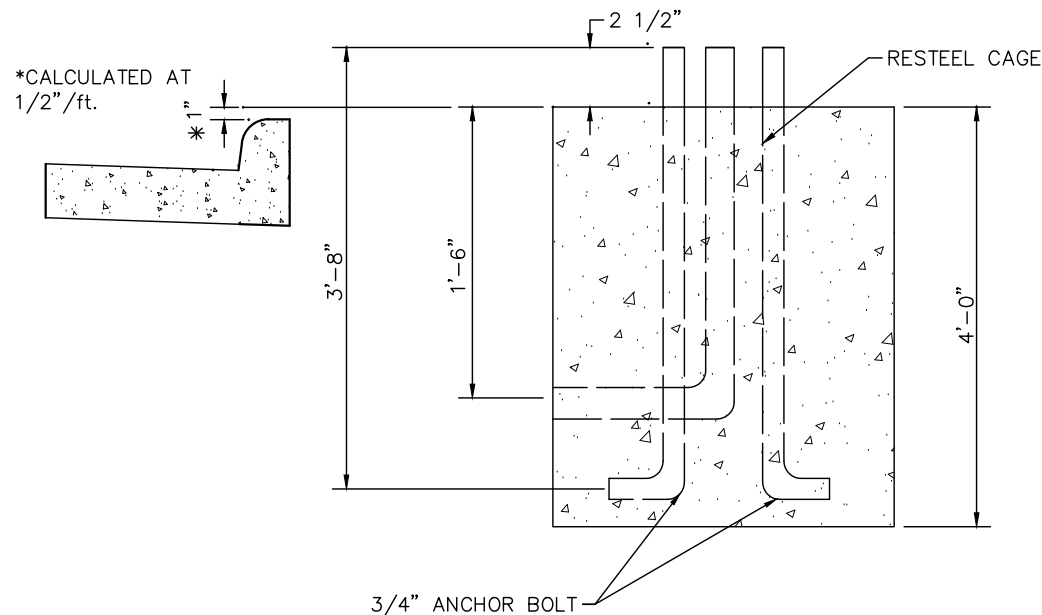


STREET LIGHTING NOTES

- A.** 1 1/2" PVC CONDUIT SHALL BE INSTALLED WITH NO. 10/3 VF CABLE BETWEEN EACH POLE AND TO THE ELECTRIC FEED.
- B.** LIGHT POLE BASES SHALL BE AS THE DETAILS INCLUDED IN THESE STANDARDS.
- C.** LIGHT POLES SHALL BE ROUND, STRAIGHT, 18' IN HEIGHT, AND PAINTED BLACK MODEL NUMBER 18RRS.
- D.** LIGHT POLES SHALL BE LOCATED AT ALL INTERSECTIONS. LIGHTING LAYOUT SHALL BE APPROVED BY THE VILLAGE PRIOR TO CONSTRUCTION.
- E.** FIXTURES SHALL BE APPROVED BY THE VILLAGE PRIOR TO CONSTRUCTION.
- F.** FIXTURE, SPACING, AND COLOR MAY VARY ACCORDING TO LOCATION AND SHALL BE APPROVED BY THE VILLAGE.

TRAFFIC CONTROL DEVICE NOTES

- A.** ALL TRAFFIC CONTROL DEVICES SHALL BE PER THE LATEST REVISION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND APPROVED BY THE VILLAGE BEFORE INSTALLATION.
- B.** ALL SIGN POST SHALL BE STANDARD STEEL POST UNLESS OTHERWISE APPROVED BY THE VILLAGE.
- C.** ALL STREET SIGNS WILL BE PROVIDED BY THE VILLAGE.



VILLAGE OF
GLANDORF



STREET LIGHT AND TRAFFIC CONTROL DEVICES

REVISIONS:	DATE
	APPROVED:
	08-01-2006
	PAGE No.
	500-1

UTILITIES AGENTS

AMERICAN ELECTRIC POWER - ELECTRIC SERVICE
216 NORTH ELIZABETH STREET
LIMA, OHIO 45801
1-800-672-2231 OR 1-419-420-3009

DOMINION EAST OHIO GAS - GAS SERVICE
150 SOUTH JACKSON STREET
LIMA, OHIO 45801
1-419-226-4877

TIME WARNER CABLE - CABLE
3100 ELIDA ROAD
LIMA, OHIO 45801
1-419-634-7160

GLANDORF TELEPHONE COMPANY, INC. - PHONE SERVICE
P.O. BOX 31
GLANDORF, OHIO 45848
1-419-538-6987

OHIO UTILITIES PROTECTION SERVICE
3 WORKING DAYS BEFORE YOU DIG
TOLL FREE 800-362-2764

SEEDING

A. ALL AREAS DESIGNATED FOR SEEDING SHALL HAVE A MINIMUM OF 6" OF TOPSOIL OVER THE ENTIRE AREAS. THE AREA SHALL BE RAKED, ROLLED, AND DRESSED READY FOR SEEDING. NO STONE OVER 1" IN SIZE PERMITTED.

DRAINS

A. ALL FIELD OR STORM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE REPAIRED AND PROVIDED WITH UNOBSTRUCTED OUTLETS AS APPROVED AND DIRECTED BY THE VILLAGE AND MARKED ON THE RECORD DRAWINGS.

CONNECTIONS TO EXISTING PIPE

A. WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

UTILITY SEPARATION

A. ANY UNDERGROUND UTILITIES SUCH AS GAS, ELECTRIC, CABLE TV, TELEPHONE, ETC., SHALL HAVE 10' SEPARATION FROM ANY VILLAGE UTILITY UNLESS OTHERWISE APPROVED.

UTILITIES

A. THE MAXIMUM LENGTH OF ANY UTILITY TRENCH TO BE OPEN AT ANY TIME SHALL BE 250' UNLESS OTHERWISE APPROVED.

COMPACTION METHODS

A. FLOODING SHALL NOT BE PERMITTED.

B. MECHANICAL DEVICES, HAND DEVICES, VIBRATING PLATES OR OTHER EQUIPMENT APPROVED BY THE VILLAGE IS ACCEPTABLE 1' ABOVE PIPE IN UNIFORM LIFTS OF 12" (LOOSE DEPTH) OF EXISTING NATIVE MATERIAL AND 6" OF GRANULAR BACKFILL. THE HEIGHT OF LIFTS WILL DEPEND UPON THE TYPE OF MECHANICAL EQUIPMENT BEING USED. THE HEIGHT WILL BE 6" FOR HAND OPERATED TOOLS AND UP TO 12" ON EQUIPMENT MOUNTED TOOLS. THE COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE MATERIAL UNDER THE HAUNCH OF THE PIPE.

C. JETTING IS APPROVED FOR ODOT 603, TYPE 2 GRANULAR MATERIAL ONLY AND IF A STORM DRAIN IS AVAILABLE AS A DRAINAGE OUTLET FOR THE REMOVAL OF EXCESS WATER. A 4' MAXIMUM LIFT SHALL BE ADHERED TO. SATISFACTORY DRAINAGE SHALL BE PROVIDED BY THE USE OF DRAINAGE DITCHES, PUMPS OR OTHER EQUIPMENT.

D. DENSITY FOR THE ABOVE METHODS SHALL BE NO LESS THAN THAT OF THE SURROUNDING GROUND UNLESS OTHERWISE SPECIFIED.

DISPOSAL OF SURPLUS MATERIAL

A. THE VILLAGE MAY AT THEIR DISCRETION REQUIRE THAT SURPLUS MATERIAL BE DEPOSITED AT A LOCATION DESIGNATED WITHIN A TWO-MILE RADIUS OF THE WORK SITE.

TYPICAL NOTES - ALL SUBDIVISION CONSTRUCTION DRAWINGS

A. ALL CONSTRUCTION METHODS AND MATERIALS SHALL COMPLY WITH THE VILLAGE ENGINEERING STANDARDS OR ODOT WHICHEVER IS MORE RESTRICTIVE.

B. ALL COMPACTION SHALL MEET THE VILLAGE REQUIREMENTS. IF TESTING OF COMPACTED AREAS IS REQUESTED BY THE VILLAGE, SAID TESTING SHALL BE PERFORMED AT THE EXPENSE OF THE DEVELOPER.

C. THE VILLAGE WILL LOCATE AREAS IN NEED OF UNDERCUTTING UNLESS THE DEVELOPER CHOOSES TO HAVE AT HIS EXPENSE AN INDEPENDENT APPROVED TESTING COMPANY TO DETERMINE UNSUITABLE MATERIAL AREAS THAT NEED UNDERCUTTING.

D. ALL EMBANKMENT AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF ASTM D698 STANDARD PROCTOR CURVE AND TESTED TO REPRESENT A DEPTH OF 12" AND COMPATIBLE TO ODOT 203 UNLESS OTHERWISE SPECIFIED BY THE VILLAGE.

E. ALL UNPAVED AREAS WITHIN THE STREET RIGHT-OF-WAY SHALL BE SEEDED WITHIN 48 HOURS AFTER THE CURB IS BACKFILLED. STAKED STRAW BALES MAY BE REQUIRED IN ADDITION TO SEEDING TO CONTROL EROSION IF REQUESTED BY THE VILLAGE.

F. STORM WATER POLLUTION PREVENTION SHOULD BE A HIGH PRIORITY ON ALL CONSTRUCTION PROJECTS. ON ALL PROJECTS WHICH DISTURB AT LEAST 5 ACRES OF SOIL, A NPDES PERMIT IS REQUIRED FROM OEPA AND A COPY OF THE PERMIT MUST BE ON FILE AT THE VILLAGE OFFICE BEFORE CONSTRUCTION BEGINS.

VILLAGE OF
GLANDORF



GENERAL NOTES

REVISIONS:	DATE APPROVED: 08-01-2006
	PAGE No. 500-2

LOW STRENGTH MORTAR BACKFILL

A. IN SITUATIONS WHERE UTILITIES CROSS HEAVILY TRAVELED STREETS OR IT MAY BE DIFFICULT TO GET ADEQUATE COMPACTION ON GRANULAR MATERIAL, LOW STRENGTH MORTAR BACKFILL WILL BE REQUIRED PER ODOT ITEM 613 TYPE 1 ONLY. THE VILLAGE MAY REQUIRE THIS TYPE OF BACKFILL AT THEIR DISCRETION WITH THE COST BEING BORE BY THE CONTRACTOR.

BORING/JACKING

A. MATERIALS.

CASING PIPE SHALL BE WELDED STEEL PIPE CONFORMING TO AWWA C-202.

B. INSTALLATION (CASING PIPE).

1. FURNISH PROCEDURE METHODS TO THE VILLAGE FOR APPROVAL.
2. ALL METHODS AND PROCEDURES SHALL BE APPROVED BY THE VILLAGE PRIOR TO CONSTRUCTION.
3. ADEQUATELY SUPPORT ALL TRENCHES AND BORING/JACKING PITS.
4. INSTALL TO LINE AND GRADE SHOWN.

C. INSTALLATION (CARRIER PIPE).

1. PLACE CONDUITS IN CASING PIPE TO SAME RELATIVE POSITIONS AS ADJACENT DUCT BY USE OF SPACERS.
2. FILL THE SPACE BETWEEN CONDUITS INSIDE THE CASING PIPE WITH CLEAN SAND OR OTHER APPROVED MATERIALS AS APPROVED BY THE VILLAGE.

STEEL CASING PIPE

- A.** STEEL PIPE SHALL HAVE A MINIMUM YIELD STRENGTH OF 35,000 PSI.
- B.** JOINTS BETWEEN THE SECTIONS OF PIPE SHALL BE FULLY WELDED AROUND THE COMPLETE CIRCUMFERENCE OF THE PIPE.
- C.** SIZE—A MINIMUM OF 4" GREATER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE.
- D.** A STEEL CASING PIPE WILL BE REQUIRED FOR STORM SEWER, WATERMAIN, AND SANITARY SEWER.

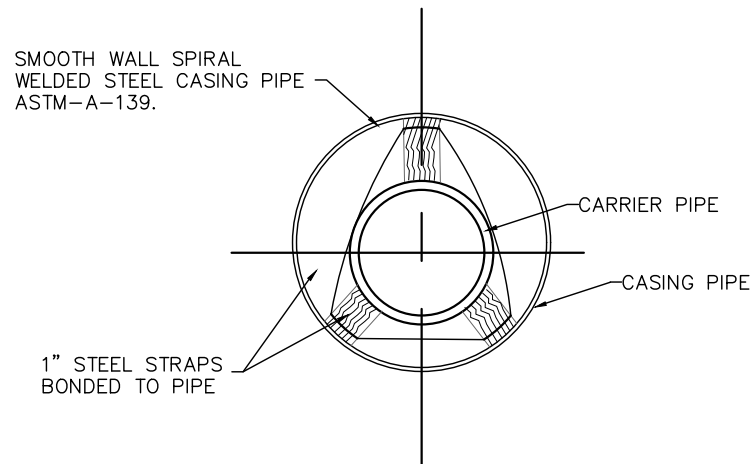
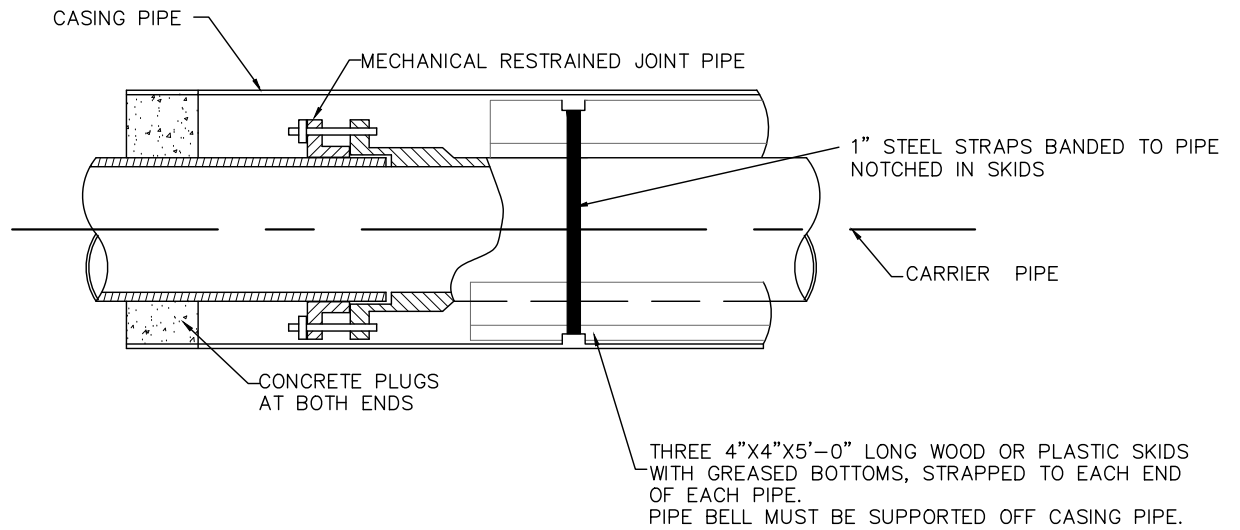
DIAMETER NOMINAL (INCHES)	NOMINAL THICKNESS (INCHES)
10 AND UNDER	0.188
12 & 14	0.250
16	0.281
18	0.312
20 & 22	0.344
24	0.375
26	0.406
28	0.438
30	0.469
32	0.500
34 & 36	0.532
38	0.562
40	0.594
42	0.625
44 & 46	0.657
48	0.688
50	0.719
52	0.750
54	0.781
56 & 58	0.812
60	0.844
62	0.875
64	0.906
66 & 68	0.938
70	0.969
72	1.000

VILLAGE OF
GLANDORF



LOW STRENGTH MORTAR BACKFILL AND BORING/JACKING

REVISIONS:	DATE
	APPROVED:
	08-01-2006
	PAGE No.
	500-3



VILLAGE OF
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CASING PIPE DETAIL

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
500-4

NOTES

A. NO PERSON SHALL DEMOLISH ANY BUILDING OR STRUCTURE OF 1000 SQ. FT. OR MORE WITHOUT SECURING A PERMIT FROM THE VILLAGE ADMINISTRATOR. A PERMIT FEE OF \$25 WILL BE REQUIRED OF EACH APPLICANT.

B. AS A CONDITION OF RECEIVING A DEMOLITION PERMIT, THE OWNER, AGENT OR PERSON IN CONTROL OF A BUILDING OR STRUCTURE TO BE DEMOLISHED SHALL NOTIFY, IN WRITING, THE APPROPRIATE UTILITIES OR PUBLIC AUTHORITIES SERVING THE BUILDING OR STRUCTURE REGARDING THE PERSON'S INTENTIONS TO DEMOLISH THE BUILDING OR STRUCTURE. SUCH NOTICE SHALL INCLUDE A REQUEST THAT THE UTILITIES BE DISCONNECTED WITHIN SEVEN DAYS. THE OWNER, AGENT OR PERSON IN CONTROL OF THE BUILDING OR STRUCTURE TO BE DEMOLISHED, OR THE UTILITY COMPANY, SHALL PROVIDE EVIDENCE TO THE VILLAGE THAT THE UTILITIES HAVE BEEN DISCONNECTED. THE PERMIT WILL NOT BE ISSUED UNTIL ALL PROPER VERIFICATION HAS BEEN RECEIVED. PROOF OF VERIFICATION THAT SERVICES HAVE DISCONNECTED CAN BE FOUND ON THE APPLICATION FOR A DEMOLITION PERMIT.

C. PRECEDENT TO THE ISSUANCE OF A DEMOLITION PERMIT, THE OWNER, AGENT OR PERSON WITH CONTROL OF THE PROPERTY SUBJECT TO DEMOLITION SHALL POST WITH THE VILLAGE A \$500.00 PERFORMANCE BOND, CASH DEPOSIT OR OTHER SURETY APPROVED BY THE VILLAGE ADMINISTRATOR TO ASSURE THE VILLAGE THAT THE DEMOLITION WORK WILL PROCEED AS PERMITTED. THE TERMS OF THE SURETY SHALL PROVIDE THAT THE VILLAGE MAY RETAIN OR CLAIM THE SURETY PROCEEDS IF THE PERMIT HOLDER FAILS TO PERFORM THE DEMOLITION ACTIVITIES IN ACCORDANCE WITH THE PERMIT GRANTED.

D. DURING THE COURSE OF THE DEMOLITION ACTIVITY, THE OWNER, AGENT OR PERSON IN CONTROL OF THE PROPERTY SUBJECT TO THE DEMOLITION SHALL TAKE STEPS TO ENSURE THE SAFETY OF THE GENERAL PUBLIC. THE PROPOSED STEPS SHALL BE IN COMPLIANCE WITHIN GENERALLY ACCEPTED BUILDING INDUSTRY SAFETY PRACTICES AS MAY BE REFLECTED IN BUILDING CODES APPLICABLE IN THE STATE OF OHIO AND IN STANDARDS OF THE VILLAGE FOR CONSTRUCTION SITE SAFETY MEASURES.

E. FOLLOWING THE COMPLETION OF DEMOLITION WORK, THE OWNER, AGENT OR PERSON IN CONTROL OF THE PROPERTY SUBJECT TO THE DEMOLITION ACTIVITY SHALL PROVIDE FOR THE RESTORATION OF THE SITE SO AS TO ADDRESS SAFETY AND NUISANCE CONCERNS.

(1) ALL SUCH SITES SHALL BE BROUGHT TO A LEVEL OR OTHER GRADE DETERMINED TO BE APPROPRIATE BY THE VILLAGE ADMINISTRATOR.

(2) ALL SURFACE IRREGULARITIES, WELLS, SEPTIC TANKS, BASEMENTS, CELLARS, SIDEWALKS, VAULTS, OR COAL CHUTES REMAINING AFTER DEMOLITION SHALL BE FILLED WITH COMPACTABLE MATERIALS CONSISTENT WITH VILLAGE STANDARDS.

(3) THE PARTY SECURING THE DEMOLITION PERMIT SHALL PROVIDE FOR THE DISPOSAL OF THE DEBRIS ASSOCIATED WITH THE DEMOLITION AND/OR REHABILITATION WORK. THE DEBRIS MUST BE PLACED IN AN APPROPRIATE CONTAINER FOR REMOVAL BY A PRIVATE CONTRACTOR, OR ANOTHER ARRANGEMENT SHALL BE MADE FOR THE DISPOSAL OF THE DEBRIS ON AT LEAST A WEEKLY BASIS. NO PROPERTY OWNER OR PERMIT HOLDER SHALL PERMIT THE NON-CONTAINERIZED ACCUMULATION OF DEMOLITION DEBRIS ON ANY PROPERTY IN THE VILLAGE FOR A PERIOD IN EXCESS OF SEVEN CALENDAR DAYS. ALL DEBRIS AND MATERIAL ASSOCIATED WITH THE DEMOLITION WORK MUST BE REMOVED FROM THE PROPERTY.

(4) ALL SANITARY SEWER LEADS THAT SERVED THE SUBJECT DEMOLISHED BUILDING OR STRUCTURE MUST BE EFFECTIVELY PLUGGED WITH CONCRETE AT THE PROPERTY LINE, OR AS MAY BE REQUIRED BY THE VILLAGE AND INSPECTED BY THE VILLAGE.

(5) AS SOON AS WEATHER PERMITS, THE SITE SHALL BE PREPARED (INCLUDING THE APPLICATION OF TOPSOIL IF NECESSARY TO INSURE GROWTH), AND SOD, GRASS SEED OR OTHER GROUND COVER MATERIAL SHALL BE INSTALLED TO ADDRESS SOIL EROSION CONTROL. THE VILLAGE MAY REQUIRE THAT STRAW OR MULCH MATERIAL BE PLACED ON THE SITE THAT IS SEEDED TO PREVENT EROSION AND ENHANCE THE LIKELIHOOD OF SUCCESSFUL GROWTH.

F. THE PARTY RECEIVING THE DEMOLITION PERMIT MUST COMPLETE THE DEMOLITION ACTIVITY WITHIN THIRTY CALENDAR DAYS FROM THE RECEIPT OF THE PERMIT. THE TIME LIMIT MAY BE EXTENDED AT THE DISCRETION OF THE BUILDING ADMINISTRATOR. THE PETITIONER MUST PROVIDE EVIDENCE TO SHOW THAT EXTENUATING CIRCUMSTANCES PROHIBITED THE COMPLETION OF THE DEMOLITION WORK IN THE THIRTY-DAY TIME PERIOD.

VILLAGE OF
GLANDORF



DEMOLITION PERMIT REGULATIONS

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
500-5

NOTES

LISTED BELOW ARE CONSTRUCTION REGULATIONS GOVERNING CONSTRUCTION ACTIVITIES IN THE VICINITY OF TREES. THE FOLLOWING REGULATIONS APPLY TO ALL TYPES OF CONSTRUCTION ACTIVITY, BEING PERFORMED WITHIN OR IN CLOSE PROXIMITY TO PUBLIC RIGHTS-OF-WAY AND EASEMENTS.

A. FOR TREES MEASURING 38" IN CIRCUMFERENCE (EQUIVALENT 12" DIAMETER) OR LESS, SOIL EXCAVATION WORK OR ROOT CUTTING SHALL NOT OCCUR CLOSER THAN 3' FROM THE OUTER BARK OF THE TREE. THE CIRCUMFERENCE OF THE TREE HERE AND ELSEWHERE IN THESE REQUIREMENTS SHALL BE TAKEN 2' ABOVE GROUND LEVEL. FOR MULTI-STEMMED TREES, THE CIRCUMFERENCE SHALL BE TAKEN AT THE NARROWEST POINT WITHIN THE FIRST 2' ABOVE THE GROUND SURFACE.

B. FOR TREES MEASURING GREATER THAN 38" IN CIRCUMFERENCE, SOIL EXCAVATION WORK OR ROOT CUTTING SHALL NOT OCCUR CLOSER THAN THE DISTANCE MEASURED BY THE CIRCUMFERENCE OF THE TREE, OR A MAXIMUM DISTANCE OF 6', WHICHEVER IS LESS.

C. SOIL EXCAVATION WORK IS PERMITTED CLOSER THAN THE DISTANCE PARAMETERS ESTABLISHED UNDER THE ABOVE TWO CATEGORIES, PROVIDED ALL EXCAVATION OF SOIL IS ACCOMPLISHED BY HAND SHOVEL OR AUGER, AND NO ROOTS GREATER THAN 2" IN DIAMETER ARE SEVERED.

D. IF THERE IS AN INABILITY TO PERFORM THE REQUIREMENTS ESTABLISHED UNDER THE AFOREMENTIONED THREE SITUATIONS, A REPRESENTATIVE FROM THE VILLAGE OF GLANDORF SHALL BE CALLED TO THE TREE SITE TO MAKE AN INSPECTION AND RECOMMENDATION PERTAINING TO THE NEED TO REMOVE THE TREE. UNLESS OTHER PROVISIONS ARE SPECIFIED; IN THE EVENT REMOVAL BECOMES NECESSARY, TREES REMOVED BY THE VILLAGE OF GLANDORF FORCES OR VILLAGE CONTRACT WILL BE REMOVED AND REPLACED BY THE VILLAGE OF GLANDORF AT VILLAGE COST. TREES REQUIRED TO BE REMOVED BY PRIVATE CONTRACTORS, INVESTOR-OWNED PUBLIC UTILITY COMPANIES, OR BY OTHERS WHO ARE PERMITTED TO PERFORM MAINTENANCE AND REPAIR WORK IN PUBLIC RIGHT-OF-WAY AND EASEMENT AREAS SHALL REMOVE SAID TREES AT THEIR COST AND EFFORT AND FURTHERMORE, SHALL REPLACE THAT TREE WITH A SUITABLE SIZE AND VARIETY PER THE REQUIREMENTS OF THE VILLAGE OF GLANDORF.

E. IN THE EVENT REMOVAL OF THE TREE IS REQUIRED BY PRIVATE AND PUBLIC UTILITIES, CONTRACTORS AND OTHERS UNDER LIFE THREATENING OR RELATED EMERGENCY SITUATIONS, REMOVAL OF THE TREE(S) IS AUTHORIZED WITHOUT WRITTEN VILLAGE AUTHORIZATION, PROVIDING PROPER FOLLOW-UP WRITTEN DOCUMENTATION IS PROVIDED IN ACCORDANCE WITH THE VILLAGE OF GLANDORF PUBLIC RIGHT-OF-WAY OPENING AND EXCAVATION AND REPLACEMENT OF THE TREE(S) IS SCHEDULED TO THE SATISFACTION OF THE VILLAGE OF GLANDORF.

F. CONSTRUCTION TECHNIQUES TO REPAIR OR REPLACE SIDEWALKS AND CURBS USUALLY INVOLVE CUTTING OR SEVERING TREE ROOTS, IN WHICH THE ABOVE CRITERIA MAY APPLY. HOWEVER, OTHER INNOVATIVE CONSTRUCTION TECHNIQUES TO REPAIR OR REPLACE SIDEWALKS AND CURBS, SUCH AS ASPHALT WEDGES, GRINDING, LANDSCAPE PAVERS, CONCRETE RAMPS, ETC. TO PROTECT TREE ROOTS TO AVOID THE REQUIREMENT OF TREE REMOVAL MAY BE APPROVED BY THE VILLAGE OF GLANDORF AND WILL BE BASED ON EACH INDIVIDUAL REQUEST.

VILLAGE OF
GLANDORF

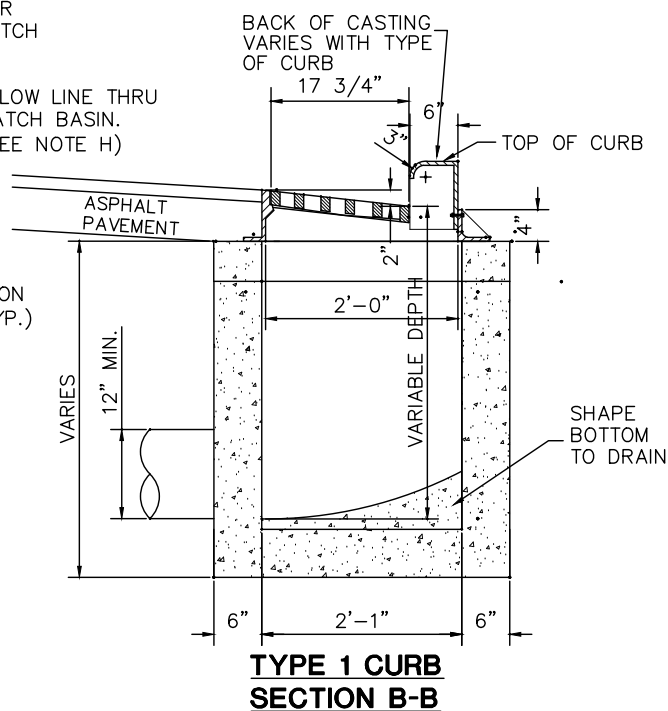
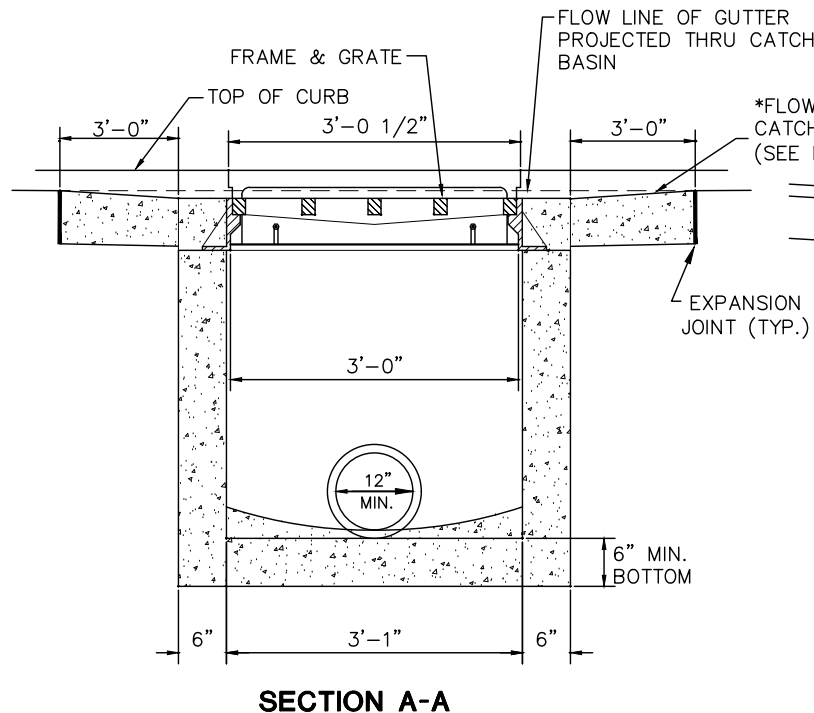
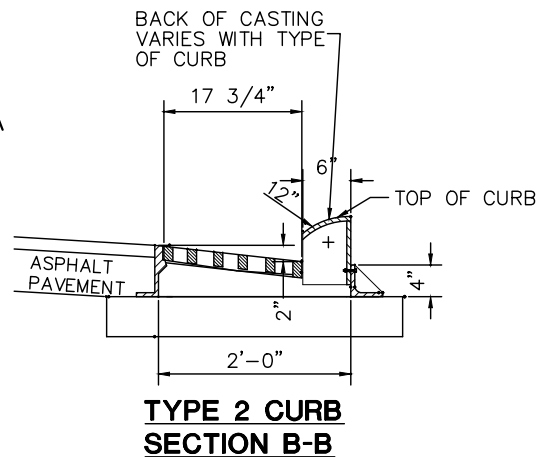
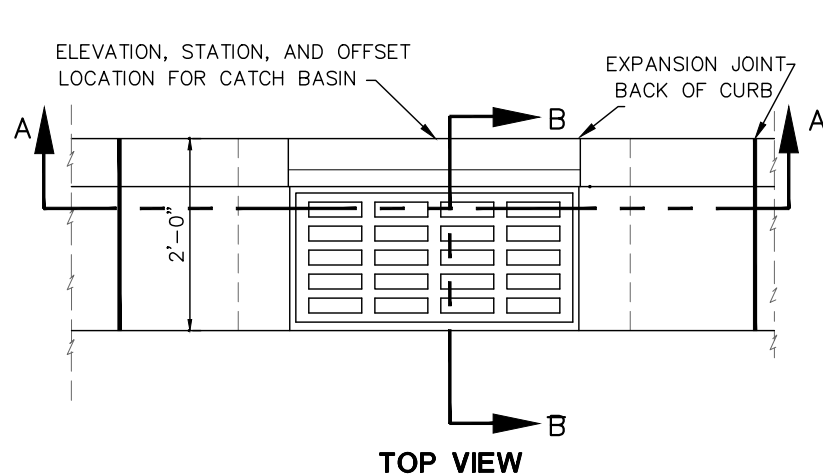


CONSTRUCTION NEAR TREES

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
500-6



TYPE 1 CATCH BASIN NOTES

- A.** CASTING SHALL BE EAST JORDAN 7030 OR NEENAH R-3246 OR EQUIVALENT.
- B.** FOR TYPE 2 COMBINATION CURB AND GUTTER. THE BACK SHALL BE EAST JORDAN TYPE T4 OR NEENAH (3" RADIUS) (R-3246-I).
- C.** FOR TYPE 1 COMBINATION ROLL CURB AND GUTTER THE BACK SHALL BE EAST JORDAN TYPE T2 OR NEENAH (MOUNTABLE CURB) (R-3246-E).
- D.** CATCH BASIN IN DRIVE APPROACHES (TO BE AVOIDED, IF POSSIBLE) THE BACKS SHALL BE EAST JORDAN TYPE T3 OR NEENAH (R-3246-A) WITH CURB PLATE).
- E.** STANDARD GRATE SHALL BE EAST JORDAN TYPE M2, NEENAH TYPE C, OR EQUIVALENT. ALL BAR EDGES TO BE ROUNDED 1/8" RADIUS.
- F.** PRECAST CONSTRUCTION PERMITTED EXCEPT FOR THE APRON AND CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13 WITH 6±2% AIR VOID CONTENT IN THE HARDENED CONCRETE. PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6" AND REINFORCING SHALL BE SUFFICIENT TO PERMIT SHIPPING AND PLACEMENT WITHOUT DAMAGE.
- G.** CARE SHALL BE TAKEN WHEN CONNECTING TO AN EXISTING CATCH BASIN TO KEEP OPENING AS MINIMAL AS POSSIBLE. IF POSSIBLE, SAW CUT OR USE ROTARY HAMMER FOR OPENING TO MINIMIZE DAMAGE TO CATCH BASIN. PIPE TO INTRUDE INTO CATCH BASIN 1" ONLY AND PIPE MUST BE CUT PARALLEL TO CATCH BASIN. USE NONSHRINK GROUT AROUND PIPE INSIDE AND OUTSIDE OF CATCH BASIN TO SEAL BETWEEN PIPE AND CATCH BASIN.
- H.** DROP FLOW LINE 1/2" WITHIN BLOCKOUT OF COMBINED CURB AND GUTTER WHILE KEEPING LIP OF GUTTER CONSISTENT WITH TOP OF CURB.

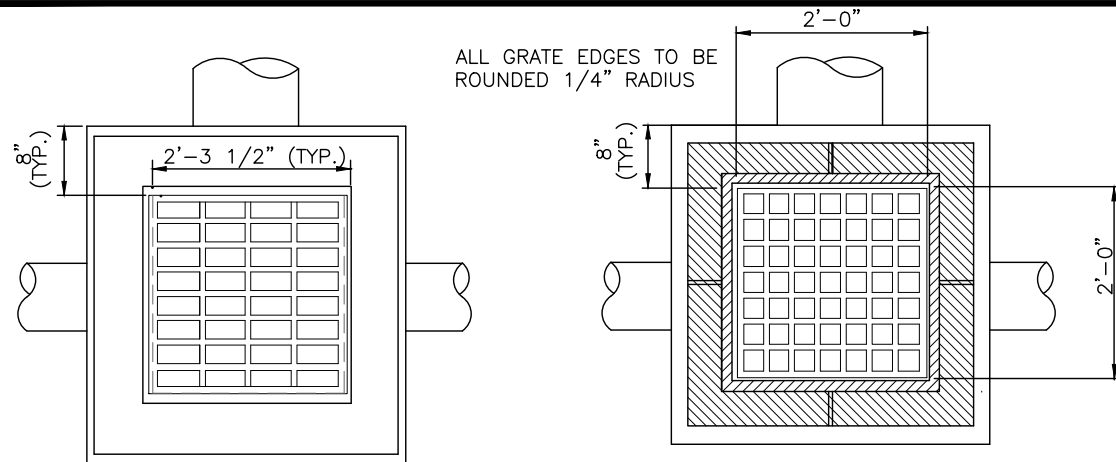
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TYPE 1 CATCH BASIN

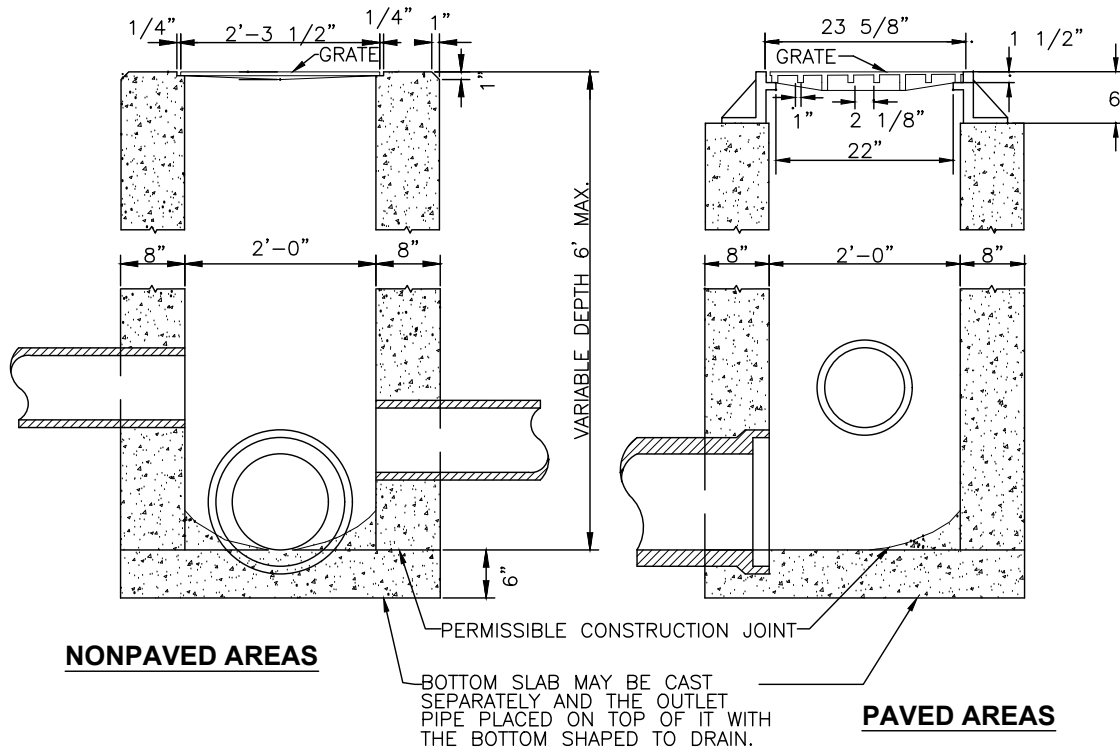
REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
600-1



PLAN

PLAN



NONPAVED AREAS

PAVED AREAS

2-2-B CATCH BASIN NOTES

A. LOCATION AND ELEVATIONS WHEN GIVEN ON THE PLANS IS TOP CENTER OF THE GRATE. WHEN SIDE OPENINGS ARE PROVIDED, ELEVATION SHALL BE THE FLOW LINE OF THE SIDE INLET.

B. GRATE FOR NONPAVED AREAS SHALL BE EAST JORDAN IRON WORKS 5110 TYPE M3 OR NEENAH CATALOG NO. R-4859-C OR EQUIVALENT.

C. GRATE ELEVATION TO BE PLACED 4" TO 6" BELOW NORMAL DITCH RETURNING TO NORMAL 10' EACH SIDE OF BASIN.

D. CONCRETE, CAST-IN-PLACE, TO BE CLASS C. ALL PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13 WITH $6 \pm 2\%$ AIR VOID CONTENT IN THE HARDENED CONCRETE AND BE MARKED WITH CATCH BASIN NUMBER. OPENINGS FOR PIPES SHALL BE O.D. +2" WHEN FABRICATED OR FIELD CUT.

E. CATCH BASINS NOT PERMITTED IN PAVEMENT AREAS UNLESS USING A FRAME AND GRATE EQUIVALENT OF NEENAH CATALOG NO. R-3405 OR EAST JORDAN IRON WORKS NO. 5250.

F. FOR PIPES OVER 18" REFER TO ODOT CATCH BASIN 2-3 AND 2-4. FOR SIDE INLETS REFER TO ODOT CATCH BASIN 2-2-A.

G. CARE SHALL BE TAKEN WHEN CONNECTING TO AN EXISTING CATCH BASIN TO KEEP OPENING AS MINIMAL AS POSSIBLE. IF POSSIBLE, SAW CUT OR USE ROTARY HAMMER FOR OPENING TO MINIMIZE DAMAGE TO CATCH BASIN. PIPE TO INTRUDE INTO CATCH BASIN 1" ONLY AND PIPE MUST BE CUT PARALLEL TO CATCH BASIN. USE NONSHRINK GROUT AROUND PIPE INSIDE AND OUTSIDE OF CATCH BASIN TO SEAL BETWEEN PIPE AND CATCH BASIN.

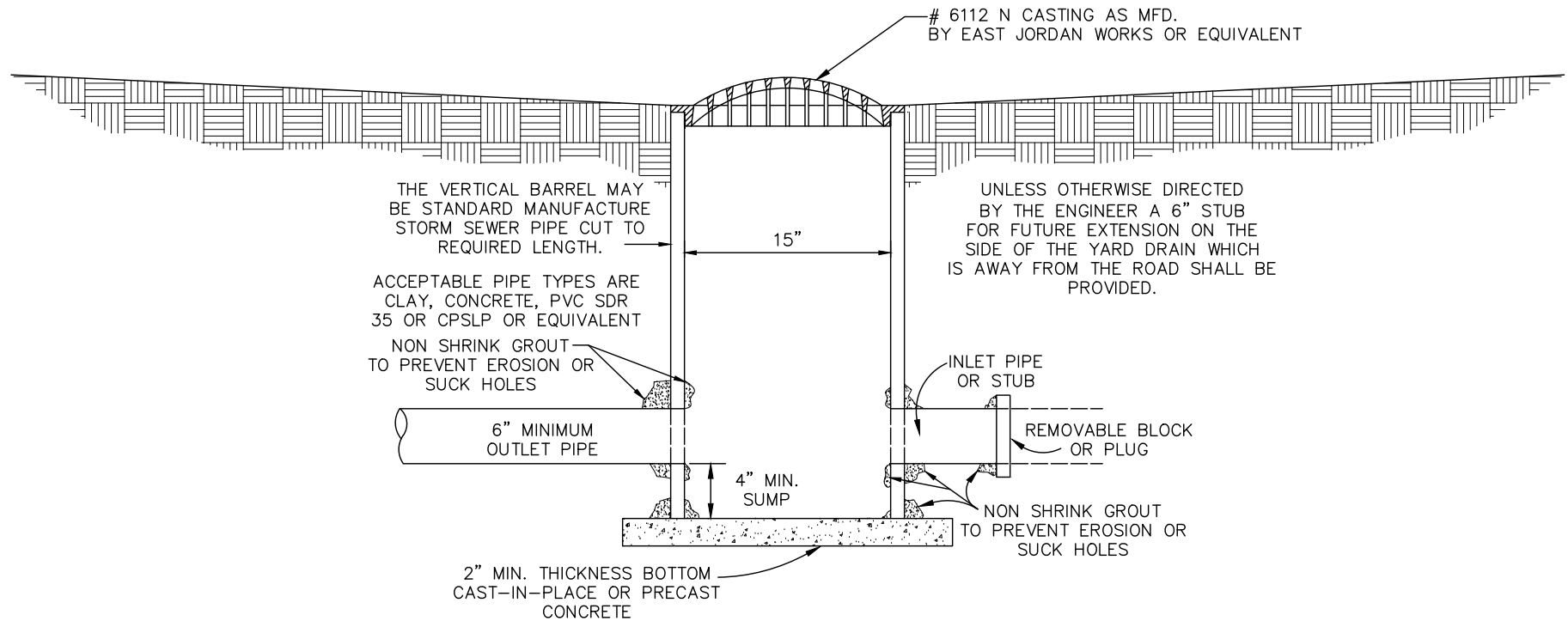
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TYPE 2-2B CATCH BASIN

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
600-2



VILLAGE OF
GLANDORF

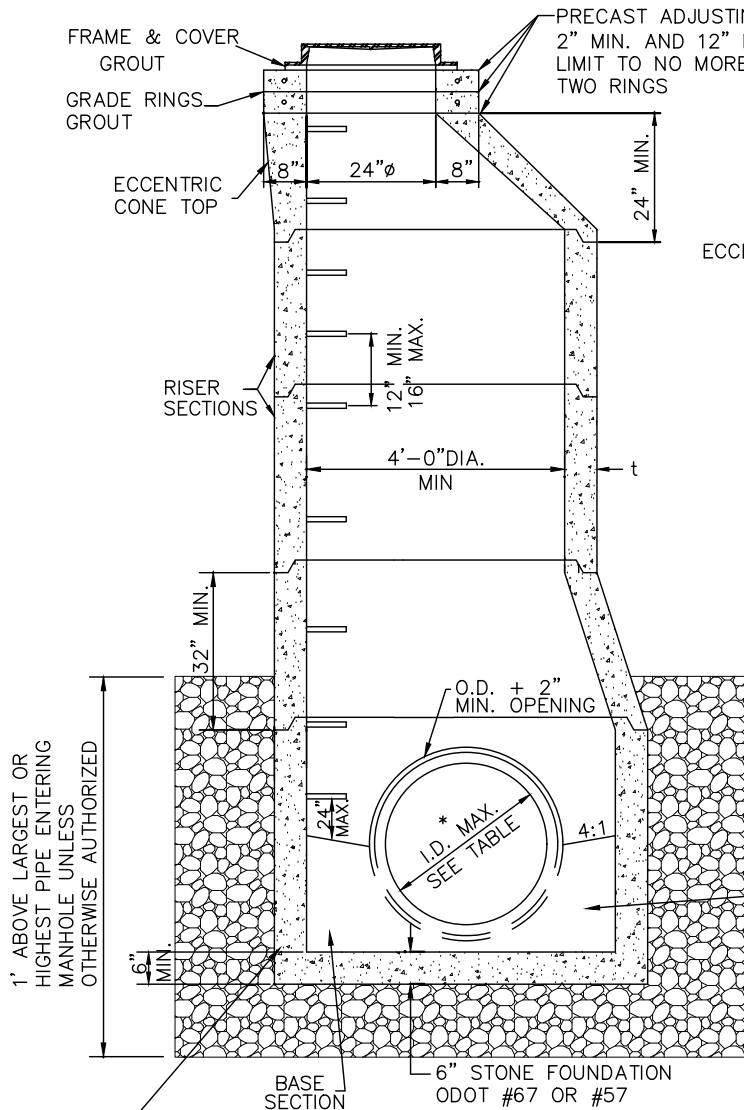
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YARD DRAIN

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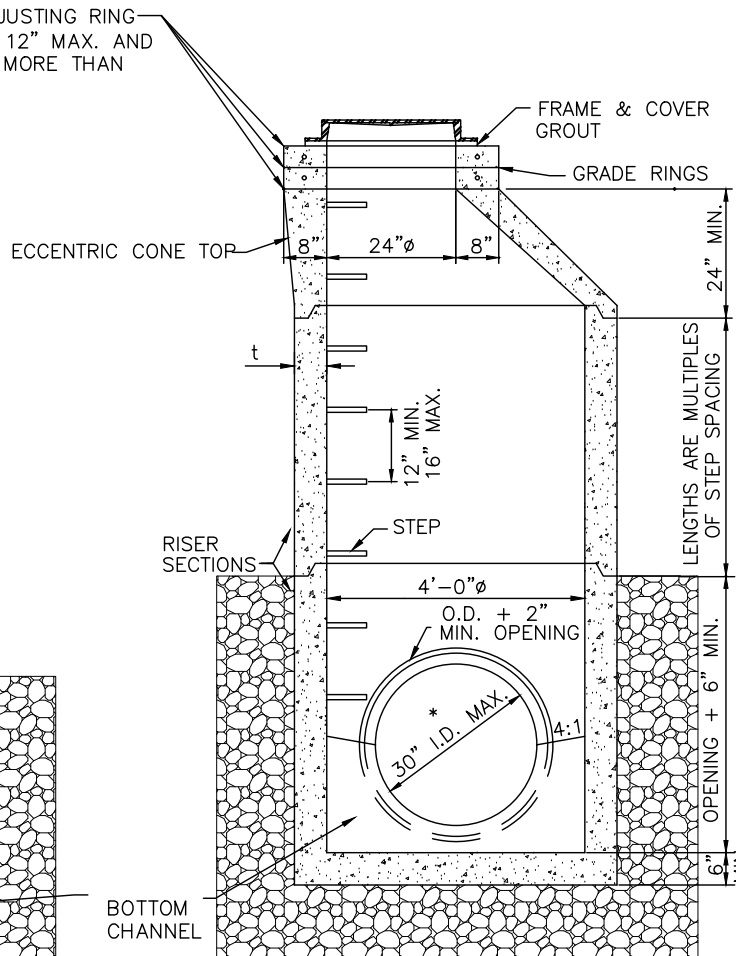
DATE
APPROVED:
08-01-2006

PAGE No.
600-3



60" TO 96" PRECAST BASE
SEE TABLE FOR MAXIMUM PIPE SIZES

PRECAST OR POURED IN PLACE BASE SECTION WITH 6" GRANULAR BEDDING.
USE OF BARREL BLOCKS IS CONTINGENT UPON VILLAGE APPROVAL AND THEN
ONLY IN SPECIAL CASES.



48" PRECAST BASE
FOR 30" & SMALLER PIPE

BASE I.D.	MIN "t"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7 1/2"	60"
96"	8"	60"

*DUE TO PIPE ORIENTATION, LARGER
DIAMETER BASE THAN WHAT IS SPECIFIED
TO ACCEPT PIPE MAY BE REQUIRED.

NOTES

A. STORM MANHOLE FRAME AND LID SHALL BE EAST JORDON IRON WORKS NO. 1050 FOR 9" HEIGHT, 1020-1 FOR 6" HEIGHT, 1022-1 FOR 7" HEIGHT, AND 1037 FOR 4" HEIGHT WITH TYPE M1 GRATE OR TYPE "A" SOLID COVER LID.

B. SECTIONS OF THE PRECAST MANHOLE SHALL BE CAST AND ASSEMBLED WITH EITHER ALL TONGUE OR ALL GROOVE ENDS UP. LIFT HOLES MAY BE PROVIDED IN EACH SECTION FOR HANDLING.

C. TOP AND TRANSITION (OR REDUCER) SECTIONS MAY BE EITHER ECCENTRIC CONE OR FLAT SLAB.

D. OPENINGS IN RISER SECTIONS FOR 18" AND SMALLER INLET PIPES MAY BE PREFABRICATED OR CUT IN THE FIELD PROVIDED THE SIDES OF THE PIPE AT THE SPRING LINE DO NOT PROJECT INTO THE MANHOLE.

E. MATERIALS FOR BASES AND OTHER PRECAST SECTIONS, INCLUDING REINFORCEMENT SHALL COMPLY WITH ODOT REQUIREMENT OF 706.13 (ASTM C-478).

F. LOCATE THE CENTERLINE OF MANHOLE CONES OVER THE CENTERLINE OF THE MAIN SEWER WHENEVER POSSIBLE.

G. FOR PIPE SIZES LARGER THAN 60", REFER TO ODOT TYPE 4 TO 5 MANHOLE.

H. NO LATERALS MAY PROTRUDE INTO THE INTERNAL MANHOLE.

I. MAXIMUM SPACING SHALL BE 400'.

J. WHEN CONNECTING TO AN EXISTING STORM MANHOLE CARE SHALL BE TAKEN TO KEEP OPENING AS MINIMAL AS POSSIBLE. IF POSSIBLE, SAW CUT OR USE ROTARY HAMMER FOR OPENING TO MINIMIZE DAMAGE TO STORM MANHOLE AND PIPE MUST BE CUT PARALLEL TO STORM MANHOLE. USE NONSHRINK GROUT AROUND PIPE TO SEAL BETWEEN PIPE AND STORM MANHOLE.

K. JOINTS BETWEEN SECTIONS TO BE EITHER MORTAR OR BITUMINOUS PIPE JOINT FILLER (ODOT 706.10)

VILLAGE OF
GLANDORF

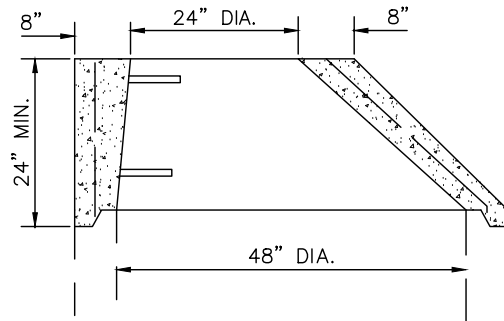
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TYPE 3 STORM MANHOLE

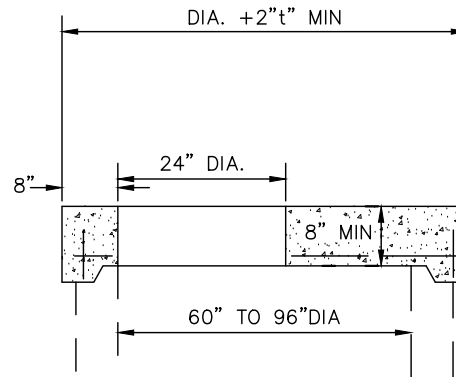
REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
600-4

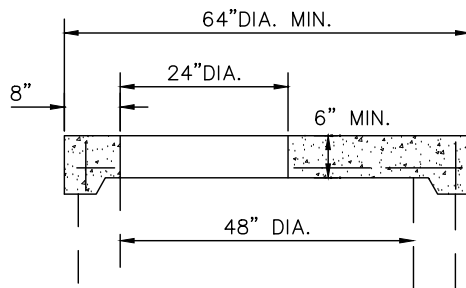


ECCESTRIC CONE TOP

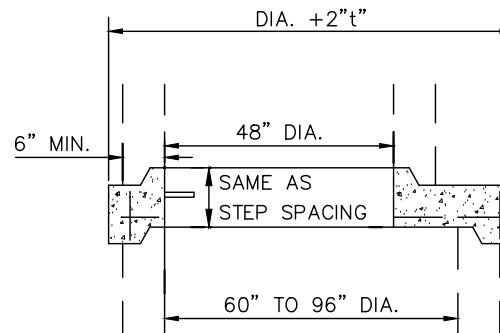


FLAT SLAB TOP

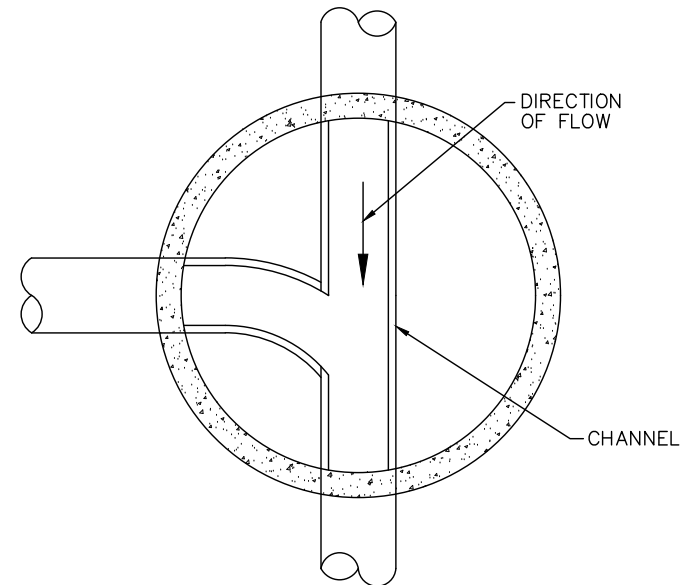
BASE I.D.	MIN "t"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7 1/2"	60"
96"	8"	60"



FLAT SLAB TOP



FLAT SLAB TRANSITION



SECTIONAL PLAN

NOTE

ALL INVERTS TO BE CHanneled FOR OPTIMUM FLOW.

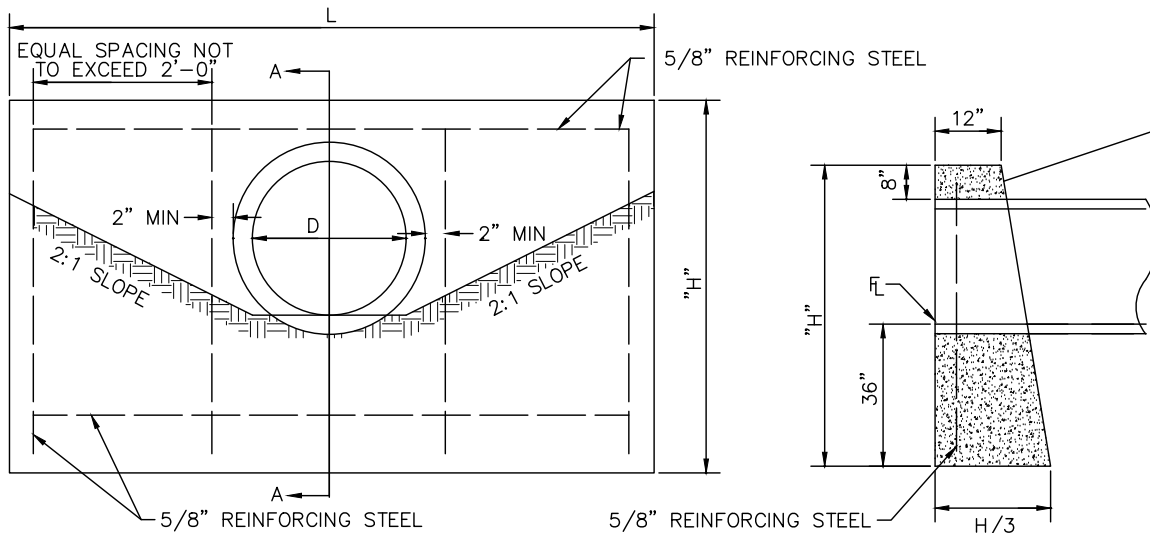
VILLAGE OF
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TYPE 3 STORM MANHOLE DETAILS

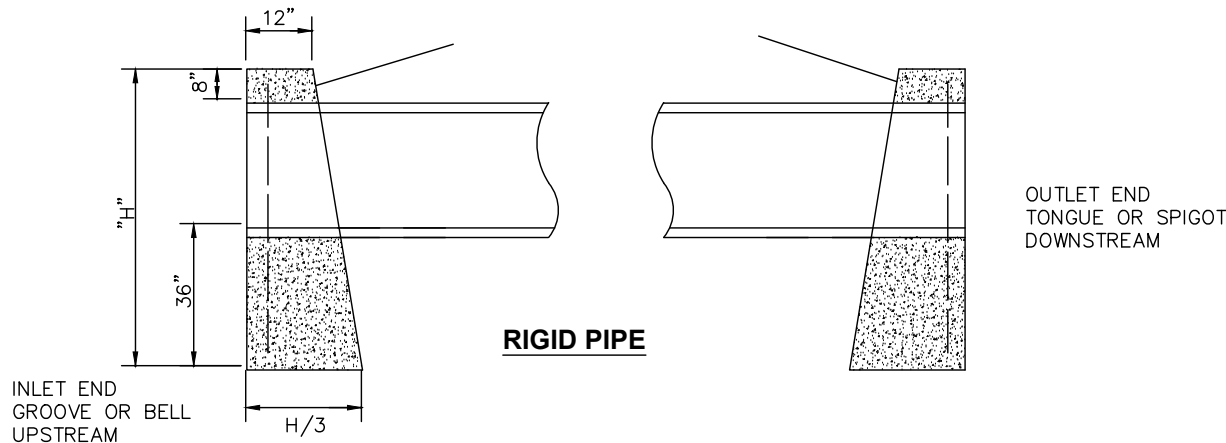
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DATE
APPROVED:
08-01-2006
PAGE No.
600-5



ELEVATION

SECTION A-A



RIGID PIPE

NOTES

- A. THESE FULL HEIGHT HEADWALLS ARE FOR NONSKEWED CULVERTS HAVING A DIAMETER OR RISE OF 36" OR LESS.
- B. CONCRETE SHALL BE ODOT CLASS C. REINFORCED STEEL BARS SHALL BE 5/8" ROUND.
- C. DIMENSIONS AND QUANTITIES ARE SHOWN FOR CIRCULAR SECTIONS ONLY. IT WILL BE NECESSARY TO DETERMINE DIMENSIONS FOR THE HW-1 HEADWALL REQUIRED FOR REINFORCED ELLIPTICAL CONCRETE PIPE OR CORRUGATED METAL PIPE ARCHES IN ACCORDANCE WITH THE EQUATIONS LISTED ON THIS DRAWING.
- D. CHAMFER ALL EXPOSED CORNERS 3/4".
- E. WHERE THE SOIL BORINGS INDICATE A BEARING CAPACITY OF LESS THAN 2600 LBS. PER SQUARE FOOT, IT WILL BE NECESSARY TO INCREASE THE WIDTH OF THE BASE.
- F. MINIMUM COVER FOR REINFORCING STEEL SHALL BE 2".
- G. FOR PIPES HAVING A DIAMETER OR RISE OVER 36", REFERENCE ODOT HW-3 HEADWALLS FOR FULL HEIGHT HEADWALL.
- H. FOR SKEWED CULVERTS HAVING A DIAMETER OR RISE OF 36" OR LESS, REFERENCE ODOT HW-2 HEADWALLS.
- I. HEADWALLS MAY BE PRECAST CONCRETE CONSTRUCTED TO THE ABOVE REQUIREMENTS. GROUT AROUND PIPE AFTER INSTALLATION.
- J. LAST 20± OF PIPE BEFORE HEADWALL SHALL BE REINFORCED CONCRETE PIPE.

DIMENSIONS			QUANTITIES ONE HEADWALL	
DIAMETER	HEIGHT	LENGTH	CONCRETE C.Y.	REINFORCING STEEL LBS.
15"	5'-2"	7'-0"	1.7	41
18"	5'-5"	8'-4"	2.2	57
21"	5'-8"	9'-8"	2.8	62
24"	5'-11"	11'-0"	3.3	69
30"	6'-5"	13'-8"	4.7	92
36"	7'-0"	16'-4"	6.5	105

- L CIRCULAR SECTIONS = $5D + 4T$
 L ELLIPTICAL OR PIPE-ARCH = $4R + 4T + S$
 H CIRCULAR SECTIONS = $D + T + 44"$
 H ELLIPTICAL OR PIPE-ARCH = $R + T + 44"$

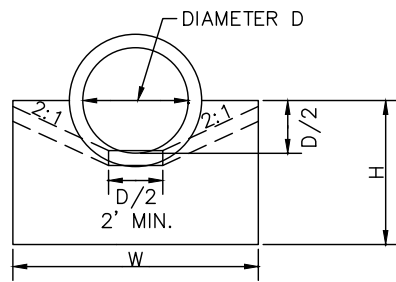
D = DIAMETER OF PIPE
 R = RISE OF PIPE
 S = SPAN OF PIPE
 T = THICKNESS OF BARREL
 L = LENGTH OF HEADWALL
 H = HEIGHT OF HEADWALL

VILLAGE OF
GLANDORF

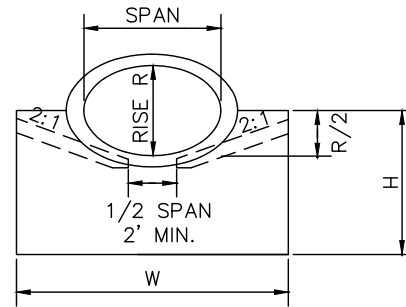
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FULL-HEIGHT HEADWALL

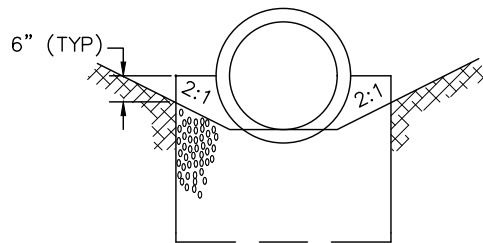
REVISIONS:
 DATE APPROVED: 08-01-2006
 PAGE No. 600-6



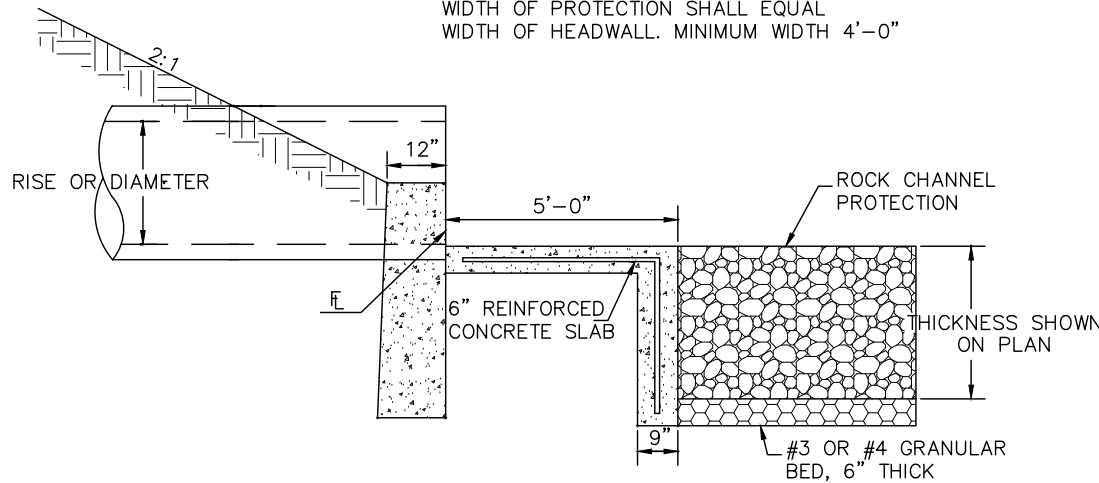
CIRCULAR



ELLIPTICAL



WIDTH OF PROTECTION SHALL EQUAL
WIDTH OF HEADWALL. MINIMUM WIDTH 4'-0"



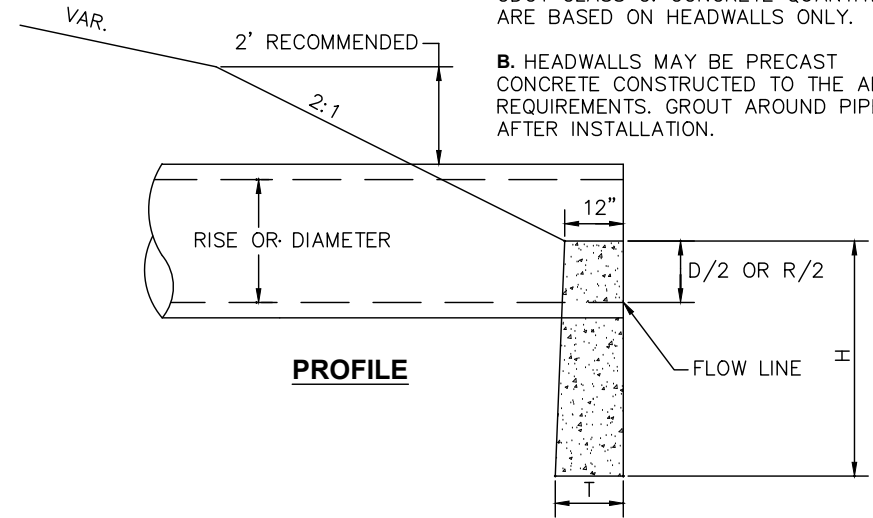
OUTLET CHANNEL PROTECTION DETAIL

(CUTOFF WALL DEPTH 2'-6" MINIMUM IS VARIABLE TO MATCH REQUIRED THICKNESS OF ROCK.)

NOTES

A. CONCRETE FOR HEADWALLS SHALL BE ODOT CLASS C. CONCRETE QUANTITIES ARE BASED ON HEADWALLS ONLY.

B. HEADWALLS MAY BE PRECAST CONCRETE CONSTRUCTED TO THE ABOVE REQUIREMENTS. GROUT AROUND PIPE AFTER INSTALLATION.



PROFILE

HEADWALL FOR CONCRETE PIPE

CIRCULAR				CONC. C.Y.	ELLIPTICAL					CONC. C.Y.
D	W	H	T		SPAN	RISE	W	H	T	
12"	2'-0"	3'-0"	12"	.20	23"	14"	3'-0"	3'-2"	12"	.29
15"	2'-6"	3'-2"	12"	.25	30"	19"	3'-7"	3'-4"	12"	.35
18"	3'-0"	3'-3"	12"	.31	34"	22"	3'-11"	3'-5"	12"	.38
21"	3'-6"	3'-4"	12"	.37	38"	24"	4'-6"	3'-6"	12"	.44
24"	4'-0"	3'-6"	12"	.43	42"	27"	4'-8"	3'-7"	12"	.45
27"	4'-6"	3'-8"	12"	.49	45"	29"	5'-2"	3'-8"	12"	.49
30"	5'-0"	3'-9"	12"	.56	49"	32"	5'-5"	3'-10"	12"	.52
33"	5'-6"	3'-10"	12"	.62	53"	34"	5'-11"	4'-0"	14"	.66
36"	6'-0"	4'-0"	12"	.69	60"	38"	6'-10"	4'-2"	14"	.82
39"	6'-6"	4'-2"	12"	.77	68"	43"	8'-0"	4'-4"	16"	1.01
42"	7'-0"	4'-3"	12"	.84	76"	48"	9'-2"	5'-0"	16"	1.34
48"	8'-0"	4'-6"	14"	1.09	83"	53"	10'-4"	5'-2"	18"	1.65
54"	9'-3"	4'-9"	14"	1.32	91"	58"	11'-6"	5'-5"	18"	1.97
60"	10'-6"	5'-6"	16"	1.93	98"	63"	12'-7"	5'-7"	20"	2.38
66"	11'-9"	5'-9"	18"	2.42	106"	68"	13'-9"	5'-10"	20"	2.69
72"	13'-0"	6'-0"	18"	2.77	113"	72"	14'-9"	6'-0"	22"	3.14
78"	14'-3"	6'-3"	20"	3.37	121"	77"	15'-11"	6'-3"	22"	3.49
84"	15'-6"	6'-6"	22"	4.05	128"	82"	17'-0"	6'-5"	24"	4.04

VILLAGE OF
GLANDORF

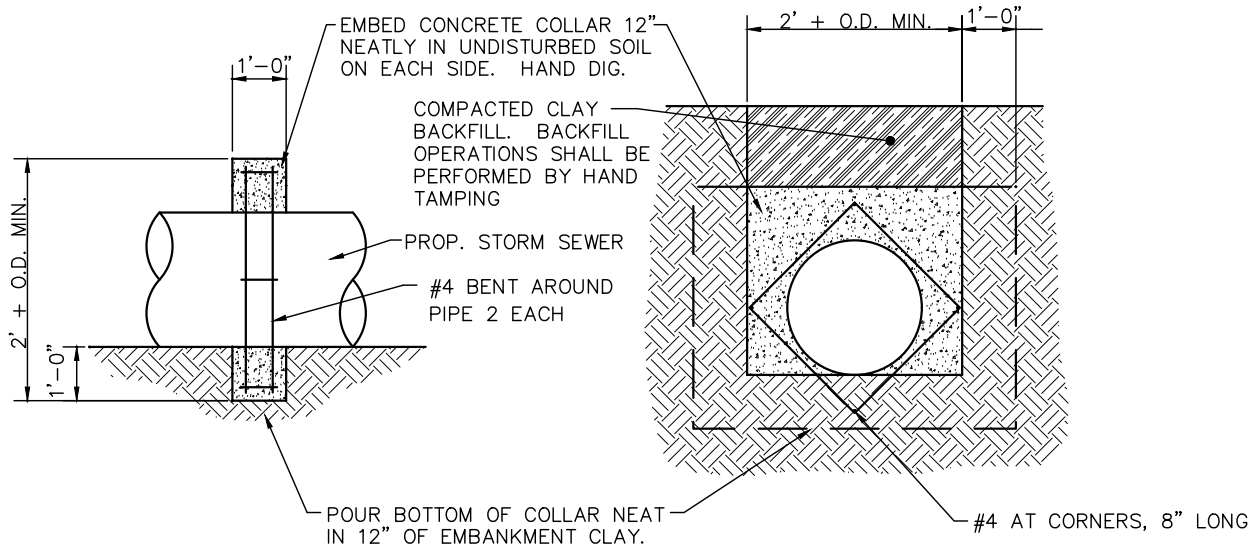


HALF-HEIGHT HEADWALL

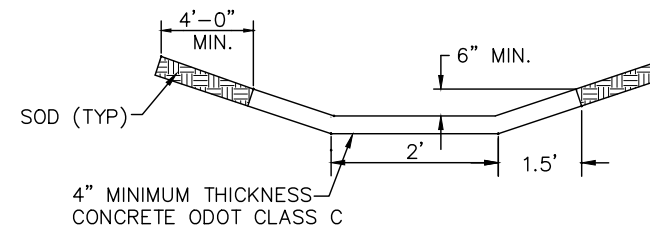
REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
600-7



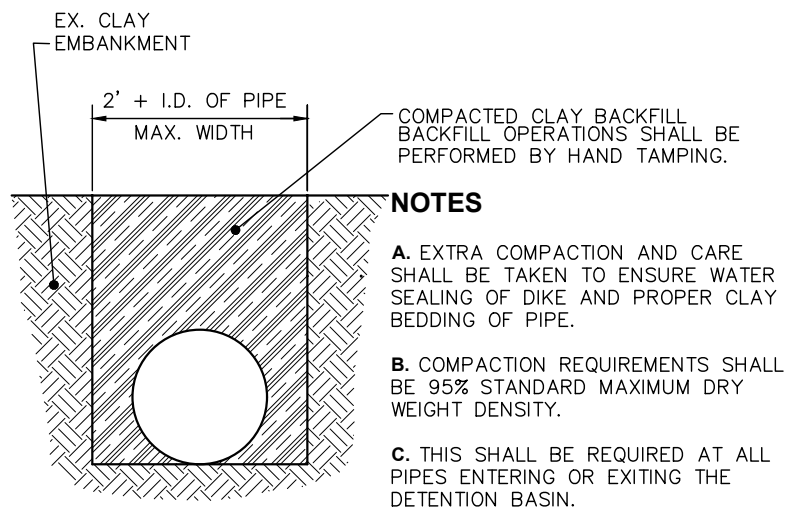
SEEP COLLAR



NOTES

- A.** ANY DETENTION BASINS WITH SLOPES LESS THAN 1% REQUIRE CONCRETE CHANNEL.
- B.** DIFFERENT SHAPE OR SIZE OF CONCRETE CHANNEL MAY BE REQUIRED DEPENDING ON DESIGN.
- C.** ALL WORK SHALL BE DONE IN ACCORDANCE WITH VILLAGE SPECIFICATIONS.
- D.** BOTTOM OF DRAINAGE DITCH SHALL BE FORMED BEFORE PLACING CONCRETE, ALL FORMS SHALL BE SET TO GRADE AND ALIGNMENT.
- E.** TRANSVERSE CONTRACTION JOINTS SHALL BE SPACED AT 10 FOOT INTERVALS. THE GROOVES SHALL BE CUT TO A MINIMUM DEPTH OF 1 INCH.

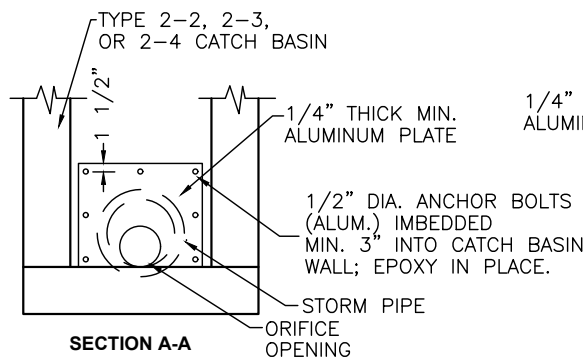
PAVED CONCRETE CHANNEL DETAIL



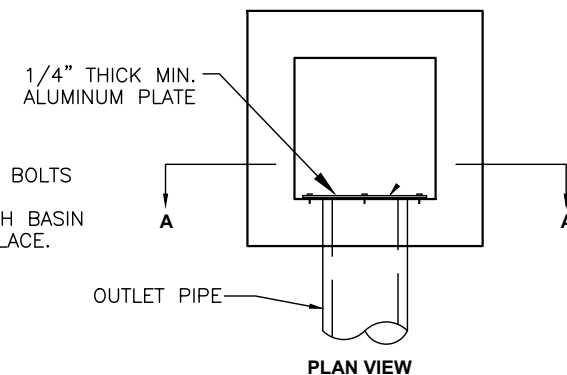
NOTES

- A.** EXTRA COMPACTION AND CARE SHALL BE TAKEN TO ENSURE WATER SEALING OF DIKE AND PROPER CLAY BEDDING OF PIPE.
- B.** COMPACTION REQUIREMENTS SHALL BE 95% STANDARD MAXIMUM DRY WEIGHT DENSITY.
- C.** THIS SHALL BE REQUIRED AT ALL PIPES ENTERING OR EXITING THE DETENTION BASIN.
- D.** PAYMENT FOR THESE ITEMS SHALL BE INCIDENTAL TO ITEM 603.

CLAY TRENCH DETAIL THROUGH DETENTION BASIN



SECTION A-A



TENTION OUTLET ORIFICE

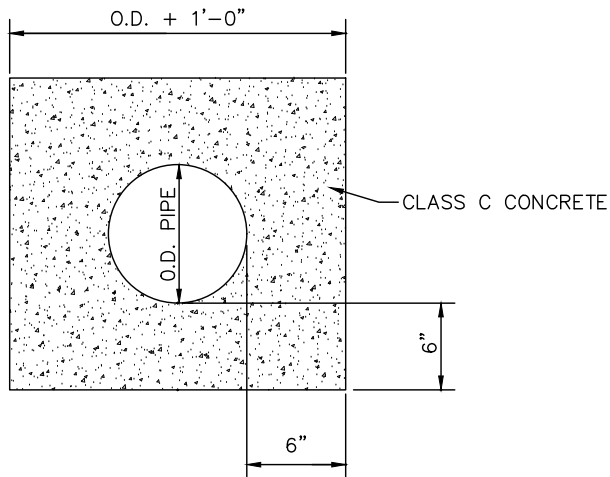
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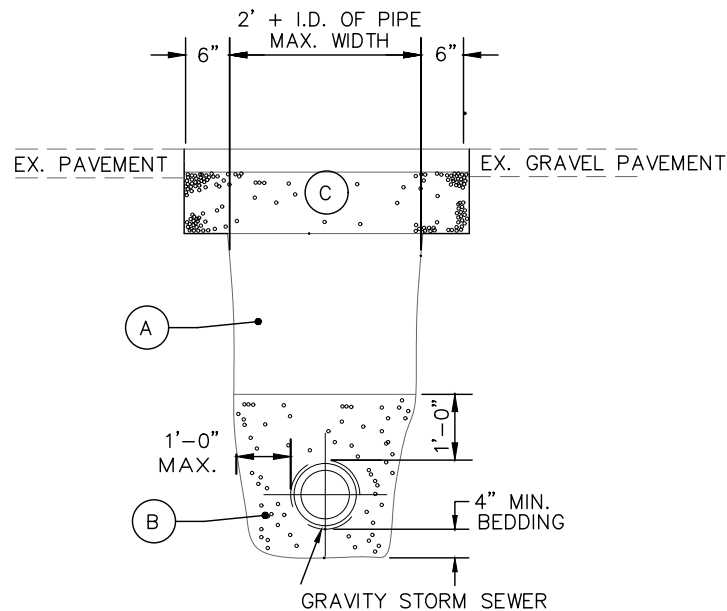
DETENTION BASIN DETAILS

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
600-8



CONCRETE ENCASEMENT DETAIL



STORM SEWER TRENCH DETAIL

TRENCH DETAIL NOTES

A. ALL TRENCH EDGES NOT UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREA OR WALKS CAN BE COMPACTED EXISTING NATIVE MATERIAL IN 12" MAXIMUM LIFTS OR AS APPROVED BY THE VILLAGE. NO MATERIAL SHALL BE USED FOR BACKFILLING THAT CONTAINS STONE, ROCKS, ETC., GREATER THAN 4" DIAMETER.

ALL TRENCH EDGES UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREA OR WALKS SHALL EITHER BE GRANULAR BACKFILL MATERIAL ODOT 603 TYPE 1 OR TYPE 2, IN 6" MAXIMUM LIFTS OR LOW STRENGTHEN MORTAR BACKFILL ODOT ITEM 613 TYPE 1 ONLY. A DENSITY TEST ON GRANULAR BACKFILL OF 98% OF ASTM D698 STANDARD PROCTOR CURVE SHALL BE PERFORMED BY A COMMERCIAL TESTING LAB SATISFACTORY TO THE VILLAGE.

B. GRANULAR BEDDING SHALL BE CRUSHED STONE OR GRAVEL, ODOT 603 TYPE 3 (#57 OR #67), OR OTHER APPROVED EQUIVALENT

C. OFF-PAVEMENT AREAS SHALL BE PROVIDED WITH A MINIMUM OF 12" OF TOPSOIL OVER THE COMPACTED MATERIAL AND THEN SEEDED AND MULCHED PER ODOT ITEM 659.

IN-PAVEMENT AREAS SHALL CONSIST OF THE FOLLOWING:

MINIMUM GRAVEL PAVEMENT REPLACEMENT

2" OF ODOT #67 ON

12" OF ODOT ITEM 304, IN LIFTS OF 3" MAXIMUM

MINIMUM ASPHALT PAVEMENT REPLACEMENT

1-1/4" OF ODOT ITEM 404 ON

1-3/4" OF ODOT ITEM 402 ON

7" OF ODOT ITEM 301, IN LIFTS OF 3-1/2" MAXIMUM ON

8" OF ODOT ITEM 304 IN LIFTS OF 3" MAXIMUM

WHERE THE EXISTING PAVEMENT IS THICKER, THE CONTRACTOR SHALL INCREASE THE COURSE THICKNESS TO MATCH EXISTING.

D. THE OPEN ENDS OF ALL PIPES SHALL BE PLUGGED TO THE APPROVAL OF THE VILLAGE BEFORE LEAVING THE WORK FOR THE NIGHT.

VILLAGE OF
GLANDORF



STORM SEWER TRECH DETAILS

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
600-9

NOTES

A. ALL STORM SEWER CONSTRUCTION SHALL ADHERE TO ODOT SPECIFICATIONS LATEST REVISION OR WITH THE VILLAGE STORM SEWER SPECIFICATIONS, WHICHEVER IS APPLICABLE AND MORE RESTRICTIVE.

B. HUCKY PUCK IS REQUIRED ON ALL NON O-RING STORM SEWER AND MANHOLES, UNLESS OTHERWISE APPROVED.

C. WHEN A CASTING IS ABANDONED IT REMAINS VILLAGE PROPERTY.

D. ANY DETAILS OR NOTES NOT DIRECTLY ADDRESSED IN THESE ENGINEERING STANDARDS WILL BE REFERRED TO ODOT STANDARD DRAWINGS AND SPECIFICATIONS.

E. ALL STORM SEWER SHALL BE INSTALLED USING A LASER FOR GRADE AND ALIGNMENT.

UTILITY STAKING

A. OFFSET AND GRADE AT EACH MANHOLE, CATCH BASIN, AND OTHER STRUCTURES. OFFSET AND GRADE 50' AND 100' OUT FROM EACH MANHOLE UNLESS OTHERWISE APPROVED.

PIPE

A. ALL STORM SEWER PIPE SHALL HAVE A MINIMUM DIAMETER OF 12", UNLESS OTHERWISE APPROVED.

B. TYPES OF PIPE PERMITTED

<u>UP TO 30" DIAMETER</u>	<u>ODOT MATERIALS NUMBER</u>
---------------------------	------------------------------

REINFORCED CONCRETE PIPE	706.02
REINFORCED CONCRETE ELLIPTICAL PIPE	706.04
CORRUGATED POLYETHYLENE SMOOTH-LINED PIPE	707.33
POLYVINYL CHLORIDE PLASTIC PIPE (NON-PERFORATED)	707.41
POLYVINYL CHLORIDE CORRUGATED SMOOTH-INTERIOR PIPE	707.42
POLYVINYL CHLORIDE PROFILE WALL PIPE	707.43
POLYVINYL CHLORIDE SOLID WALL PIPE	707.45

<u>OVER TO 30" DIAMETER</u>	<u>ODOT MATERIALS NUMBER</u>
-----------------------------	------------------------------

REINFORCED CONCRETE PIPE	706.02
REINFORCED CONCRETE ELLIPTICAL PIPE	706.04

EXISTING TILE HOOKUPS

A. THE DRAINAGE TILE CURRENTLY CONNECTED TO THE EXISTING STORM SEWER SHALL BE CONNECTED TO THE PROPOSED STORM SEWER. ANY DRAINAGE TILE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR TO A CONDITION EQUAL TO OR BETTER THAN ITS ORIGINAL CONDITION. ALL THE REMOVED, REPLACED, AND/OR CONNECTED TO THE STORM SEWER SHALL BE NOTED ON THE AS-BUILT DRAWINGS AND SHALL BE INSPECTED BY THE INSPECTOR BEFORE THEY ARE COVERED.

B. ALL FIELD OR STORM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS OR PLUGGED AS APPROVED AND DIRECTED BY THE VILLAGE.

NEW CONSTRUCTION

A. ALL NEW CONSTRUCTION IS REQUIRED TO CONNECT TO THE STORM SEWER. ALL STORM WATER GENERATED WITHIN A LOT MUST BE DISPOSED OF WITHIN SAID LOT SO THIS WATER DOES NOT BECOME A NUISANCE FOR ADJACENT PROPERTIES.

VILLAGE OF
GLANDORF



MISCELLANEOUS STORM NOTES

REVISIONS:	DATE
	APPROVED:
	08-01-2006
	PAGE No.
	600-10

NOTES

A. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROVIDED FOR ALL CONSTRUCTION PROJECTS HAVING SIGNIFICANT GRADING. THE CONTROLS ARE PROVIDED DURING CONSTRUCTION TO PREVENT SOIL ERODED FROM THE CONSTRUCTION AREA FROM ENTERING ADJACENT WATERWAYS AND PROPERTIES.

B. CONSTRUCTION ITEMS INCLUDE SEDIMENT BASINS, SEDIMENT DAMS, DIVERSION DIKES AND/OR DITCHES AND FILTER SILT FENCE BARRIER DIKES SHOWN ON ODOT STANDARD DRAWING DM-4.2, 4.3, 4.4, AND 5.1. OTHER MISCELLANEOUS EROSION CONTROL MEASURES INCLUDE REPAIR SEEDING AND MULCHING, COMMERCIAL FERTILIZER, WATER AND MOWING AND ROCK CHANNEL PROTECTION, COVERED IN ODOT SPECIFICATION ITEMS 659 AND 601.

C. THE SIZE OF THE ENTIRE DRAINAGE AREA CONTRIBUTING FLOW IS USED TO DETERMINE THE MOST EFFECTIVE EROSION CONTROL METHOD. IN MANY CASES, THE MAJOR PORTION OF THE CONTRIBUTING AREA WILL BE BEYOND THE PROJECT LIMITS, AND FOR THOSE CASES IT WILL BE NECESSARY TO CONTROL THE FLOW FROM OUTSIDE BEFORE IT REACHES THE AREA DISTURBED BY PROJECT CONSTRUCTION. FLOW FROM THE AREA DISTURBED BY CONSTRUCTION SHALL BE TREATED PRIOR TO COMBINING IT WITH OFF-PAVEMENT DRAINAGE.

D. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROVIDED FOR ALL SUBDIVISIONS AND INDIVIDUAL SITES UNLESS OTHERWISE APPROVED. THE CONTROL MEASURES ARE TO BE PROVIDED DURING CONSTRUCTION TO PREVENT EROSION FROM ENTERING ADJACENT WATERWAYS AND PROPERTIES.

E. THERE SHALL BE ONLY ONE CONSTRUCTION ENTRANCE OFF THE SITE, ENTRANCE TO BE CONSTRUCTED OF 8" OF #2 STONE, 75' LONG BY 20' WIDE. CONTRACTOR TO KEEP MUD OFF EXISTING STREETS, NO EQUIPMENT TO BE PARKED ON EXISTING STREETS. MORE THAN ONE ENTRANCE MUST BE APPROVED BY THE VILLAGE.

CONSTRUCTION

A. ALL EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSPECTED AND APPROVED BY THE VILLAGE UNLESS OTHERWISE APPROVED.

STORM WATER PERMITS

A. ON ALL PROJECTS WHICH DISTURB AT LEAST 1 ACRE OF SOIL, A NPDES PERMIT IS REQUIRED FROM OEPA AND A COPY OF THE PERMIT MUST BE ON FILE AT THE VILLAGE BEFORE CONSTRUCTION BEGINS.

B. EROSION CONTROL SUBMITTALS SHALL BE AS PER THE CURRENT STORM WATER MANAGEMENT ORDINANCE.

CONTROL MEASURES

A. DISTURB ONLY THE AREAS NEEDED FOR CONSTRUCTION.

B. REMOVE ONLY THOSE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED FOR CONSTRUCTION; PROTECT THE REST TO PRESERVE THEIR ESTHETIC AND EROSION-CONTROL VALUES.

C. INSTALL SEDIMENT BASINS AND DIVERSION DIKES BEFORE DISTURBING THE LAND THAT DRAINS INTO THEM.

D. INSTALL EROSION AND SEDIMENT CONTROL PRACTICES AS INDICATED IN THE PLAN. THE PRACTICES ARE TO BE MAINTAINED IN EFFECTIVE WORKING CONDITION DURING CONSTRUCTION AND UNTIL THE DRAINAGE AREAS HAVE BEEN PERMANENTLY STABILIZED.

E. TEMPORARILY STABILIZE EACH SEGMENT, GRADED OR OTHERWISE DISTURBED LAND, INCLUDING THE SEDIMENT-CONTROL DEVICES NOT OTHERWISE STABILIZED, BY SEEDING AND MULCHING OR BY MULCHING ALONE. AS CONSTRUCTION IS COMPLETED, PERMANENTLY STABILIZE EACH SEGMENT WITH PERENNIAL VEGETATION AND STRUCTURAL MEASURES.

F. LEVEL DIVERSION DIKES, SEDIMENT BASINS, AND SILT TRAPS AFTER AREAS THAT DRAIN INTO THEM ARE STABILIZED. ESTABLISH PERMANENT VEGETATION ON THESE AREAS. SEDIMENT BASINS THAT ARE TO BE RETAINED FOR STORM WATER DETENTION MAY BE SEEDED TO PERMANENT VEGETATION AFTER THEY ARE BUILT.

G. DISCHARGE WATER FROM OUTLET STRUCTURES AT NON-EROSIVE VELOCITIES.

VILLAGE OF
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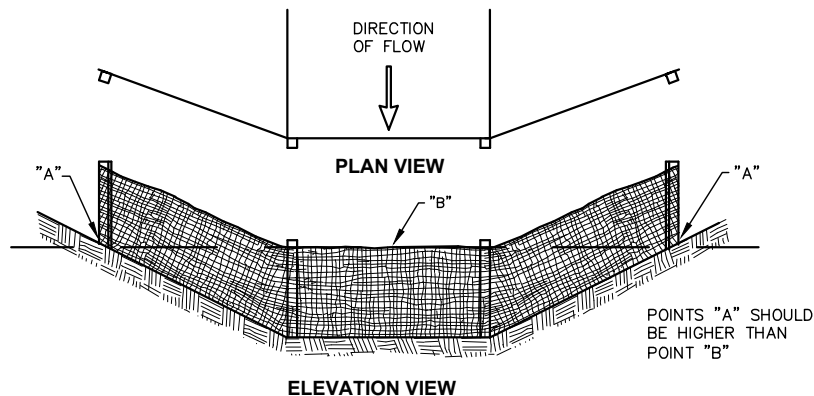


EROSION CONTROL NOTES

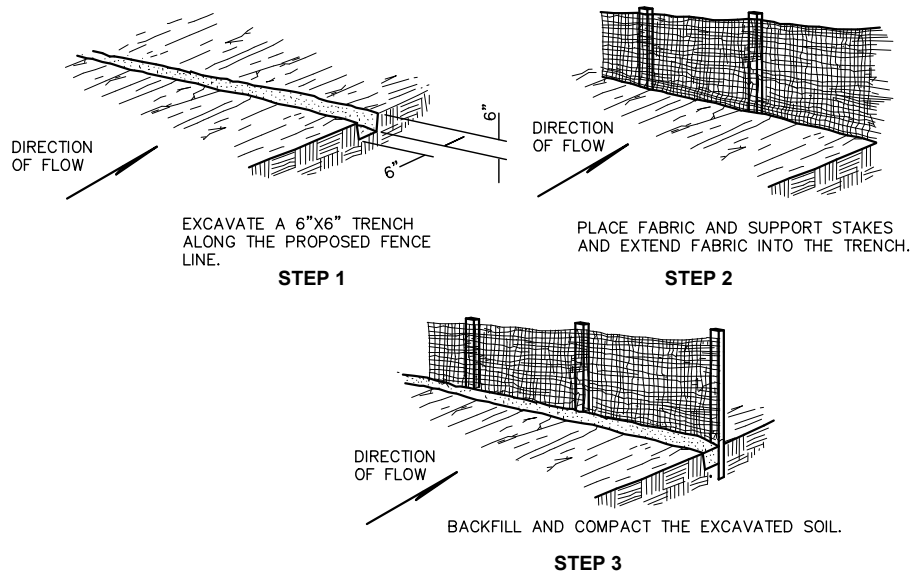
REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
600-11



PLACEMENT AND CONSTRUCTION OF DITCH CHECK FILTER FABRIC FENCE



PLACEMENT AND CONSTRUCTION OF PERIMETER FILTER FABRIC FENCE CONSTRUCTION OF A FILTER BARRIER (SILT FENCE)

- A.** SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- B.** ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
- C.** TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
- D.** WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
- E.** WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5' (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
- F.** THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16" ABOVE THE ORIGINAL GROUND SURFACE.
- G.** THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6" DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
- H.** THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8" OF CLOTH IS BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6" DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
- I.** SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
- J.** MAINTENANCE – SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. ALL THE GAPS AND TEARS IN THE FENCE MUST BE ELIMINATED AND REPAIRED. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIAL

- A.** FENCE POSTS – THE LENGTH SHALL BE A MINIMUM OF 32" LONG. WOOD POSTS WILL BE 2"–BY–2" HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10'.
- B.** SILT FENCE FABRIC SHALL BE ODOT TYPE C GEOTEXTILE FABRIC OR AS DESCRIBED BY THE CHART BELOW:

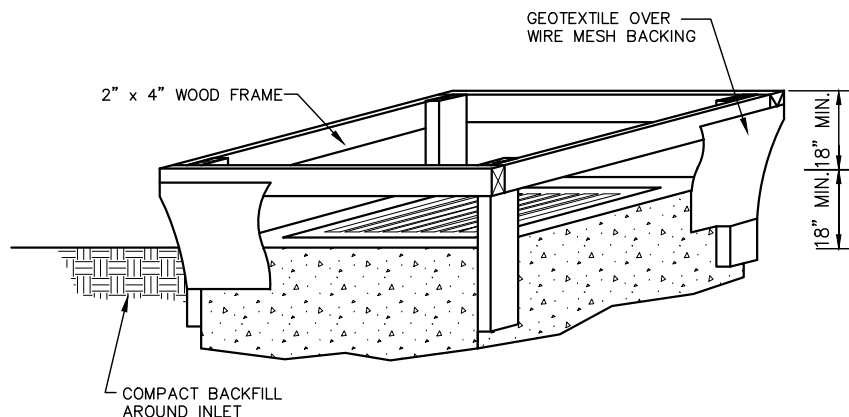
FABRIC PROPERTIES	
MINIMUM TENSILE STRENGTH	120 LBS.
MAXIMUM ELONGATION AT 60 LBS	50%
MINIMUM PUNCTURE STRENGTH	50 LBS.
MINIMUM TEAR STRENGTH	40 LBS.
MINIMUM BURST STRENGTH	200 PSI
APPARENT OPENING SIZE	≤ 0.84mm
MINIMUM PERMITTIVITY	1X10 ⁻² sec. ⁻¹
ULTRAVIOLET EXPOSURE STRENGTH RETENTION	70%

VILLAGE OF
GLANDORF



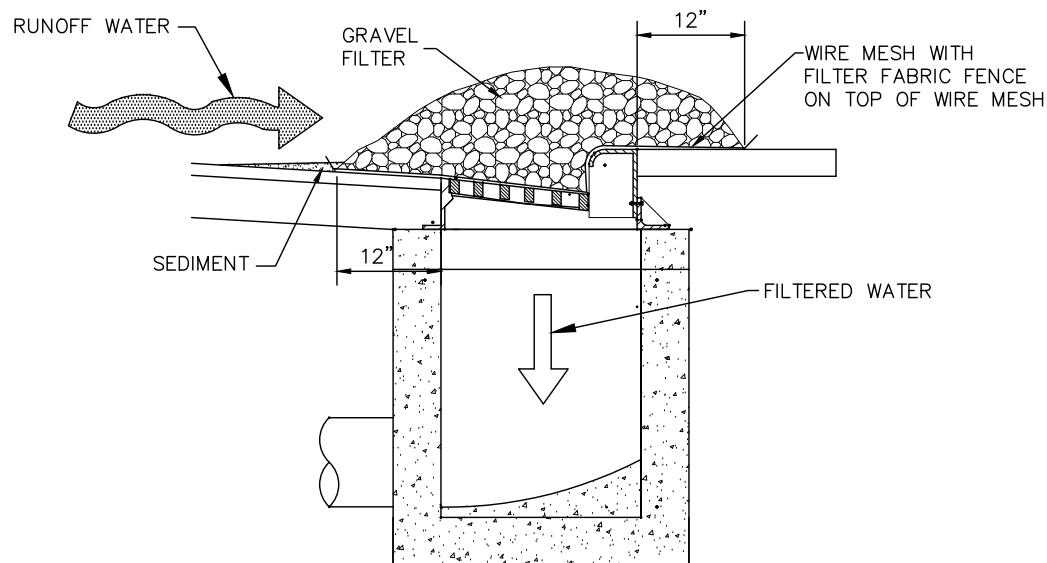
TEMPORARY EROSION CONTROL

REVISIONS: DATE
APPROVED:
08-01-2006
PAGE No.
600-12



INLET PROTECTION IN SWALES, DITCH LINES OR YARD INLETS

- A.** INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
- B.** THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH A LEAST 18".
- C.** THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2" BY 4" CONSTRUCTION GRADE LUMBER. THE 2" BY 4" POST SHALL BE DRIVEN 1' INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2" BY 4" FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6" BELOW ADJACENT ROAD, IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
- D.** WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
- E.** GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18" BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAY ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
- F.** BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6" LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
- G.** A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION, AND IF RUNOFF BY PASSING THE INLET WILL NOT FLOW TO A SETTING POND, THE TOP OF EARTH DIKES SHALL BE AT LEAST 6" HIGHER THAN THE TOP OF THE FRAME.



GRAVEL CURB INLET SEDIMENT FILTER (AS REQUIRED BY THE VILLAGE)

GRAVEL CURB INLET SEDIMENT FILTER NOTES

- A.** HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE PLACED OVER THE CURB INLET OPENING SO THAT AT LEAST 12 INCHES OF WIRE EXTENDS ACROSS THE INLET COVER AND AT LEAST 12 INCHES OF WIRE EXTENDS ACROSS THE CONCRETE GUTTER FROM THE INLET OPENING, AS ILLUSTRATED.
- B.** STONE SHALL BE PILED AGAINST THE WIRE SO AS TO ANCHOR IT AGAINST THE GUTTER AND INLET COVER AND TO COVER THE INLET OPENING COMPLETELY. ODOT NO. 1 COARSE AGGREGATE SHALL BE USED.
- C.** IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE CATCH BASIN, CLEANED AND REPLACED.

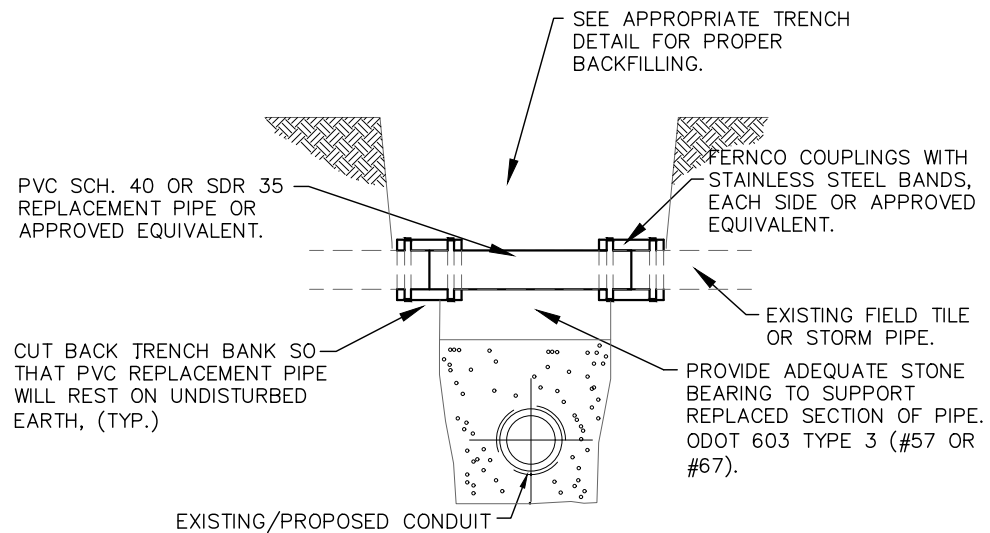
VILLAGE OF
GLANDORF



TEMPORARY EROSION CONTROL

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
600-13



REPAIR OF EXISTING FIELD TILE OR STORM PIPE DETAIL

NOTES

CONCRETE REPAIRS OR PATCHES ARE UNACCEPTABLE.

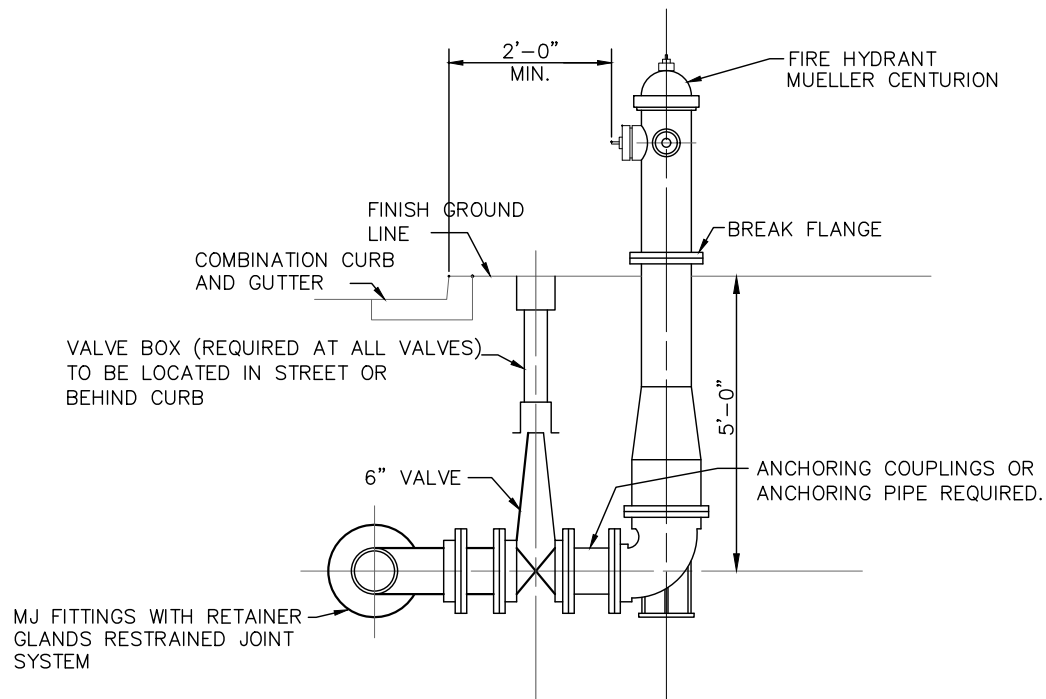
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REPAIR OF EXISTING FIELD TILE OR STORM PIPE DETAIL

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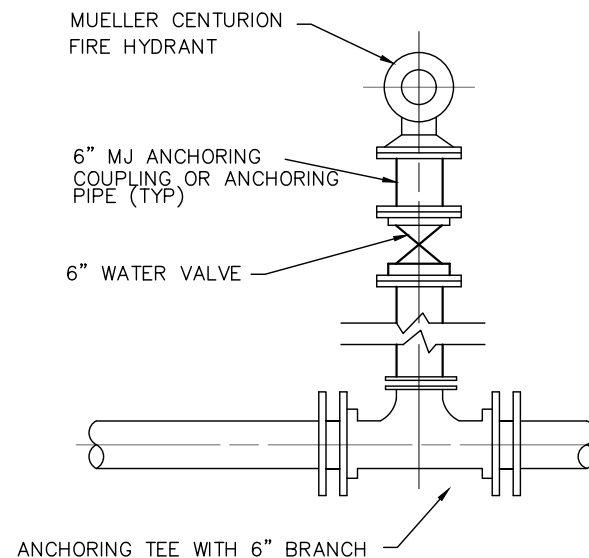
DATE
APPROVED:
08-01-2006
PAGE No.
600-14



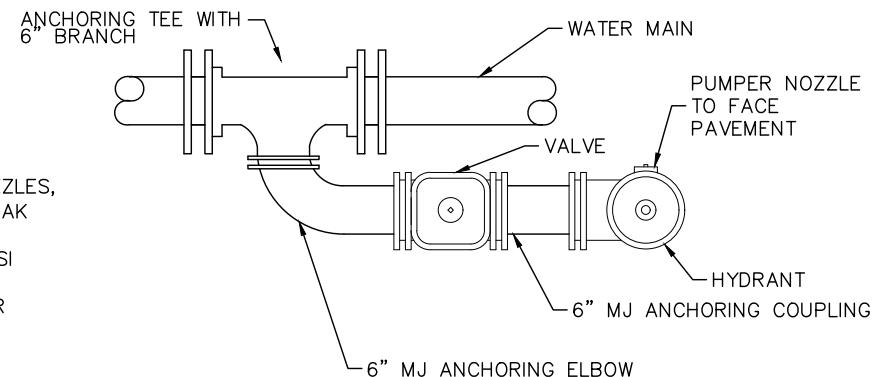
SECTION VIEW

NOTES

- A. FIRE HYDRANTS SHALL BE MUELLER CENTURION, A-423, MECHANICAL JOINT, WITH (2) 1 1/2" HOSE NOZZLES, (1) 4 1/2" PUMPER NOZZLE, NATIONAL STANDARDS THREADS CONFORMING TO AWWA CCW TO OPEN, BREAK FLANGES 3" ABOVE GRADE.
- B. GATE VALVES SHALL BE AWWA C-509, RESILIENT WEDGE, NONRISING STEM, MECHANICAL JOINT, 150 PSI WORKING PRESSURE, CCW TO OPEN WITH ARROW INDICATING OPEN DIRECTION, MUELLER OR EQUIVALENT.
- C. VALVE BOXES SHALL BE 3-PIECE CAST IRON 6" DIAMETER NOMINAL, ADJUSTABLE SCREW TYPE, COVER MARKED "WATER", DOMESTIC MADE ONLY.
- D. ALL FITTINGS TO BE RESTRAINED.
- E. ALL FITTINGS TO BE AWWA C-153 DUCTILE IRON, COMPACT.
- F. ALL VALVES AND HYDRANTS SHALL OPEN LEFT BY TURNING IN A COUNTERCLOCKWISE DIRECTION.
- G. CONTRACTOR TO FACE HYDRANT.
- H. WATER MATERIAL SHALL BE PVC-150, DR-18, AWWA C-900 WITH RESTRAINED FITTINGS.
- I. THE LAYING OF PIPE ON EXISTING DIRT WITH THE BELLS CUT OUT, SHALL NOT BE PERMITTED.
- J. THE OPEN ENDS OF ALL PIPES AND SPECIAL CASTINGS SHALL BE PLUGGED OR OTHERWISE CLOSED WITH A WATERTIGHT PLUG TO THE APPROVAL OF THE VILLAGE BEFORE LEAVING THE WORK FOR THE NIGHT.
- K. ALL DUCTILE FITTINGS, PIPE AND BARREL OF HYDRANT TO BE WRAPPED WITH POLYWRAP.



BASIC TEE DETAIL PLAN



**SPECIAL MECHANICAL JOINT
HYDRANT TEE DETAIL PLAN**

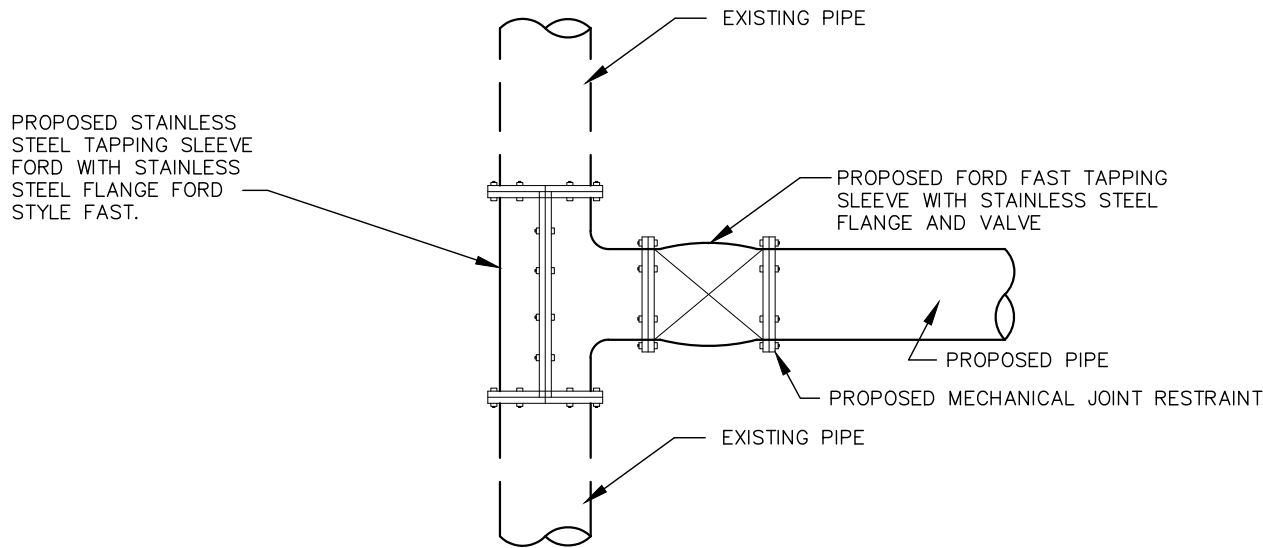
VILLAGE OF
GLANDORF



FIRE HYDRANT

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
800-1



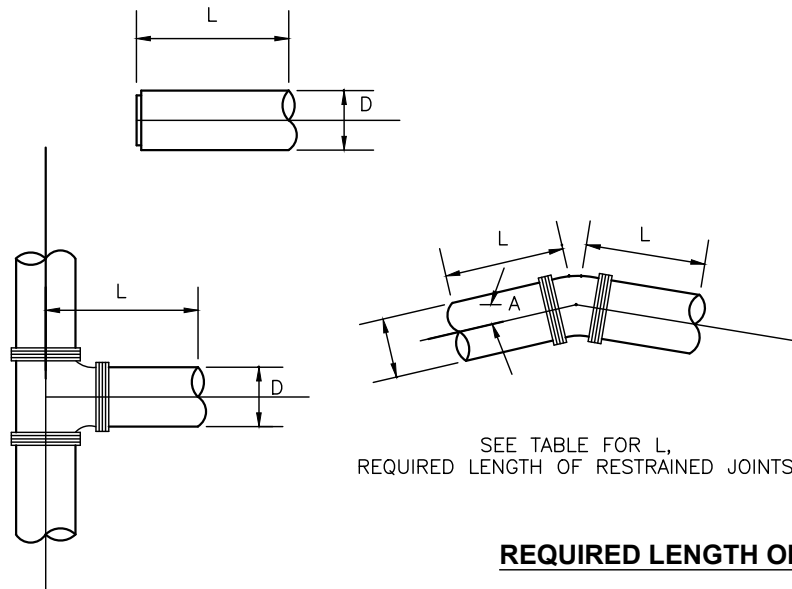
TAPPING SLEEVE AND VALVE DETAIL

NOTES

A. BELL JOINT RESTRAINTS – FOR PVC, USE EBAA IRON SERIES 1500 OR FORD 1360. FOR DIP, USE EBAA 1100HD OR FORD/UNIFLANGE 1390.

B. MECHANICAL JOINT RESTRAINTS – EBAA IRON OR FORD RETAINER GLAND.

C. CONTRACTOR TO USE RESTRAINED JOINTS UNLESS THRUST BLOCKING IS PREAPPROVED FOR SPECIAL CONDITIONS BY THE VILLAGE PRIOR TO THE BEGINNING OF CONSTRUCTION.



SEE TABLE FOR L,
REQUIRED LENGTH OF RESTRAINED JOINTS

		D-DIAMETER OF PIPE							
		4"	6"	8"	10"	12"	16"	20"	24"
A ~ DEGREE OF DEFLECTION	11 1/4°	*	*	*	*	*	5	5	6
	22 1/2°	*	2	3	5	6	8	10	12
	45°	4	8	12	14	20	30	36	45
	90°	12	26	38	48	66	98	125	145
	TEE	12	26	38	48	66	98	125	145
	END	12	26	38	48	66	98	125	145

*REQUIRED RESTRAINED JOINT AT FITTING AND ONE BELL JOINT FROM FITTING MINIMUM.

DESIGN PARAMETERS

LAYING CONDITIONS – TYPE 5
SOIL DESIGNATION – SILT
DEPTH OF COVER – 4'
DESIGN PRESSURE – 80 PSI
SAFETY FACTOR – 1.50
POLYWRAPPED PIPE
IF WORST CONDITIONS EXIST,
ADDITIONAL RESTRAINTS WILL BE
NECESSARY.

REQUIRED LENGTH OF RESTRAINED JOINTS FOR WATER MAINS

VILLAGE OF
GLANDORF

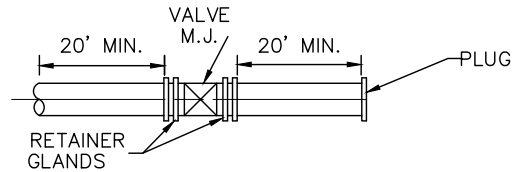
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**RESTRAINING JOINTS AND TAPPING SLEEVE FOR
WATER MAINS**

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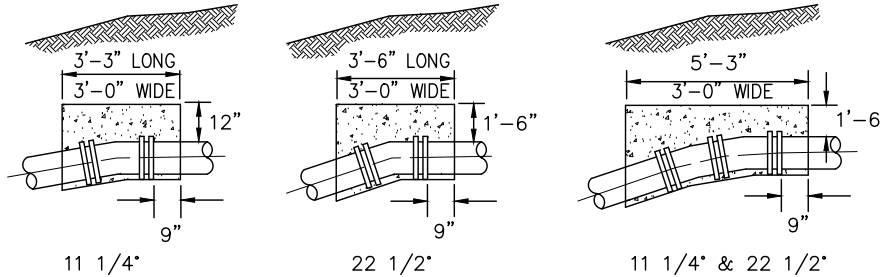
DATE
APPROVED:
08-01-2006

PAGE No.
800-2



DETAIL - END OF WATER LINE

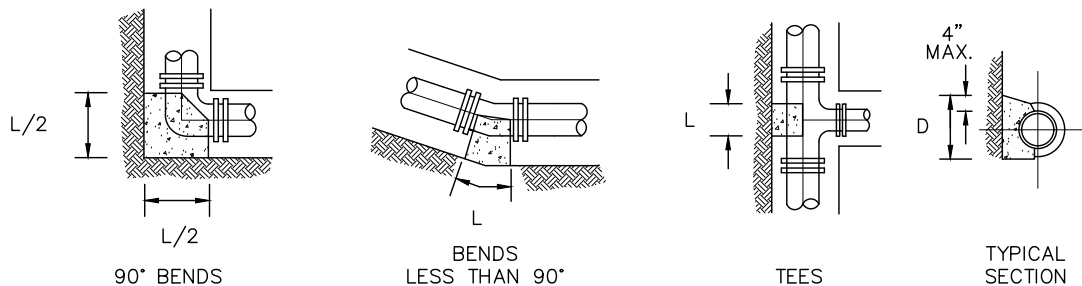
THRUST BLOCKING AREA (LxD) REQUIRED					
SIZE OF PIPE	11 1/4"	22 1/2"	45"	90"	TEE OR PLUG
4"	1	1	1	1.3	1
6"	1	1	1.6	3	2.1
8"	1	1.5	2.9	5	4
10"	1.2	2.3	5	8	6
12"	1.7	3	7	12	9
16"	3	6	12	21	15



CONCRETE BLOCKING FOR VERTICAL BENDS
ONLY WITH PRIOR APPROVAL FROM VILLAGE

BENDS								
SIZE OF OPENING	DEGREE OF BEND							
	11 1/4"		22 1/2"		45"		90"	
	L	D	L	D	L	D	L	D
3", 4", 6"	8"	6"	10"	6"	20"	6"	36"	6"
8"	9"	8"	14"	8"	24"	9"	50"	8"
12"	14"	12"	22"	12"	30"	16"	60"	15"
16"	18"	16"	24"	18"	33"	36"	70"	22"

TEES								
RUN	BRANCH							
	3", 4", 6"		22 1/2"		45"		90"	
	L	D	L	D	L	D	L	D
3", 4", 6"	16"	6"						
8"	14"	8"	18"	12"				
12"	9"	12"	18"	12"	24"	18"		
16"	8"	16"	14"	16"	28"	16"	30"	26"



CONCRETE BLOCKING FOR HORIZONTAL BENDS
ONLY WITH PRIOR APPROVAL FROM VILLAGE

NOTES

A. CARE SHALL BE TAKEN TO KEEP CONCRETE AWAY FROM MECHANICAL JOINTS BY PLACING VISQUEEN OR OTHER APPROVED MATERIAL OVER PIPE BEFORE PLACING OF CONCRETE.

B. CONCRETE FOR BLOCKING VALVES AND FITTINGS SHALL CONFORM TO SECTION ODOT 499 CLASS C.

C. CONTRACTOR SHALL USE THE THRUST BLOCKS AS SHOWN ONLY IF PREAPPROVED FOR SPECIAL CONDITION BY THE VILLAGE PRIOR TO BEGINNING CONSTRUCTION.

VILLAGE OF
GLANDORF



CONCRETE BLOCKING FOR WATER MAINS

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
800-3

MATERIAL SPECIFICATIONS

A. WATER MAIN SHALL BE DR-18 CLASS 150, AWWA C-900.

B. BELL JOINT RESTRAINTS – FOR PVC, USE EBAA IRON SERIES 1500 OR FORD 1360. FOR DIP, USE EBBA 1100HD OR FORD/UNIFLANGE 1390.

C. MECHANICAL JOINT RESTRAINTS – FOR PVC USE FORD/UNIFLANGE 1500 OR EBBA IRON 2000PV. FOR DIP USE FORD/UNIFLANGE UFR 1400 OR EBBA IRON 1100.

D. FIRE HYDRANTS – MUELLER CENTURION, A-423, MECHANICAL JOINT, WITH (2) 2 1/2" HOSE NOZZLES, (1) 4 1/2" PUMPER NOZZLE NATIONAL STANDARDS THREADS CONFORMING TO AWWA, CCW TO OPEN, BREAK FLANGES 3" ABOVE GRADE.

E. GATE VALVES – AWWA C-509, RESILIENT WEDGE, NON-RISING STEM, MECHANICAL JOINT, 150 PSI WORKING PRESSURE, CCW TO OPEN, WITH ARROW INDICATING OPEN DIRECTION.

F. VALVE BOXES – 3-PIECE CAST IRON 6" DIAMETER NOMINAL, ADJUSTABLE SCREW TYPE, COVER MARKED "WATER", DOMESTIC MADE ONLY.

G. SERVICE LINE – CTS PLASTIC WITH FLAIED TYPE FITTINGS.

H. CURB STOP – BRASS CONFORMING TO AWWA C-800.

I. CURB BOXES – WILL BE SUPPLIED BY THE VILLAGE.

J. SERVICE CONNECTIONS WILL NOT BE MADE WITHOUT THE INSTALLATION OF A METER.

K. ALL DUCTILE IRON PIPE, DUCTILE IRON FITTINGS AND BURIED BARREL OF FIRE HYDRANTS SHALL BE WRAPPED WITH 8mil POLYWRAP AS MANUFACTURED BY TRUMBALL INDUSTRIES.

HYDROSTATIC TEST

A. AFTER THE PIPE HAS BEEN LAID AND BACKFILLED, ALL NEWLY LAID PIPE OR VALVED SECTION, SHALL BE SUBJECTED TO HYDROSTATIC PRESSURE AND LEAKAGE TEST. ALL WATER MAINS MUST BE HYDROSTATICALLY TESTED (AWWA C-600). THE TESTS MUST BE PERFORMED IN THE PRESENCE OF A REPRESENTATIVE OF THE VILLAGE OF GLANDORF. THE LEAKAGE TEST PRESSURE SHALL BE NOT LESS THAN 150 PSI. THE DURATION OF THE LEAKAGE TEST SHALL NOT BE LESS THAN 2 HOURS. HYDROSTATIC PRESSURE SHALL BE APPLIED BY MEANS OF A PUMP TAKING WATER FROM AN AUXILIARY SUPPLY. ALL PIPING MUST BE PROPERLY FILLED AND FLUSHED TO DISPEL ALL AIR BEFORE THE TEST IS MADE USING POTABLE WATER.

B. LEAKAGE IS DEFINED AS THE QUANTITY OF WATER TO BE SUPPLIED INTO THE NEWLY LAID PIPE, OR ANY VALVED SECTION THEREOF, NECESSARY TO MAINTAIN THE SPECIFIED LEAKAGE TEST PRESSURE AFTER THE PIPE HAS BEEN FILLED WITH WATER AND THE AIR EXPELLED.

C. NO PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE EXCEEDS THE LEAKAGE DETERMINED BY THE FOLLOWING FORMULA:

$$L = \frac{n}{7400} \frac{D^3}{P} \sqrt{P}$$

WHERE: n = NUMBER OF PIPE JOINTS

D = PIPE DIAMETER

P = TEST PRESSURE

L = ALLOWABLE LEAKAGE PER HOUR

THE FOLLOWING TABLE REPRESENTS THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR.

D. DURING THE HYDROSTATIC TEST, A THOROUGH EXAMINATION OF ALL PIPING, FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE PERFORMED. LEAKING JOINTS SHALL BE TIGHTENED AND CRACKED OR OTHERWISE DEFECTIVE MATERIAL SHALL BE REMOVED AND REPLACED AND THE TEST SHALL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.

AVG. TEST
PRESSURE
(PSI) BAR

ALLOWABLE LEAKAGE PER 1000 FT. (305M) OF PIPELINE (GPH+)

NOMINAL PIPE DIAMETER– INCHES

	3	4	6	8	10	12	14	16	18	20	24	30
450(31)	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82	4.78
400(28)	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60	4.50
350(24)	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81	3.37	4.21
300(21)	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.12	3.90
275(19)	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.99	3.73
250(17)	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85	3.56
225(16)	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.70	3.38
200(14)	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12	2.55	3.19
175(12)	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	1.98	2.38	2.98
150(10)	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21	2.76
120(9)	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01	2.52

DISINFECTION

A. AFTER SATISFACTORY HYDROSTATIC TESTING, THE COMPLETED WATER WORK SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C-651.

B. MAINTAIN PIPES FREE OF DIRT AND FOREIGN MATTER DURING CONSTRUCTION BY DEWATERING TRENCH AND SEALING OPEN PIPE BARRELS. SWAB EACH LENGTH OF PIPE AS IT IS INSTALLED. UPON COMPLETION OF MAIN, ISOLATE MAIN SEGMENTS AND FLUSH PIPE AT 2 FPS VELOCITY.

C. STERILIZE MAIN IN ACCORDANCE WITH AWWA C-651. INJECT 3% TO 5% HYPOCHLORITE SOLUTION TO PROVIDE 50 TO 60 MG PER LITER CONCENTRATION IN MAIN. CHLORINE MAY BE PLACED IN EACH SECTION OF PIPE AT THE TIME OF INSTALLATION. SAMPLE WATER AT EACH HYDRANT OR IF NO HYDRANT IS AVAILABLE, AT A TAP IN THE PROPOSED LINE. ANALYZE SAMPLE USING ORTHOTOLIDINE REAGENT TO VERIFY FREE CHLORINE CONCENTRATION. MAINTAIN CONCENTRATION IN MAIN FOR 24 HOURS. SAMPLE HYDRANTS AT COMPLETION OF STERILIZATION VERIFYING MINIMUM CHLORINE RESIDUAL OF 20 MG PER LITER.

D. FLUSH CHLORINE SOLUTION TO WASTE INTO SANITARY SEWER AT A CONTROLLED RATE, NOT TO EXCEED 25 GPM. IF CHLORINE RESIDUAL DROPS IN 10 MG PER LITER, FLUSH MAIN AT 2 FPS AND REPEAT STERILIZATION PROCEDURE.

E. WATER SAMPLES – PERFORM BACTERIOLOGICAL TEST PER AWWA C-651. SAMPLE MAIN AT HYDRANT OR IF HYDRANT IS NOT AVAILABLE, AT A TAP IN THE PROPOSED LINE. DELIVER SAMPLE TO STATE CERTIFIED LABORATORY. DELIVER COPIES OF LABORATORY REPORT TO THE VILLAGE IN THE EVENT OF DETECTION OF COLIFORM ORGANISM, REPEAT FLUSHINGS, STERILIZATION, AND SAMPLING OF MAINS UNTIL ACCEPTABLE TEST RESULTS ARE ACHIEVED. THIS IS TO BE PERFORMED AND PAID FOR BY THE DEVELOPER PRIOR TO TRANSFER OF SERVICE.

VILLAGE OF
GLANDORF



WATER MAIN MATERIAL AND TESTING

REVISIONS: DATE
APPROVED: 08-01-2006
PAGE No.
800-5

NOTES

A. NO WORK SHALL BE APPROVED OR ACCEPTED BY THE VILLAGE UNLESS 2 WORKING DAYS NOTICE OF COMMENCING WORK IS GIVEN TO THE VILLAGE.

B. ALL TEMPORARY PAVEMENT AND SIDEWALK SHALL BE MAINTAINED BY THE CONTRACTOR OR THE DEVELOPER AT HIS OWN EXPENSE IN A SUITABLE AND SAFE CONDITION FOR TRAFFIC UNTIL PERMANENT REPLACEMENT IS MADE OR THE PROJECT IS FINALLY ACCEPTED BY THE VILLAGE.

C. THE MINIMUM LENGTH OF PIPE NIPPLES SHALL BE 18".

D. ALL CUSTOMERS SHALL MEET BACKFLOW PREVENTION REQUIREMENTS AS PER STATE OF OHIO AND EPA REGULATIONS.

E. ALL WATERLINE CONSTRUCTION SHALL FOLLOW THE VILLAGE STANDARDS, OHIO DEPARTMENT OF TRANSPORTATION ITEM 638, AND AWWA STANDARDS WHICHEVER IS MORE RESTRICTIVE AS DETERMINE BY THE VILLAGE.

PIPE

A. ALL PIPE FITTINGS SHALL BE DUCTILE IRON.

B.	WATER MAIN MINIMUM SIZE UNLESS OTHERWISE APPROVED	
	SINGLE AND TWO FAMILY	MINIMUM 6"
	MULTI-FAMILY	8"
	COMMERCIAL	10"
	INDUSTRIAL	12"
	IF THE WATER MAIN IS NOT LOOPED OR THE WATER MAIN LENGTH IN THE TOTAL DEVELOPMENT IS GREATER THAN 600', THE MINIMUM WATER MAIN SIZE SHALL BE 8".	

C. ALL PIPE 6" THROUGH 12" SHALL BE PVC CLASS 150, DR-18, AWWA C-900.

D. DEADENDS NOT PERMITTED IF AT ALL POSSIBLE.

EXCAVATION AND PIPE LAYING

A. THE OPEN ENDS OF ALL PIPES SHALL BE PLUGGED OR OTHERWISE CLOSED WITH A WATERTIGHT PLUG TO THE APPROVAL OF THE VILLAGE BEFORE LEAVING THE WORK FOR THE NIGHT AND AT OTHER TIMES OF INTERRUPTION OF THE WORK.

FITTINGS, VALVES AND HYDRANTS

A. FITTINGS OR SPECIALS IN SIZES 2" THROUGH 48" SHALL CONFORM TO ALL REQUIREMENTS OF ANSI A-21.10 (AWWA C-153). FITTINGS AND SPECIALS 12" AND SMALLER SHALL BE CLASS 250. LARGER FITTINGS AND SPECIALS SHALL BE CLASS 150. FITTINGS AND SPECIALS SHALL HAVE MECHANICAL JOINTS AND SHALL BE DUCTILE IRON.

B.	MAXIMUM SPACING UNLESS OTHERWISE APPROVED		
		HYDRANTS	VALVES
	SINGLE & TWO FAMILY RESIDENTIAL	500'	500'
	INDUSTRIAL, COMMERCIAL & MULTI-FAMILY	300'	500'

(VILLAGE RESERVES THE RIGHT TO ALTER DISTANCES)

C. ALL TEE'S AND CROSSES SHALL BE VALVED IN EACH DIRECTION UNLESS OTHERWISE APPROVED.

UTILITY STAKING

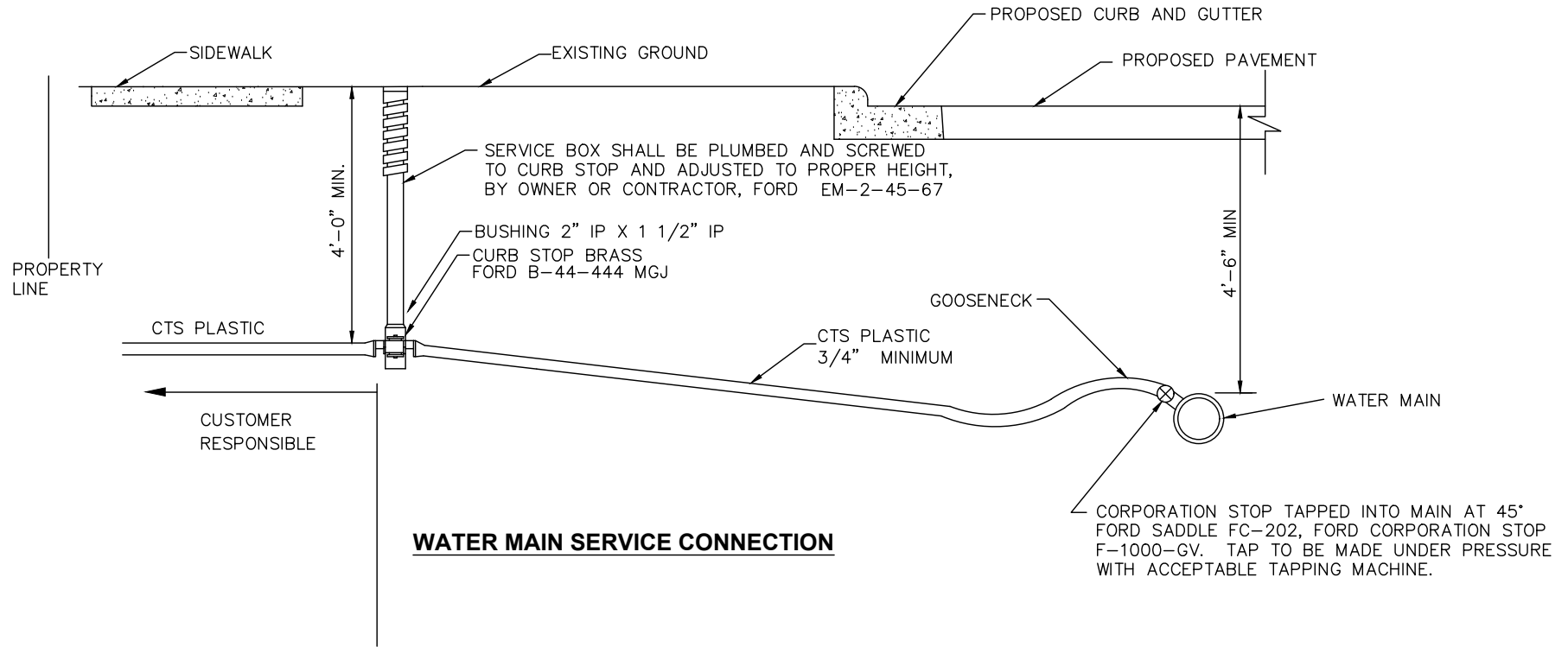
A. OFFSETS EVERY 25' ON CURVES. OFFSETS EVERY 100' ON STRAIGHT SECTIONS. FLOW LINE OF WATER MAIN (CUT) MARKED EVERY 100' AND OFFSETS SHALL BE CLEARLY MARKED.

VILLAGE OF
GLANDORF



MISCELLANEOUS WATER NOTES

REVISIONS:	DATE APPROVED: 08-01-2006
	PAGE No. 800-6



WATER MAIN SERVICE CONNECTION

NOTES

- A.** 1" WATER SERVICE SHALL BE SEAMLESS CTS PLASTIC.
- B.** WATER SERVICE SHALL BE A MINIMUM OF 10' MEASURED HORIZONTALLY FROM THE SEWER SERVICE AND SHALL BE A MINIMUM OF 18" ABOVE THE CROWN OF THE SANITARY SEWER MAIN WHERE THE WATER SERVICE CROSSES THE SEWER MAIN. WATER SERVICE MAY BE LAID ON BENCH IN THE SEWER LATERAL TRENCH IF CROWN IS A LEAST 18" BELOW INVERT OF WATER SERVICE, AND THE MINIMUM DISTANCE BETWEEN THE WATER SERVICE AND THE SEWER LATERAL IS 5'-0".
- C.** METER PIT UNIT FURNISHED BY OWNER IF REQUIRED, ALL METER PITS MUST BE PREAPPROVED BY THE VILLAGE.

VILLAGE OF
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WATER MAIN SERVICE CONNECTIONS

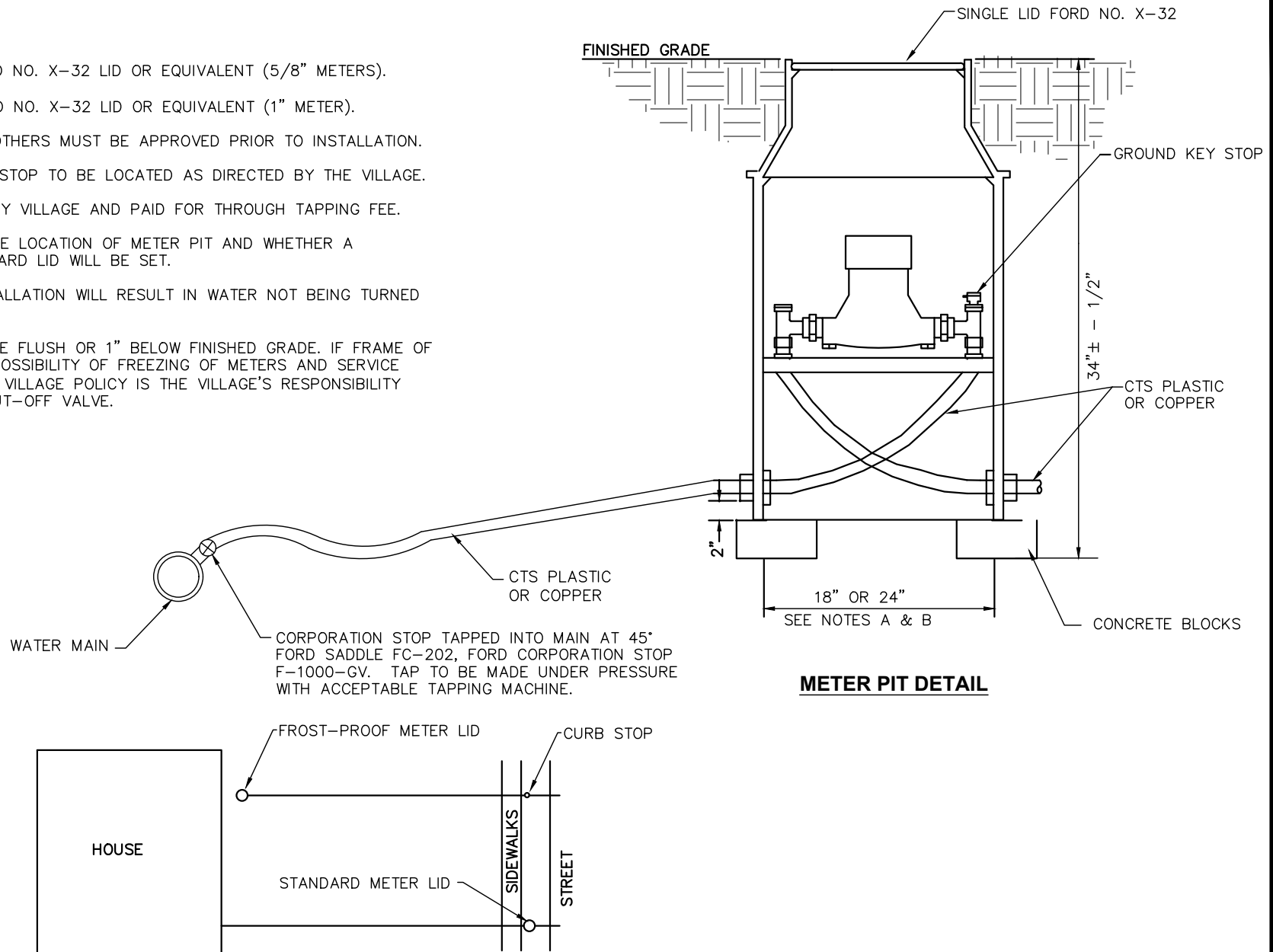
REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
800-7

NOTES

- A. 18" I.D. TILE FOR FORD NO. X-32 LID OR EQUIVALENT (5/8" METERS).
- B. 24" I.D. TILE FOR FORD NO. X-32 LID OR EQUIVALENT (1" METER).
- C. PLASTIC METER TILE, OTHERS MUST BE APPROVED PRIOR TO INSTALLATION.
- D. METER PIT AND CURB STOP TO BE LOCATED AS DIRECTED BY THE VILLAGE.
- E. METER PIT PROVIDED BY VILLAGE AND PAID FOR THROUGH TAPPING FEE.
- F. VILLAGE WILL DETERMINE LOCATION OF METER PIT AND WHETHER A FROST-PROOF OR STANDARD LID WILL BE SET.
- G. UNSATISFACTORY INSTALLATION WILL RESULT IN WATER NOT BEING TURNED ON.
- H. METER PIT LID MUST BE FLUSH OR 1" BELOW FINISHED GRADE. IF FRAME OF METER LID IS SHOWING, POSSIBILITY OF FREEZING OF METERS AND SERVICE LINES IS INCREASED AND VILLAGE POLICY IS THE VILLAGE'S RESPONSIBILITY STOPS AT THE FIRST SHUT-OFF VALVE.



VILLAGE OF
GLANDORF



METER PIT INSTALLATION, STANDARD LID

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
800-8

NOTES

A. 18" I.D. TILE FOR FORD NO. X-32 LID OR EQUIVALENT (5/8" METERS).

B. 24" I.D. TILE FOR FORD NO. X-32 LID OR EQUIVALENT (1" METERS).

C. PLASTIC METER TILE, OTHERS MUST BE APPROVED PRIOR TO INSTALLATION.

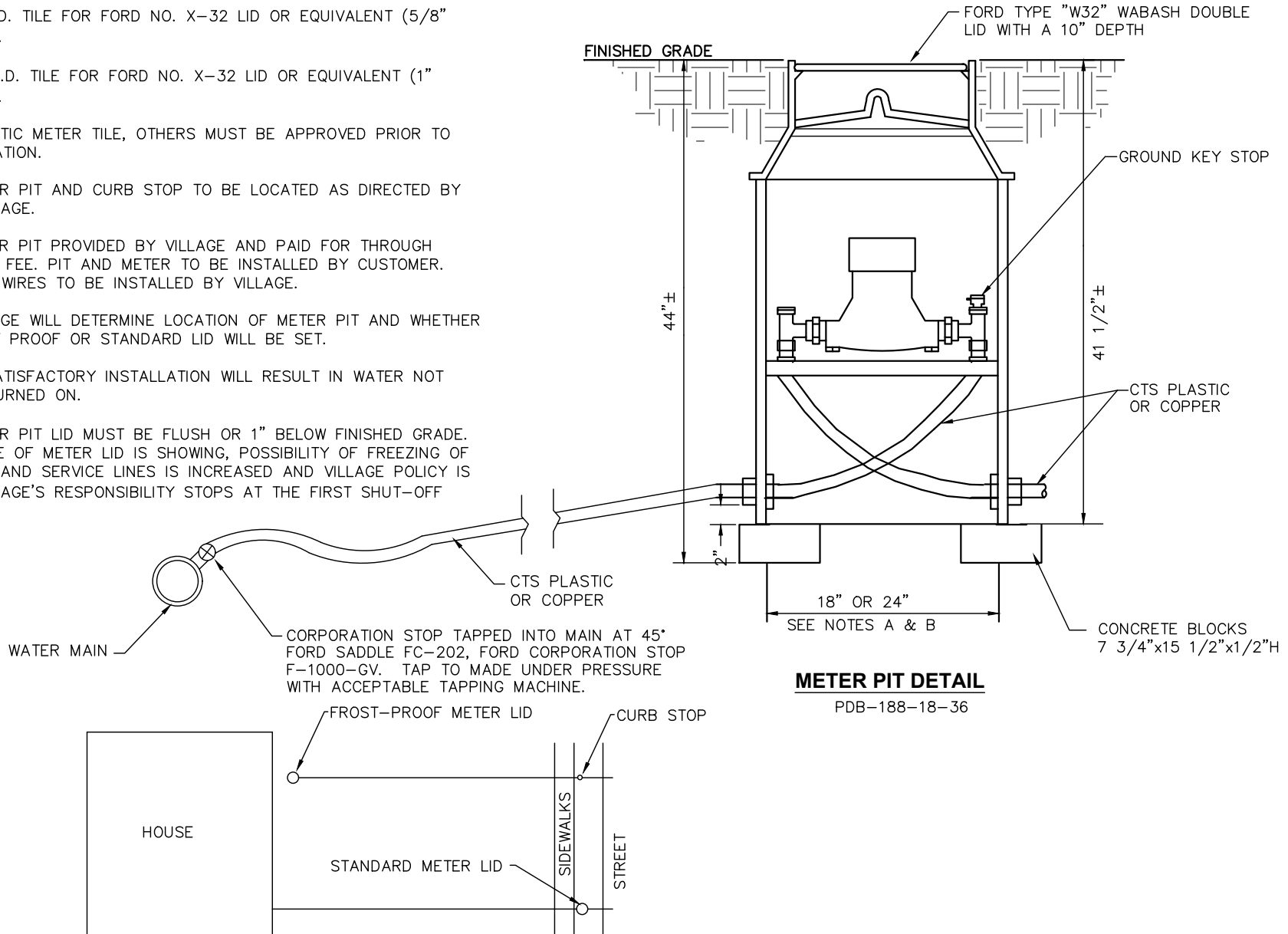
D. METER PIT AND CURB STOP TO BE LOCATED AS DIRECTED BY THE VILLAGE.

E. METER PIT PROVIDED BY VILLAGE AND PAID FOR THROUGH TAPPING FEE. PIT AND METER TO BE INSTALLED BY CUSTOMER. REMOTE WIRES TO BE INSTALLED BY VILLAGE.

F. VILLAGE WILL DETERMINE LOCATION OF METER PIT AND WHETHER A FROST PROOF OR STANDARD LID WILL BE SET.

G. UNSATISFACTORY INSTALLATION WILL RESULT IN WATER NOT BEING TURNED ON.

H. METER PIT LID MUST BE FLUSH OR 1" BELOW FINISHED GRADE. IF FRAME OF METER LID IS SHOWING, POSSIBILITY OF FREEZING OF METERS AND SERVICE LINES IS INCREASED AND VILLAGE POLICY IS THE VILLAGE'S RESPONSIBILITY STOPS AT THE FIRST SHUT-OFF VALVE.



METER PIT DETAIL

PDB-188-18-36

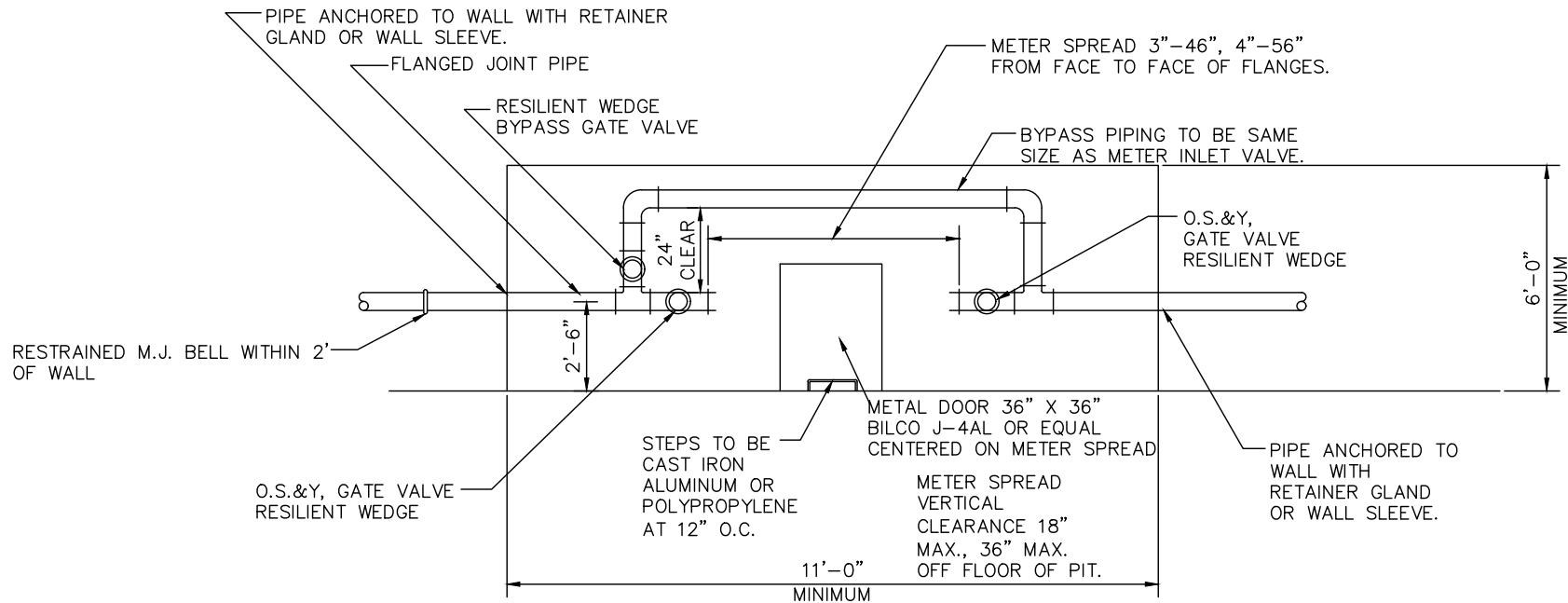
VILLAGE OF
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METER PIT INSTALLATION, FROST PROOF LID

REVISIONS:

DATE
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08-01-2006
PAGE No.
800-9



NOTES:

- A. DIMENSIONS SHOWN ARE INSIDE MEASUREMENTS OF PIT.
- B. ALL PIPE SHALL BE CL53 DUCTILE WITH FLANGED ENDS.
(COPPER & BRASS MAY BE ACCEPTABLE. SUBMIT FOR APPROVAL)
- C. ALL VALVES SHALL BE FLANGED END, HANDWHEEL OPERATED, AND OS&Y GATE VALVES, RESILIENT WEDGE.
- D. PIT SHALL HAVE AN INSIDE HEIGHT OF 6' MINIMUM, FROM TOP OF GRAVEL.
- E. WALLS TO BE FORMED CONCRETE.
- F. PIT TO BE DESIGNED BY REGISTERED ENGINEER OR ARCHITECT AND APPROVED BY THE VILLAGE.
- G. 12" MINIMUM 3/4" WASHED GRAVEL IN BOTTOM OF PIT OR CONCRETE SLAB WITH SUMP HOLE.
- H. PIPING AND METER SHALL BE SUPPORTED
- I. ALTERNATE DESIGNS MAY BE SUBMITTED FOR APPROVAL. SUBMIT COMBINATION PIT INSTALLATIONS FOR APPROVAL CLEARANCES.

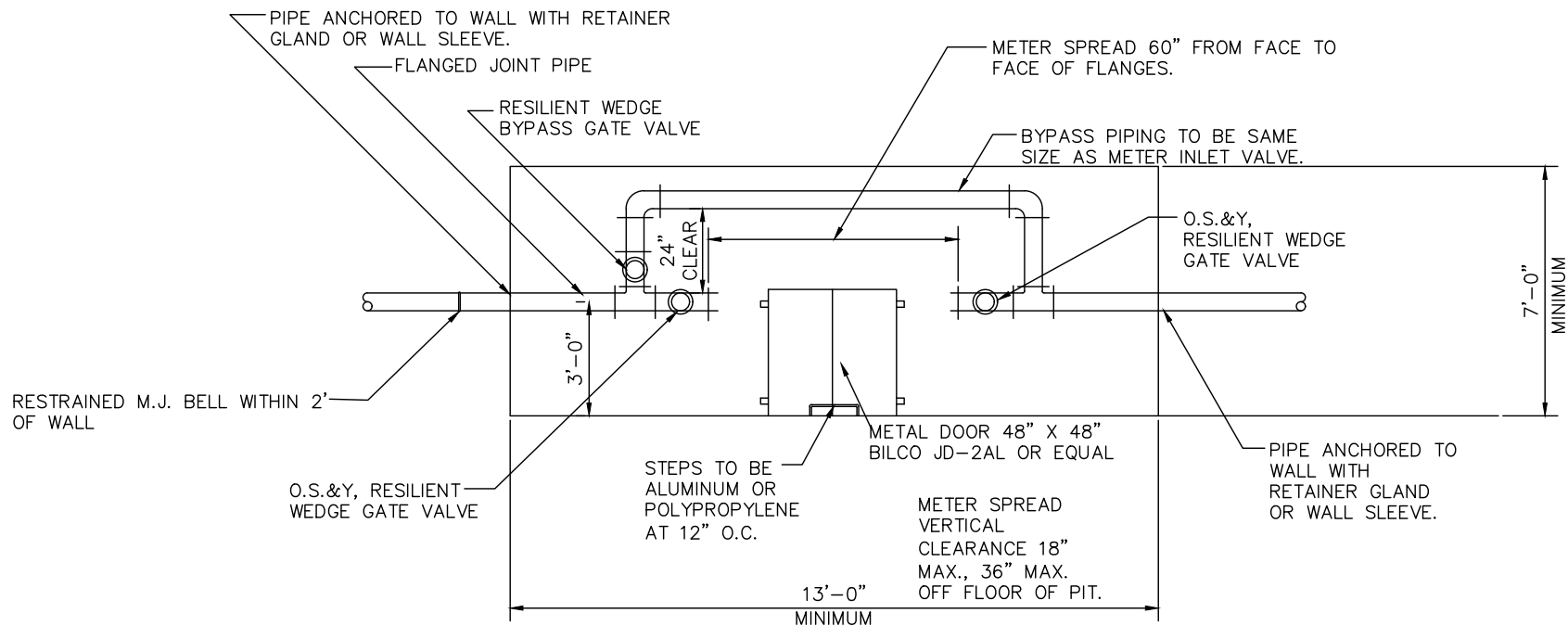
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3" AND 4" METER PIT INSTALLATIONS (FOR OFF ROAD USE ONLY)

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08-01-2006
PAGE No.
800-11



NOTES

- A. DIMENSIONS SHOWN ARE INSIDE MEASUREMENTS OF PIT.
- B. ALL PIPE SHALL BE CLASS 53 DUCTILE WITH FLANGED ENDS.
- C. ALL VALVES SHALL BE FLANGED END, HANDWHEEL OPERATED OS&Y GATE VALVES.
- D. PIT SHALL HAVE AN INSIDE HEIGHT OF 6' MINIMUM, FROM TOP OF GRAVEL.
- E. WALLS TO BE FORMED CONCRETE.
- F. PIT TO BE DESIGNED BY REGISTERED ENGINEER OR ARCHITECT AND APPROVED BY THE VILLAGE.
- G. 12" MINIMUM 3/4" WASHED GRAVEL IN BOTTOM OF PIT OR CONCRETE SLAB WITH SUMP HOLE.
- H. PIPING AND METER SHALL BE SUPPORTED AS APPROVED BY THE ENGINEER, AND WATER DISTRIBUTION.
- I. ALTERNATE DESIGN MAY BE SUBMITTED FOR APPROVAL SUBMIT COMBINATION PIT INSTALLATIONS FOR APPROVAL CLEARANCES.

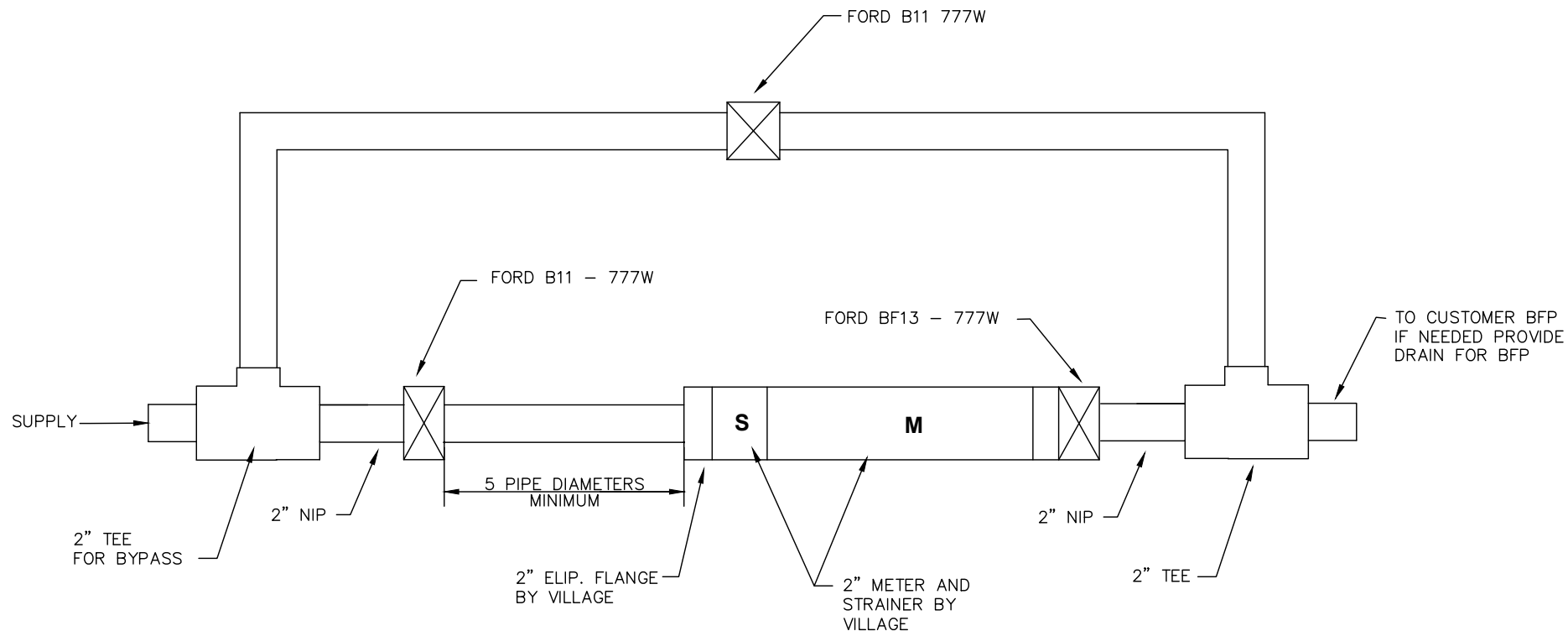
VILLAGE OF
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6" AND LARGER METER PIT INSTALLATION (FOR OFF ROAD USE ONLY)

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08-01-2006
PAGE No.
800-12



NOTES

- A.** CENTERLINE OF METER TO BE NO MORE THAN 36" FROM THE FLOOR.
- B.** METER MUST BE MOUNTED HORIZONTALLY.
- C.** USE STAINLESS STEEL OR BRASS NUTS AND BOLTS.
- D.** METER BYPASS ASSEMBLY AND METER SETTING TO BE CONSTRUCTED OF PVC SCH. 80, BRASS OR COPPER. NO FEMALE PVC THREADS PERMITTED.
- E.** ALL PIPING TO BE THOROUGHLY SUPPORTED.
- F.** THE VILLAGE IS NOT RESPONSIBLE FOR MAINTENANCE OF INSIDE PLUMBING.

- G.** PROVIDE APPROVED BACKFLOW PREVENTER REGISTERED WITH THE VILLAGE.
- H.** BYPASS VALVE SHALL BE LOCKABLE.

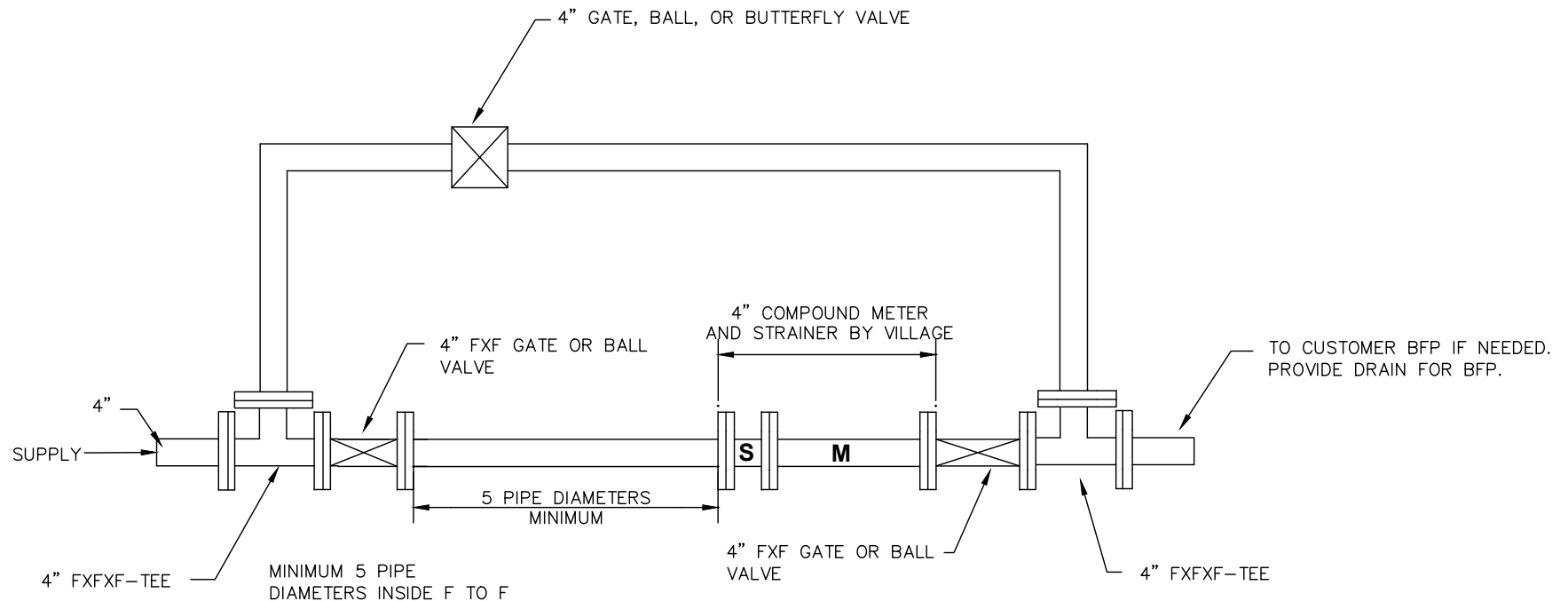
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2" COMPOUND METER WITH BYPASS

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08-01-2006
PAGE No.
800-13



NOTES

- A.** CENTERLINE OF METER TO BE NO MORE THAN 36" FROM THE FLOOR.
- B.** METER MUST BE MOUNTED HORIZONTALLY.
- C.** FULL FACE FLANGE GASKETS AND STAINLESS STEEL OR BRASS NUTS AND BOLTS TO BE USED.
- D.** METER BYPASS ASSEMBLY AND METER SETTING TO BE CONSTRUCTED OF PVC SCH. 80, BRASS OR COPPER. NO FEMALE PVC THREADS PERMITTED.
- E.** ALL PIPING TO BE THOROUGHLY SUPPORTED.
- F.** THE VILLAGE IS NOT RESPONSIBLE FOR MAINTENANCE OF INSIDE PLUMBING.

- G.** PROVIDE APPROVED BACKFLOW PREVENTER REGISTERED WITH THE VILLAGE.
- H.** BYPASS VALVE SHALL BE LOCKABLE.

VILLAGE OF
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4" COMPOUND METER WITH BYPASS

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
800-14

A. FOR 4" AND GREATER SERVICES

B. PIPING SHALL BE D.I.P. CLASS 53 TO RIGID FLANGE. FROM RIGID FLANGE THROUGH METER VALVES AND BYPASS TO BE DUCTILE, COPPER OR BRASS.

C. FOR 1 1/2" AND 2" SERVICES: WATER DEPARTMENT RECOMMENDS THE USE OF COPPER PIPING

D. FULL PORT BALL VALVES MUST BE INSTALLED FOR 1 1/2" AND 2" METERS AND MUST BE LOCKABLE.

E. BYPASS MANDATORY FOR ALL METERS. BYPASS VALVE TO BE LOCKABLE.

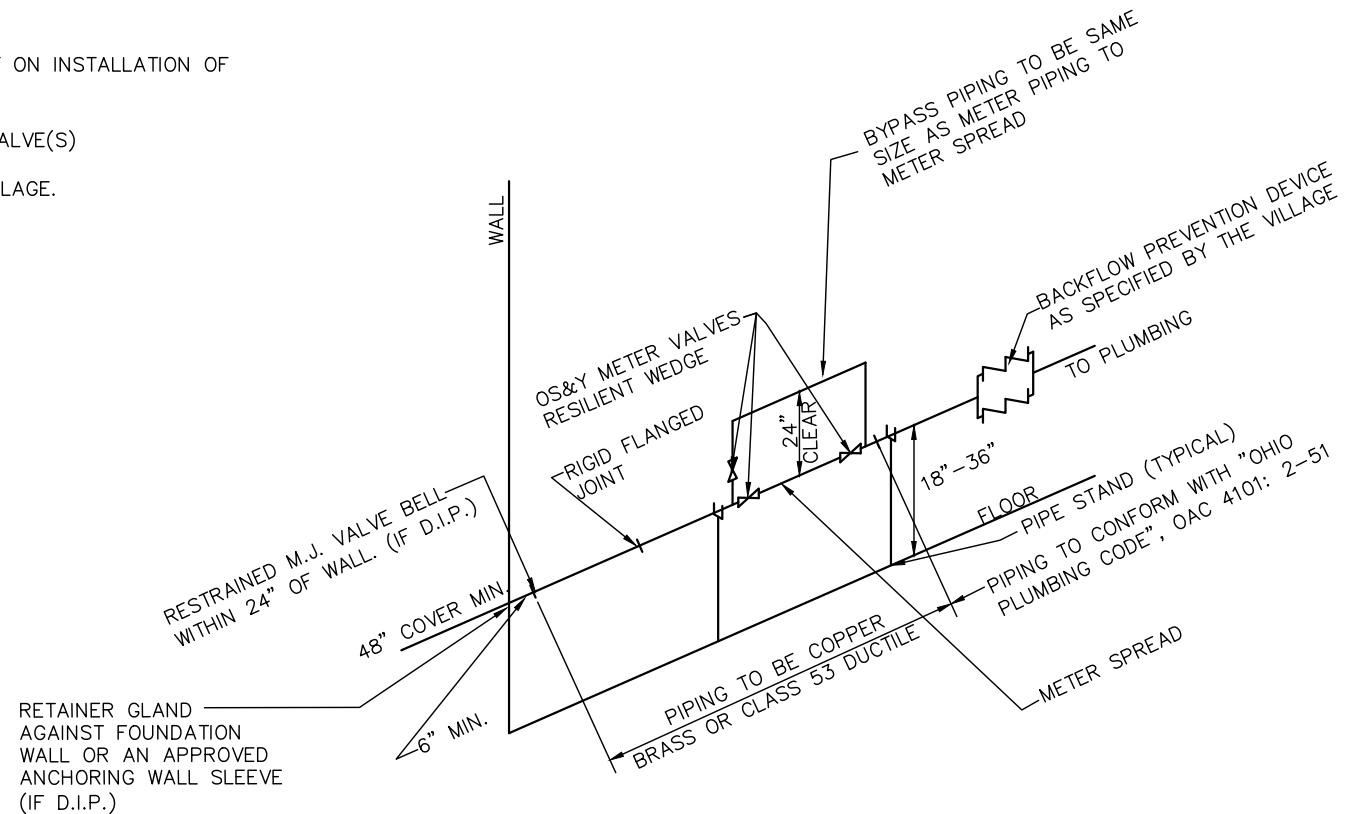
F. DUAL INSTALLATION FOR BACKFLOW PREVENTION DEVICES IS OPTIONAL FOR 1 1/2" –2" METERS.

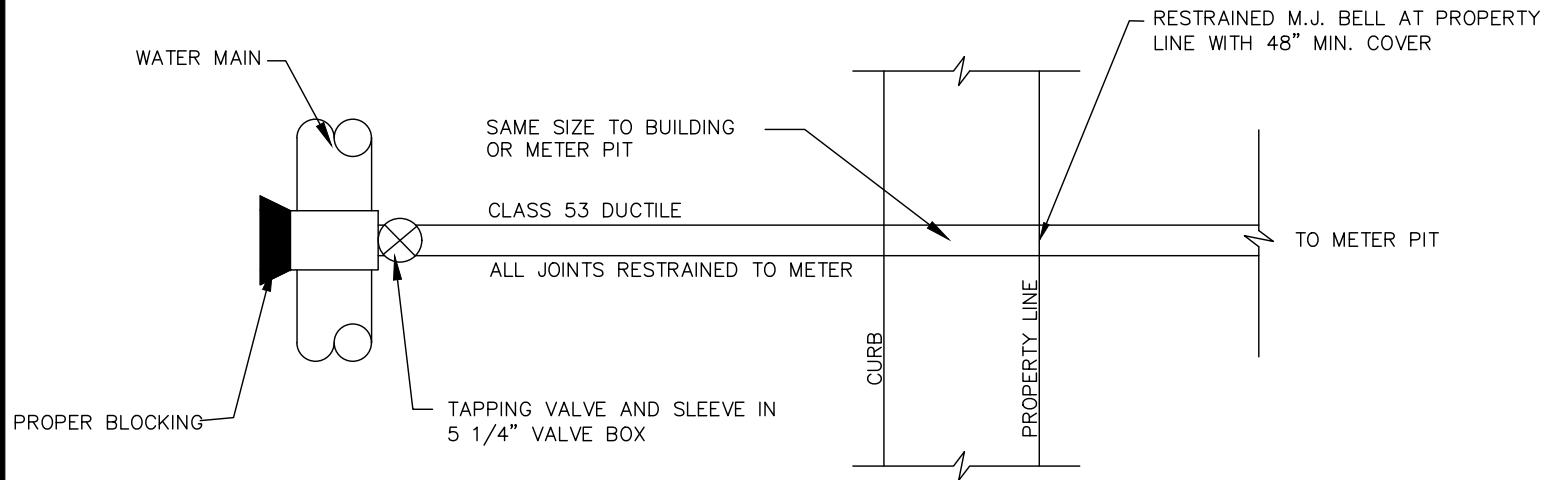
G. ALTERNATE DESIGNS MAY BE SUBMITTED TO WATER ENGINEERING FOR APPROVAL.

H. PROVIDE SPREADER DEVICE FOR PROPER ALIGNMENT ON INSTALLATION OF METER SPREAD.

I. NO FLANGE ADAPTERS BEFORE INITIAL SHUT-OFF VALVE(S)

J. BFP TO BE WATTS 909, AS DETERMINED BY THE VILLAGE.





SERVICE TEES ARE PERMITTED IF:

- A. SHOWN ON AN APPROVED SET OF CONSTRUCTION PLANS.
- B. 4" MINIMUM BRANCH AND SERVICE LINE WITH GATE VALVE WITHIN 3' OF MAIN.

NOTE:

- A. IF NO CLEARANCE BETWEEN BUILDING AND PROPERTY LINE, METER MAY BE LOCATED IN BUILDING IF APPROVED BY THE VILLAGE.

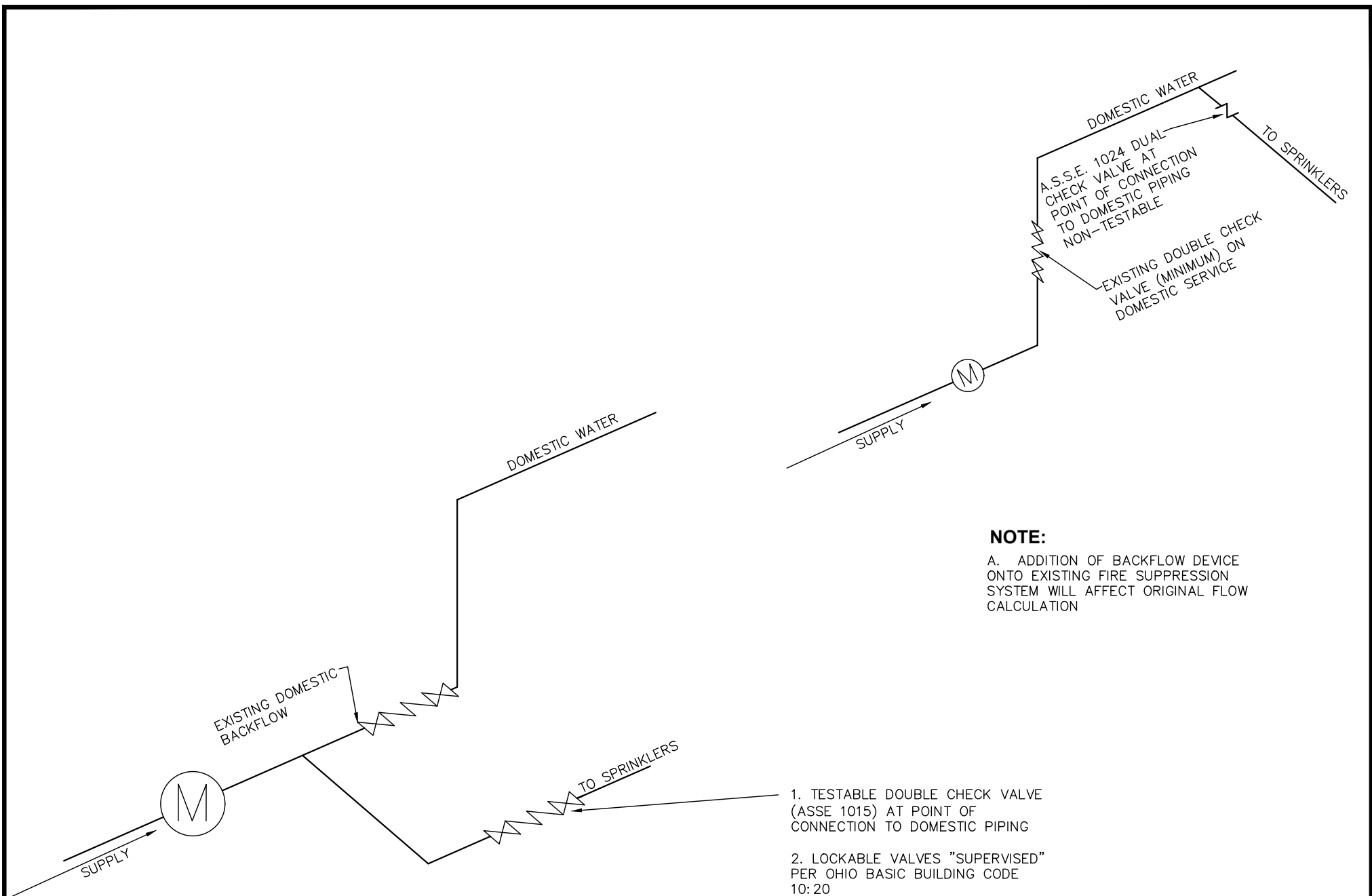
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4" AND LARGER WATER MAIN SERVICE CONNECTION (DOMESTIC)

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
800-16



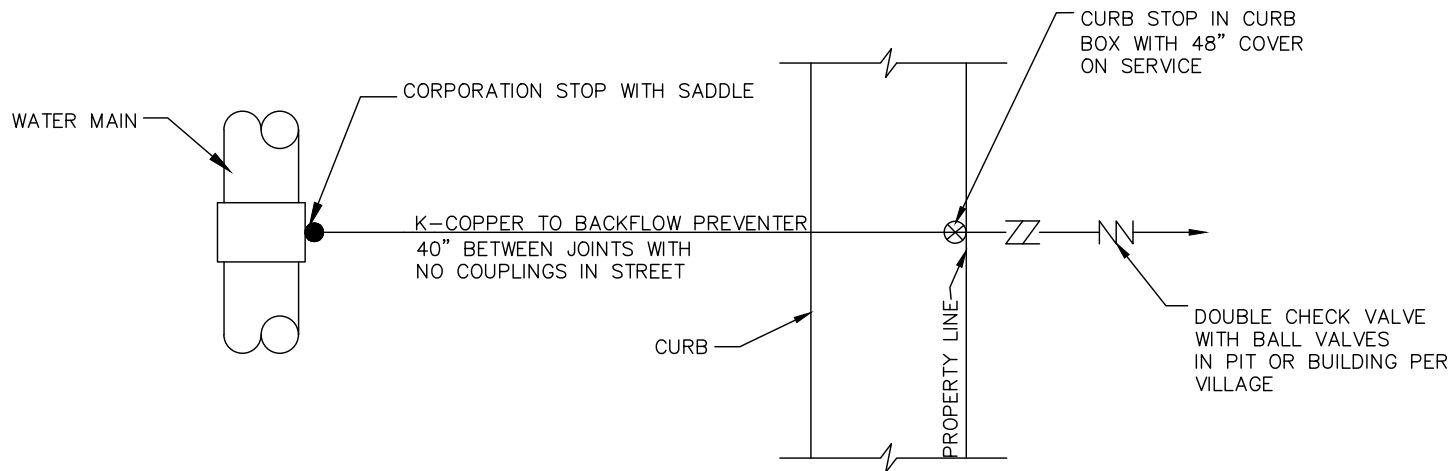
VILLAGE OF
GLANDORF



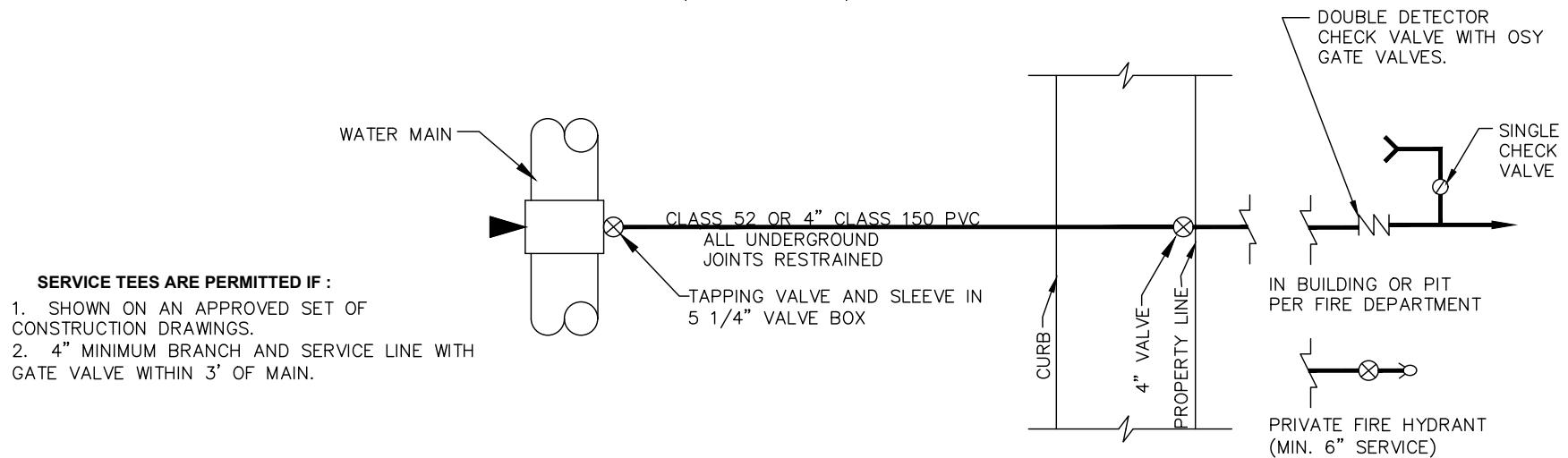
LIMITED AREA SPRINKLER SYSTEM DETAIL

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
800-17



2" FIRE LINE SERVICE (METER REQUIRED)



4" AND LARGER FIRE LINE SERVICE

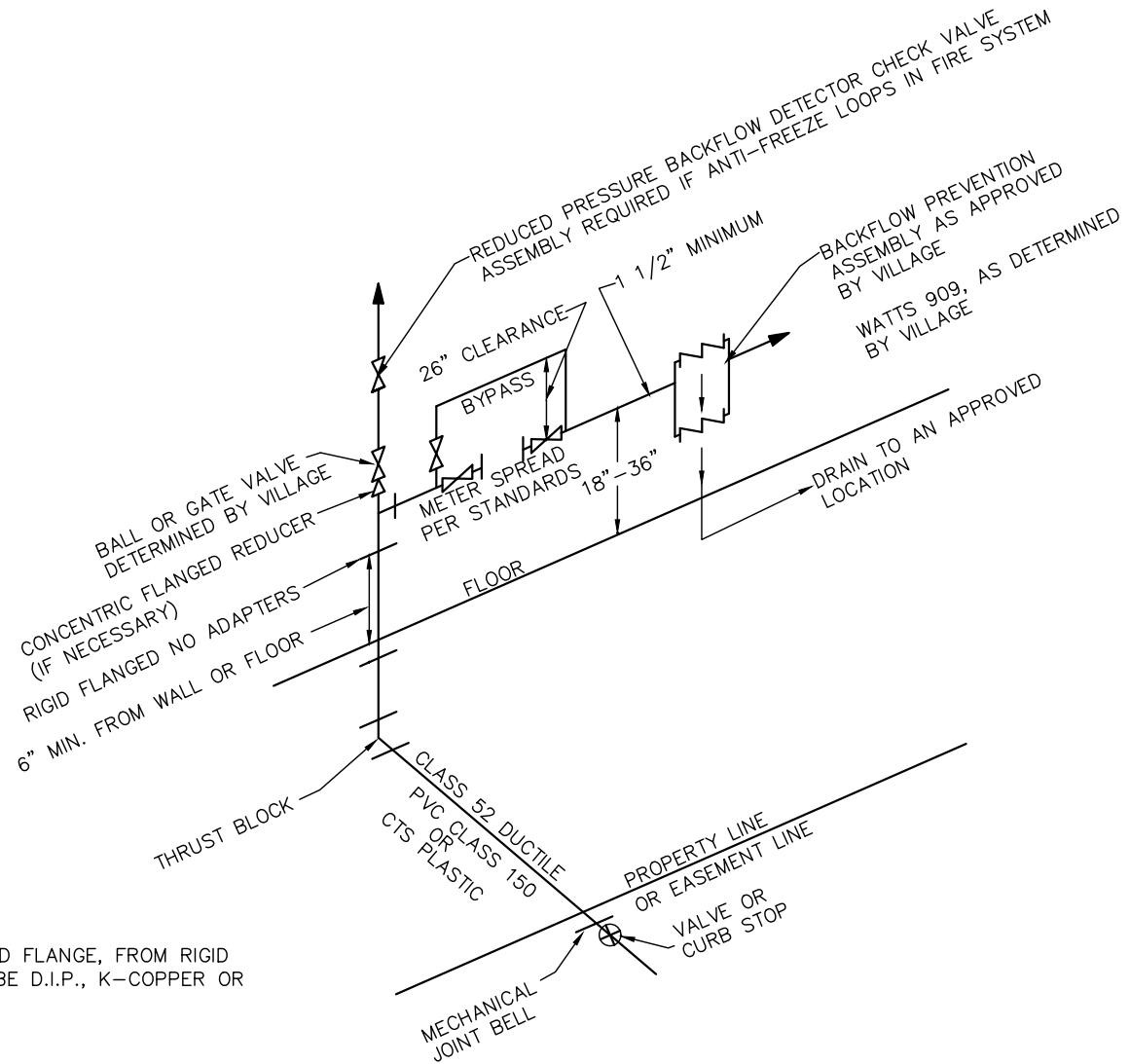
WALL/POST INDICATOR
VALVES SHALL BE ADDED
ON PREMISES AT FIRE
DEPARTMENT REQUEST

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2" FIRE LINE AND 4" AND LARGER FIRE LINE

REVISIONS:	DATE APPROVED: 08-01-2006
	PAGE No. 800-18



NOTES

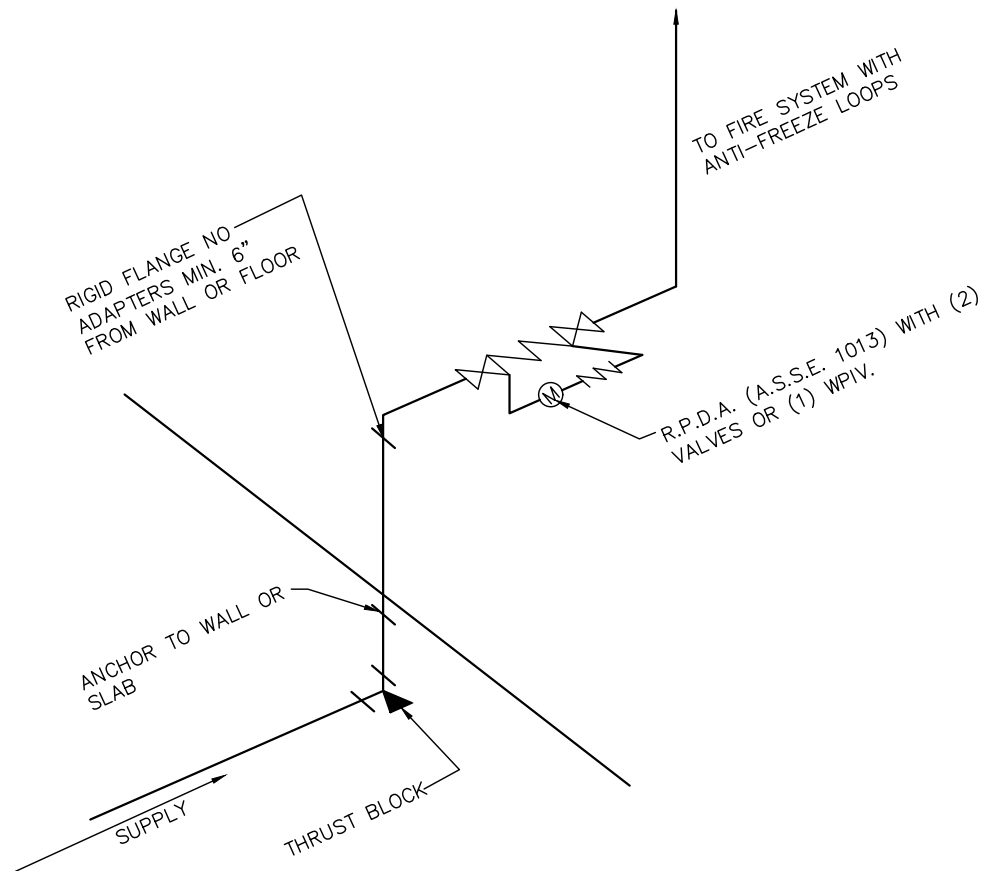
- A. ALL UNDERGROUND JOINTS MUST BE RESTRAINED.
- B. INSIDE PIPING SHALL BE D.I.P. CLASS 52 TO RIGID FLANGE, FROM RIGID FLANGE THROUGH METER VALVES AND BYPASS, TO BE D.I.P., K-COPPER OR BRASS.
- C. MINIMUM 1 1/2" WATER METER.
- D. ALTERNATE DESIGN MAY BE SUBMITTED TO VILLAGE FOR APPROVAL.
- E. COMBINATION SERVICE NOT PERMITTED INSIDE BUILDING IF THE DOMESTIC METER IS MORE THAT 75 FEET FROM THE PROPERTY/EASEMENT LINE.

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COMBINATION FIRE AND DOMESTIC IN BUILDING

REVISIONS:	DATE
	APPROVED:
	08-01-2006
	PAGE No.
	800-19



NOTE:

A. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE DELIVERED FOR INSTALLATION COMPLETELY ASSEMBLED BY THE ORIGINAL MANUFACTURER WITH ALL COMPONENTS AS APPROVED

B. ADDITION OF BACKFLOW DEVICE ONTO EXISTING FIRE SUPPRESSION SYSTEMS WILL AFFECT ORIGINAL FLOW CALCULATIONS

C. CLASS 53 DUCTILE IRON TO VALVE. ALL JOINTS RESTRAINED

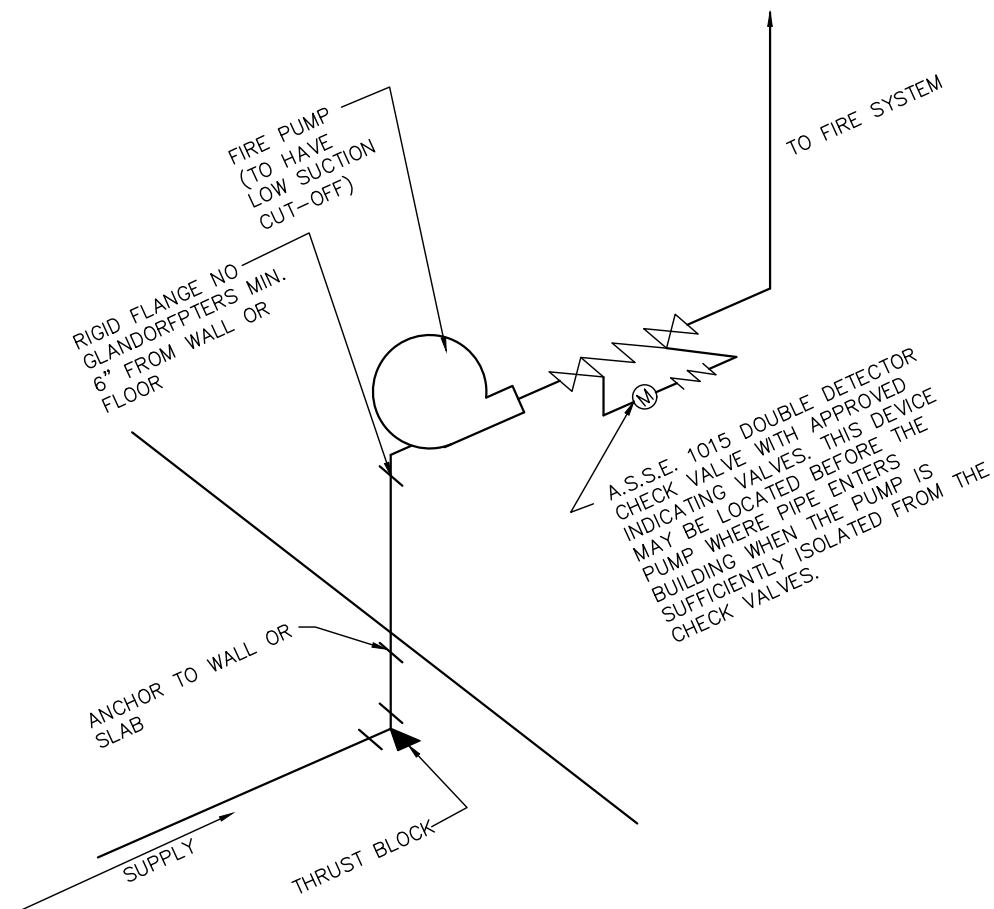
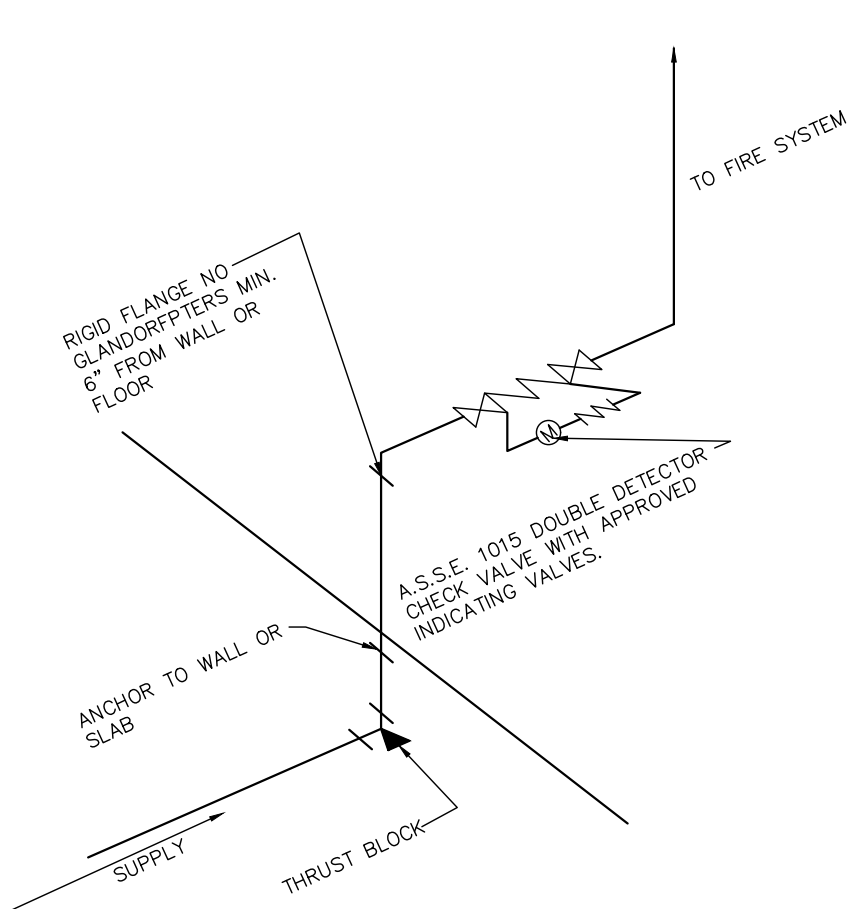
VILLAGE OF
GLANDORF



REDUCED PRESSURE DETECTOR ASSEMBLY

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
800-20



NOTE:

A. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE DELIVERED FOR INSTALLATION COMPLETELY ASSEMBLED BY THE ORIGINAL MANUFACTURER WITH ALL COMPONENTS AS APPROVED

B. CLASS 53 DUCTILE IRON TO VALVE. ALL JOINTS RESTRAINED

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DOUBLE DETECTOR CHECK VALVE ASSEMBLY DETAIL

REVISIONS: DATE APPROVED

08-01-2006

PAGE No.

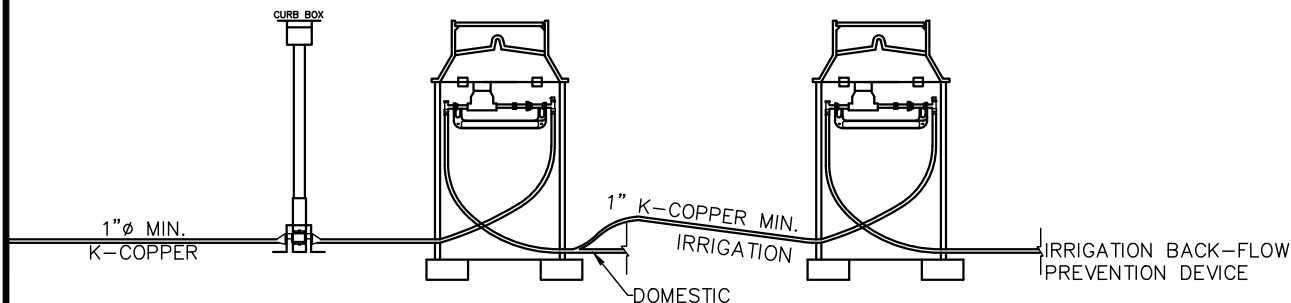
800-21

NOTES

- A. SEE "STANDARDS FOR TAPS, SERVICES AND METERS" FOR TYPICAL NOTES
- B. BACKFLOW PREVENTION DEVICE REQUIRED—CONTACT WATER ENGINEERING FOR APPROVED DEVICE.
- C. PROVIDE APPROVED DRAIN FOR IRRIGATION SYSTEM
- D. ALTERNATE DESIGNS MUST BE SUBMITTED FOR APPROVAL.
- E. TOP OF PIT LID TO BE INSTALLED AT FINISHED GRADE.
- F. THE CURB BOX MUST BE BROUGHT UP TO FINISH GRADE
- G. NO OUTLETS ARE ALLOWED BETWEEN METER AND THE BACKFLOW PREVENTER OR HOSE BIBB VACUUM BREAKER WITH THE EXCEPTION OF ONE SCREW PLUG-IN TAR WINTERIZING/DRAINAGE PURPOSES.
- H. THE UNDERGROUND WATER SERVICE SHALL BE K-COPPER UP TO THE BACKFLOW PREVENTER OR HOSE BIBB VACUUM BREAKER. ALL JOINTS FLARED TYPE JOINTS.
- I. IN CASE OF ADD-ON CONSTRUCTION (WITH AN EXISTING DOMESTIC METER AND SERVICE) LEAD FREE SOLDERED JOINTS WILL BE ACCEPTED AT THE TAKE-OFF TEE ONLY
- J. THE INSTALLATION SHALL BE INSPECTED BY THE VILLAGE.

INSTRUCTIONS FOR THE INSTALLATION OF IRRIGATION METERS AND BACKFLOW PREVENTERS FOR IRRIGATION

1. MAKE DRAWING OF THE PROPOSED IRRIGATION SYSTEM. THIS DRAWING MUST BE APPROVED BY VILLAGE.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE VILLAGE "STANDARDS FOR TAPS, SERVICES AND METERS".
3. GET THE NECESSARY PERMITS.
 - A) TAPPING FEE
4. AFTER THE BACKFLOW PREVENTERS HAVE BEEN INSTALLED PLEASE FILL OUT THE FORMS COMPLETELY WITH THE OWNER/LESSE'S NAME, ADDRESS (WHERE THE BACKFLOW PREVENTER WAS INSTALLED), LOCATION OF THE BACKFLOW PREVENTER, SIZE, MAKE, MODEL, AND SERIAL NUMBER OF THE BACKFLOW PREVENTER. PLEASE RETURN THE COMPLETED FORMS TO THE VILLAGE.
5. CONTACT THE VILLAGE AFTER THE WORK HAS BEEN COMPLETED. BACKFLOW PREVENTERS HAVE TO BE INSPECTED BY THE VILLAGE.



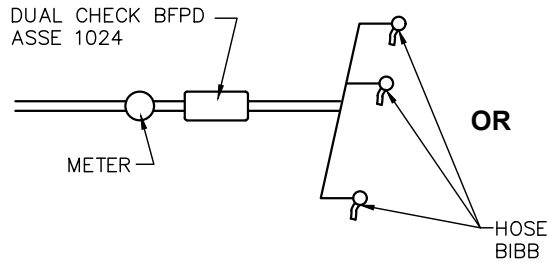
VILLAGE OF
GLANDORF



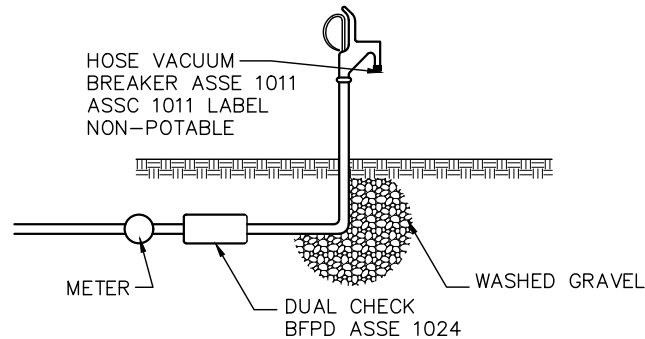
STANDARD INSTALLATION FOR IRRIGATION METERS AND BACKFLOW PREVENTER

REVISIONS:	DATE APPROVED
	08-01-2006
	PAGE No.
	800-22

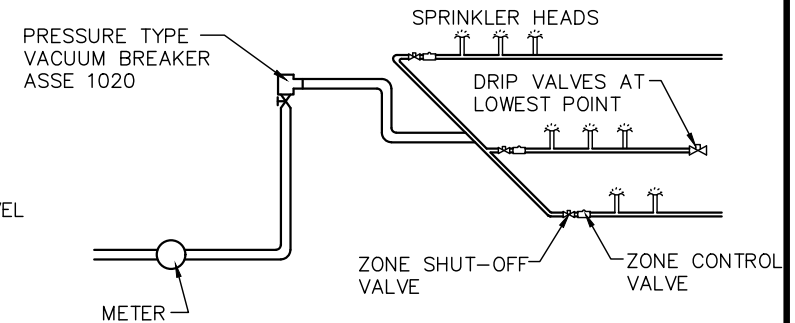
HOSE BIBB



YARD HYDRANT



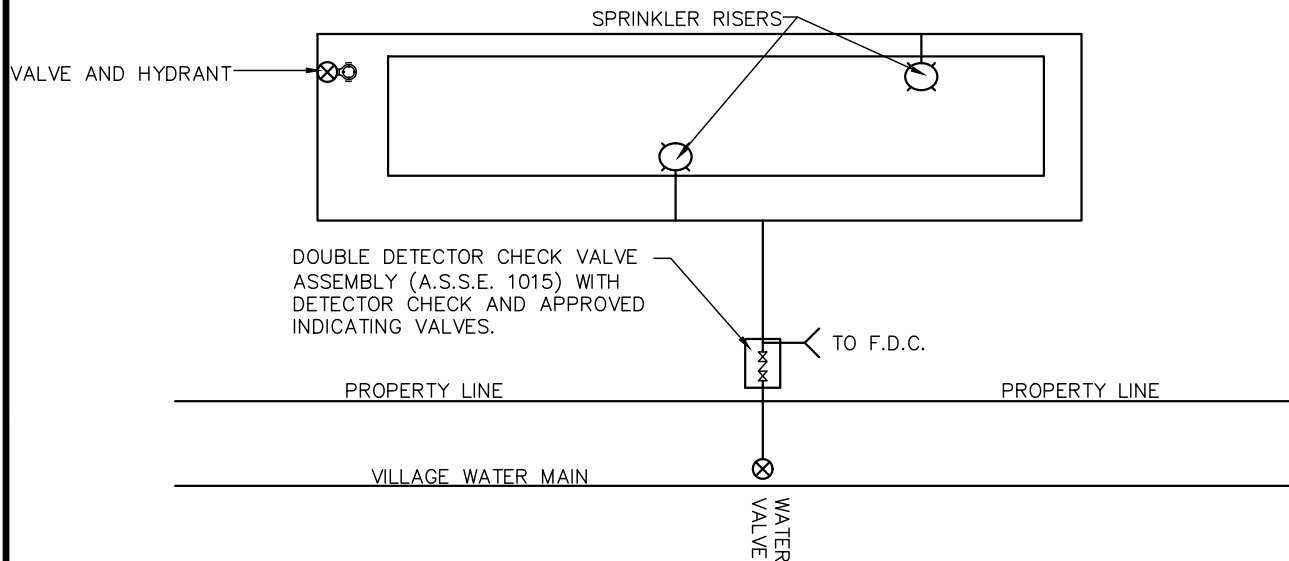
SPRINKLER SYSTEM



CONDITIONS

- A. SHUT-OFF VALVES ARE ALLOWED DOWNSTREAM OF THE BFPD
- B. THE PRESSURE TYPE VACUUM BREAKER MUST BE A MINIMUM OF 12" ABOVE THE HIGHEST SPRINKLER HEAD.

YARD MAIN SYSTEM ARRANGEMENT



NOTES

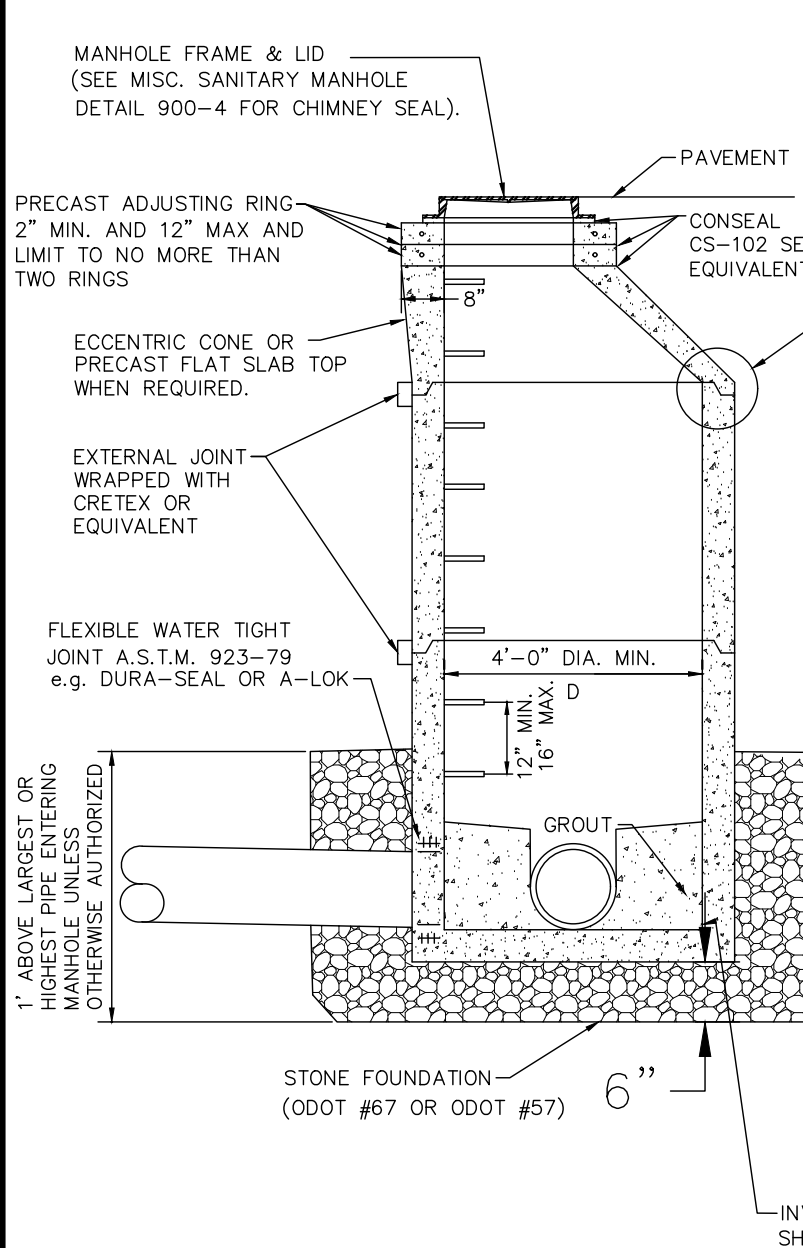
- A. A DRAWING OF EACH PROPOSED IRRIGATION SYSTEM MUST BE APPROVED BY THE VILLAGE PRIOR TO CONSTRUCTION.
- B. IF IRRIGATION SYSTEM IS NONE OF THE ABOVE, USE A REDUCED PRESSURE BACKFLOW PREVENTER, (ASSE 1013), AFTER THE WATER METER.

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IRRIGATION DETAILS

REVISIONS:	DATE APPROVED
	08-01-2006
	PAGE No.
	800-23

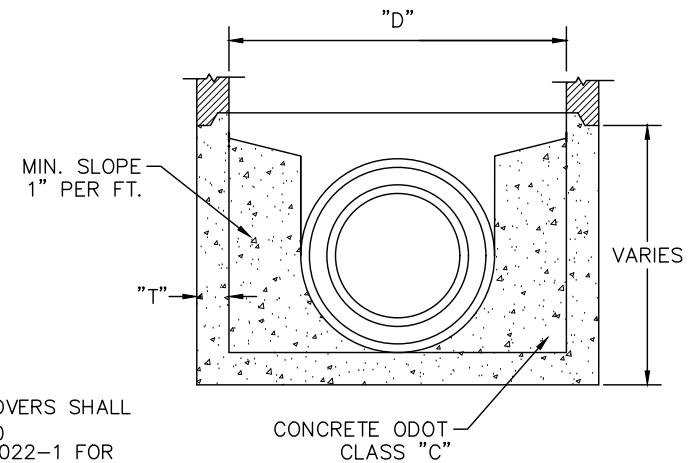


O-RING JOINT DETAIL (MEETING ASTM SPEC. 443)

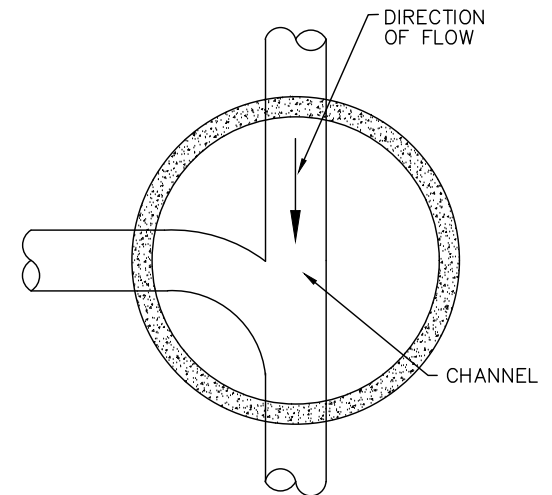
JOINTS MUST BE KEPT TO A MINIMUM
NOTES

- SANITARY MANHOLE FRAMES AND COVERS SHALL BE EAST JORDAN IRON WORKS NO. 1050 FOR 9" HEIGHT, 1020 FOR 6" HEIGHT, 1022-1 FOR 7" HEIGHT AND 1037 FOR 4" HEIGHT, WITH TYPE "A" SOILD COVER LID. WATERTIGHT MANHOLES SHALL BE THE EQUAL TO NEENAH NO. R-1916-D OR EAST JORDAN IRON WORKS NO. 1600-PT. NO LATERALS SHALL PROTRUDE INTO THE INTERIOR MANHOLE.
- TO CONNECT INTO EXISTING MANHOLE, THE MANHOLE SHALL BE CORED AND AN A-LOK XP SERIES FLEXIBLE CONNECTOR OR EQUIVALENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. NON-SHRINK GROUT ALTERNATIVE MAY BE USED IN SPECIAL CIRCUMSTANCES WHEN PREVIOUSLY **APPROVED BY VILLAGE**.
- MATERIALS FOR BASES, RISERS, AND OTHER PRECAST SECTIONS, INCLUDING REINFORCEMENTS SHALL COMPLY WITH ASTM C-478.
- MAXIMUM SANITARY MANHOLE SPACING SHALL BE 400'.
- LOCATE THE CENTERLINE OF MANHOLE COVERS OVER THE CENTERLINE OF THE MAIN SEWER WHENEVER POSSIBLE.
- CONSEAL CS-102 FLEXIBLE BUTYL RESIN SEALANT OR EQUIVALENT SHALL BE 3/8" X 1" MINIMUM STRIPS UNDER GRADE RINGS AND CASTING.
- CUT PIPE SHALL NOT EXCEED BEYOND THE INSIDE FACE OF THE MANHOLE WALL.
- CONCRETE PLACED INSIDE THE MANHOLE SHALL NOT BE PLACED BETWEEN THE PIPE AND THE OPENING SO AS TO INTERFERE IN ANY WAY WITH THE FLEXIBILITY OF THE JOINT.

PIPE SIZE	T	D
24" & UNDER	5"	48"
27" & ABOVE	6"	60"



PRECAST BASE SECTION



STANDARD INVERT CHANNEL

ALL INVERTS TO BE CHanneled FOR OPTIMUM FLOW.

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TYPE 3 SANITARY MANHOLE

REVISIONS:
07-14-2020

DATE
APPROVED:
08-01-2006

PAGE No.
900-1

MANHOLE FRAME & LID
(SEE MISC. SANITARY MANHOLE
DETAIL 900-3 FOR CHIMNEY SEAL).

PRECAST ADJUSTING RING
2" MIN. AND 12" MAX. AND
LIMIT TO NO MORE THAN
TWO RINGS

MANHOLE FRAME & LID

PAVEMENT

CONSEAL CS-102 SEALANT OR EQUIVALENT.

CONE SHALL BE ECCENTRIC

STANDARD TEE

B

B

RUBBER O-RING GASKETS

6" MIN.

4'-0"

SEE STANDARD DRAWING 900-1
FOR BASE SECTION DETAIL

GROUT

STANDARD 90°
SHORT ELBOW

PRECAST BASE SECTION
WITH 6" GRANULAR BACKFILL

APPROXIMATELY 1'-0"

CONCRETE ODOT
CLASS "C"

1' ABOVE LARGEST OR
HIGHEST PIPE ENTERING
MANHOLE UNLESS
OTHERWISE AUTHORIZED

"A"	"B"
8", 10", & 12"	8"
15" & 18"	10"
21" & 24"	12"

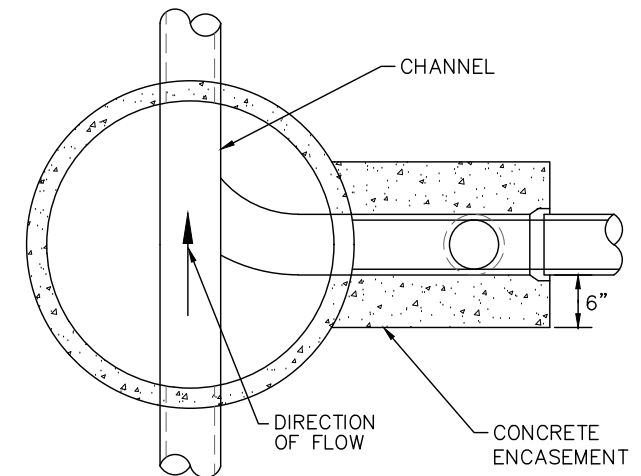
DROP CONNECTION MANHOLE

NOTES

A. LOCATE THE CENTERLINE OF MANHOLE CONES OVER THE CENTERLINE OF THE MAIN SEWER
WHENEVER POSSIBLE.

B. TYPE D MANHOLE SHALL BE USED WHERE THE DIFFERENCE IN INVERT ELEVATIONS IS
GREATER THAN 2'-0".

C. ALL NOTES AND ASTM REFERENCES ON THE TYPE 3 SANITARY MANHOLE APPLY ON THE
TYPE D SANITARY DROP MANHOLE.



SECTIONAL PLAN B-B

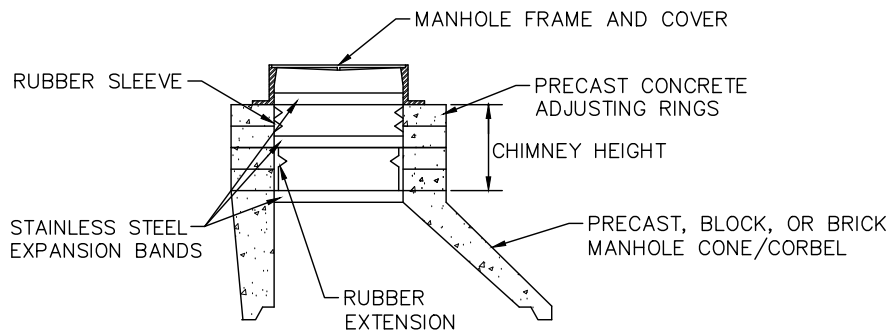
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TYPE D SANITARY DROP MANHOLE

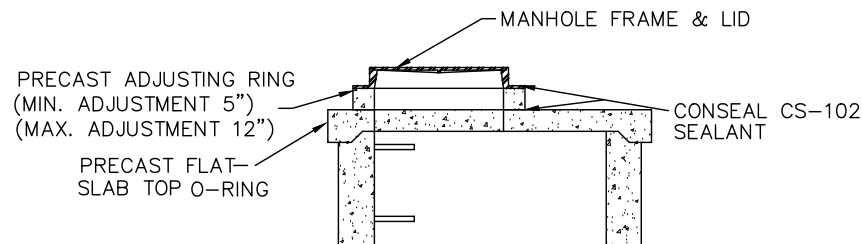
REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
900-2



THESE SHALL BE USED ON ALL SANITARY SEWER MANHOLES ALONG WITH A WATERTIGHT DISH. WHERE REQUIRED BY VILLAGE

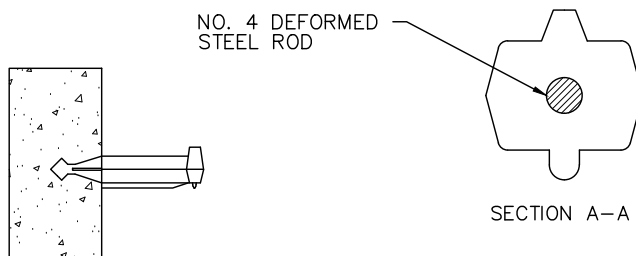
INTERNAL MANHOLE CHIMNEY SEAL



NOTES

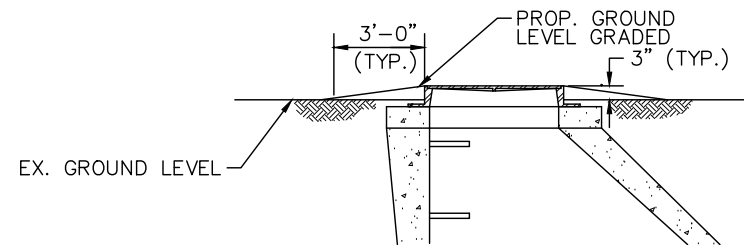
USE FLAT TOP SLAB FOR MANHOLES LESS THAN 6'-0" DEPTH.

FLAT TOP SLAB

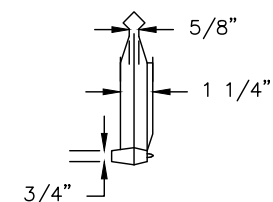
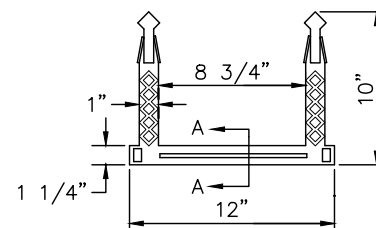


NOTES

SANITARY MANHOLE FRAMES AND COVERS SHALL BE EAST JORDAN IRON WORKS NO. 1050 FOR 9" HEIGHT, 1020 FOR 6" HEIGHT, 1022-1 FOR 7" HEIGHT AND 1037 FOR 4" HEIGHT, WITH TYPE "A" SOILD COVER LID. WATERTIGHT MANHOLES SHALL BE EAST JORDAN IRON WORKS NO. 1020WT, 1022-1 WT, OR 1037 WT. NO LATERALS SHALL PROTRUDE INTO THE INTERIOR MANHOLE.



TYPICAL MANHOLE GRADING



POLYPROPYLENE PLASTIC STEP

NOTES

MANHOLE STEPS SHALL BE SECURELY INSTALLED INTO EACH MANHOLE SECTION, BY THE MANUFACTURER, PRIOR TO DELIVERY TO THE JOB SITE.

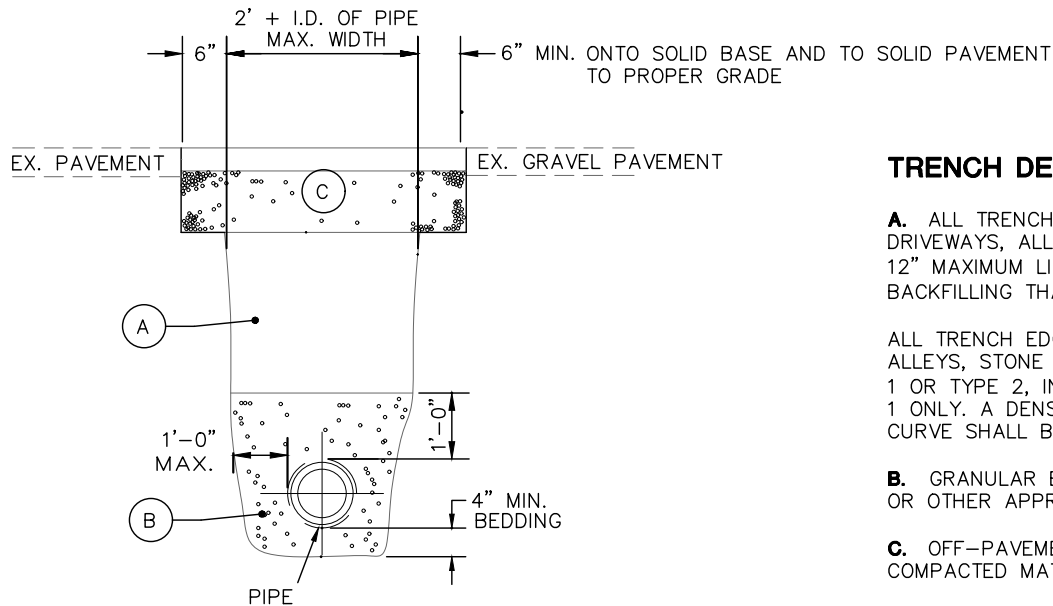
VILLAGE OF
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MISCELLANEOUS SANITARY MANHOLE DETAILS

REVISIONS:

DATE
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08-01-2006
PAGE No.
900-3



SANITARY SEWER TRENCH DETAIL

TRENCH DETAIL NOTES

A. ALL TRENCH EDGES NOT UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREA OR WALKS CAN BE COMPACTED EXISTING NATIVE MATERIAL IN 12" MAXIMUM LIFTS OR AS APPROVED BY THE VILLAGE. NO MATERIAL SHALL BE USED FOR BACKFILLING THAT CONTAINS STONE, ROCKS, ETC., GREATER THAN 4" DIAMETER.

ALL TRENCH EDGES UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREA OR WALKS SHALL EITHER BE GRANULAR BACKFILL MATERIAL ODOT 603 TYPE 1 OR TYPE 2, IN 6" MAXIMUM LIFTS OR LOW STRENGTHEN MORTAR BACKFILL ODOT ITEM 613 TYPE 1 ONLY. A DENSITY TEST ON GRANULAR BACKFILL OF 98% OF ASTM D698 STANDARD PROCTOR CURVE SHALL BE PERFORMED BY A COMMERCIAL TESTING LAB SATISFACTORY TO THE VILLAGE.

B. GRANULAR BEDDING SHALL BE CRUSHED STONE OR GRAVEL, ODOT 603 TYPE 3 (#57 OR #67), OR OTHER APPROVED EQUIVALENT

C. OFF-PAVEMENT AREAS SHALL BE PROVIDED WITH A MINIMUM OF 12" OF TOPSOIL OVER THE COMPACTED MATERIAL AND THEN SEEDED AND MULCHED PER ODOT ITEM 659.

IN-PAVEMENT AREAS SHALL CONSIST OF THE FOLLOWING:

MINIMUM GRAVEL PAVEMENT REPLACEMENT

2" OF ODOT #67 ON

12" OF ODOT ITEM 304, IN LIFTS OF 3" MAXIMUM

MINIMUM ASPHALT PAVEMENT REPLACEMENT

1-1/4" OF ODOT ITEM 404 ON

1-3/4" OF ODOT ITEM 402 ON

7" OF ODOT ITEM 301, IN LIFTS OF 3-1/2" MAXIMUM ON

8" OF ODOT ITEM 304 IN LIFTS OF 3" MAXIMUM

WHERE THE EXISTING PAVEMENT IS THICKER, THE CONTRACTOR SHALL INCREASE THE COURSE THICKNESS TO MATCH EXISTING.

D. THE OPEN ENDS OF ALL PIPES SHALL BE PLUGGED TO THE APPROVAL OF THE VILLAGE BEFORE LEAVING THE WORK FOR THE NIGHT.

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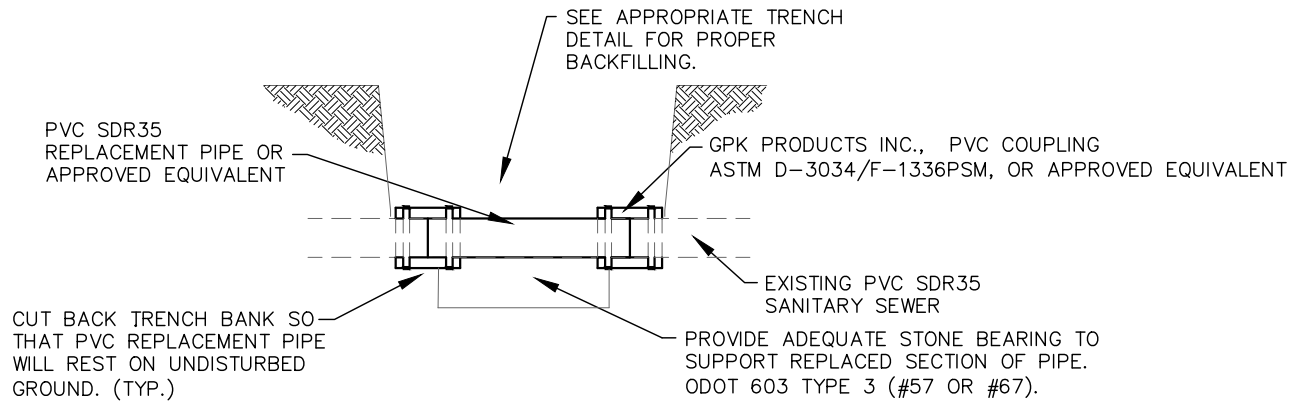


SANITARY SEWER TRENCH DTAIL

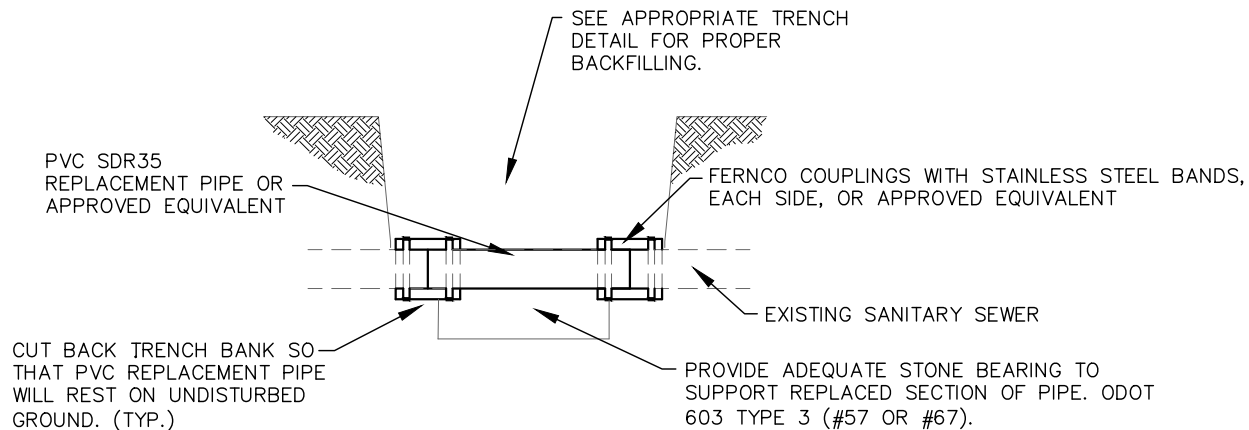
REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
900-4



REPAIR OF EXISTING PVC SDR35 SANITARY SEWER



REPAIR OF EXISTING SANITARY SEWER OTHER THAN PVC

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REPAIR OF EXISTING SANITARY SEWER PIPE DETAIL

REVISIONS:	DATE
	APPROVED:
	08-01-2006
	PAGE No.
	900-5

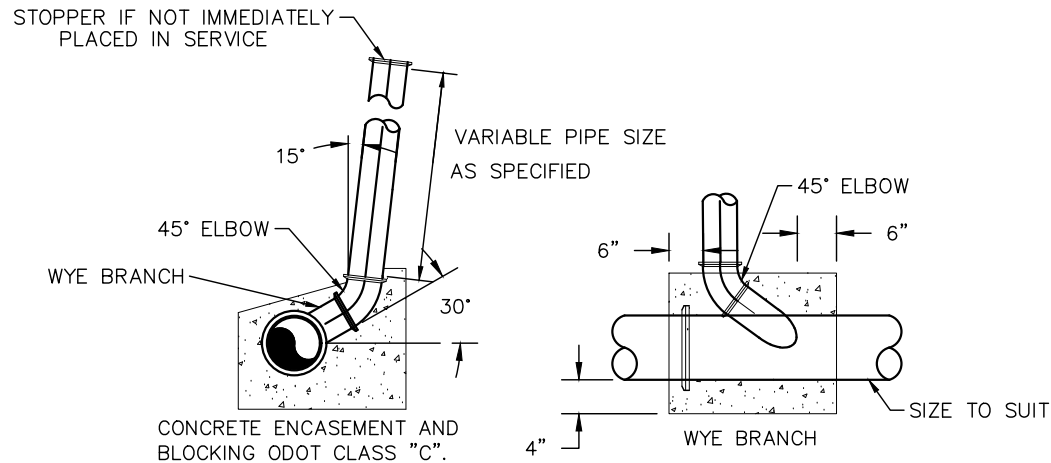
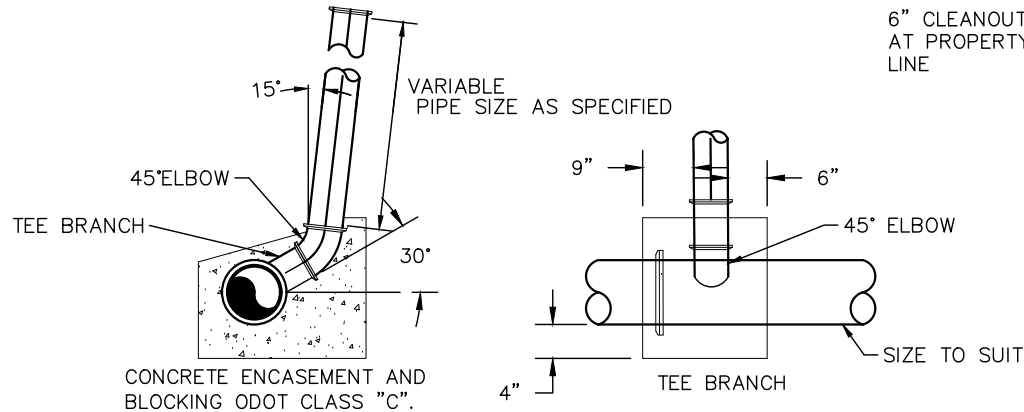
NOTES

A. RISER PIPE TO BE BEDDED SOLIDLY AGAINST UNDISTURBED GROUND. ALSO, TEE MAY BE SUBSTITUTED FOR WYE BRANCH IF SPECIFIED.

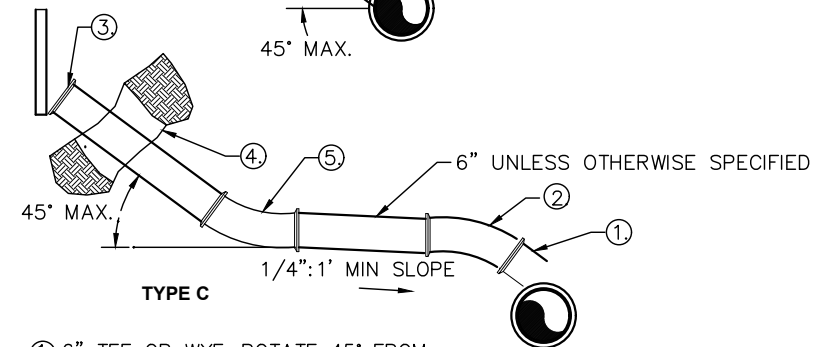
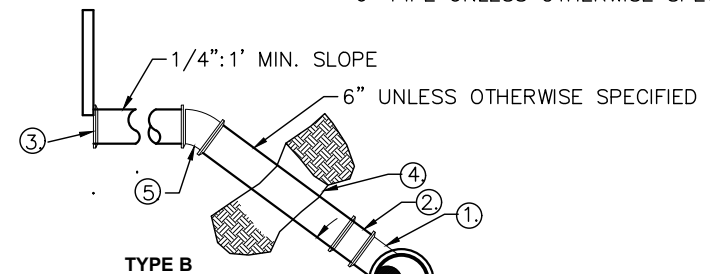
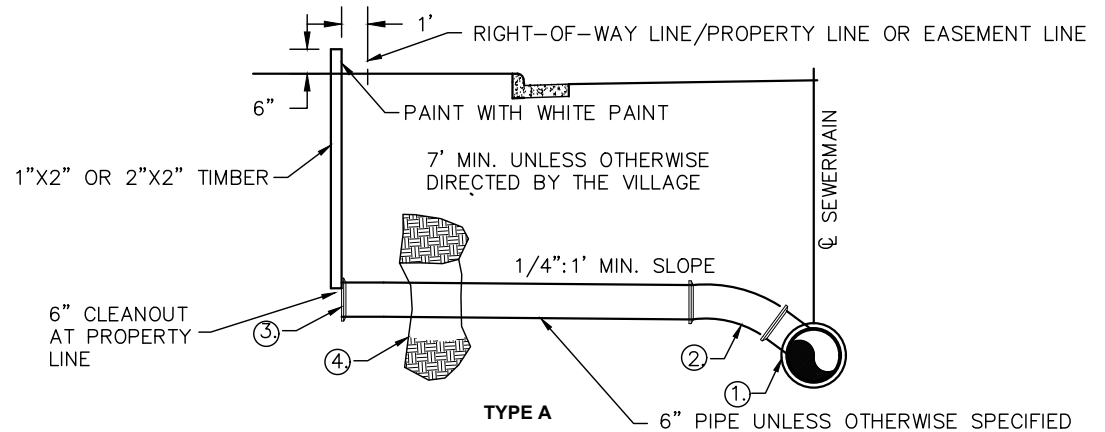
B. RISER PIPE TO BE INSTALLED SO THAT CONNECTING SERVICE SHALL HAVE A MINIMUM DEPTH OF 7' AT THE PROPERTY LINE UNLESS A GREATER DEPTH IS DIRECTED.

C. CONCRETE ENCASEMENT AND BLOCKING REQUIRED IF DEPTH OF CONNECTION IS 12' OR GREATER.

D. EACH SANITARY LATERAL MUST BE IN SEPARATE TRENCHES.



SERVICE RISER



- ① 6" TEE OR WYE—ROTATE 45° FROM HORIZONTAL UNLESS OTHERWISE SPECIFIED.
- ② 6" 1/8 BEND OR 1/16 BEND AS NEEDED.
- ③ CAP UNLESS JOINING EXISTING SERVICE LATERAL.
- ④ BED PIPE WITH 8" GRANULAR MATERIAL AND BACKFILL WITH GRANULAR MATERIAL TO 8" ABOVE PIPE. ODOT 603 TYPE 3 #57 OR #67.
- ⑤ EXACT RECORD OF BEND LOCATIONS MUST BE MADE, AS TO DEPTH FROM SURFACE AND DISTANCE FROM CENTERLINE OF SEWER, BEFORE BACKFILL IS PLACED.

SERVICE LATERAL

VILLAGE OF
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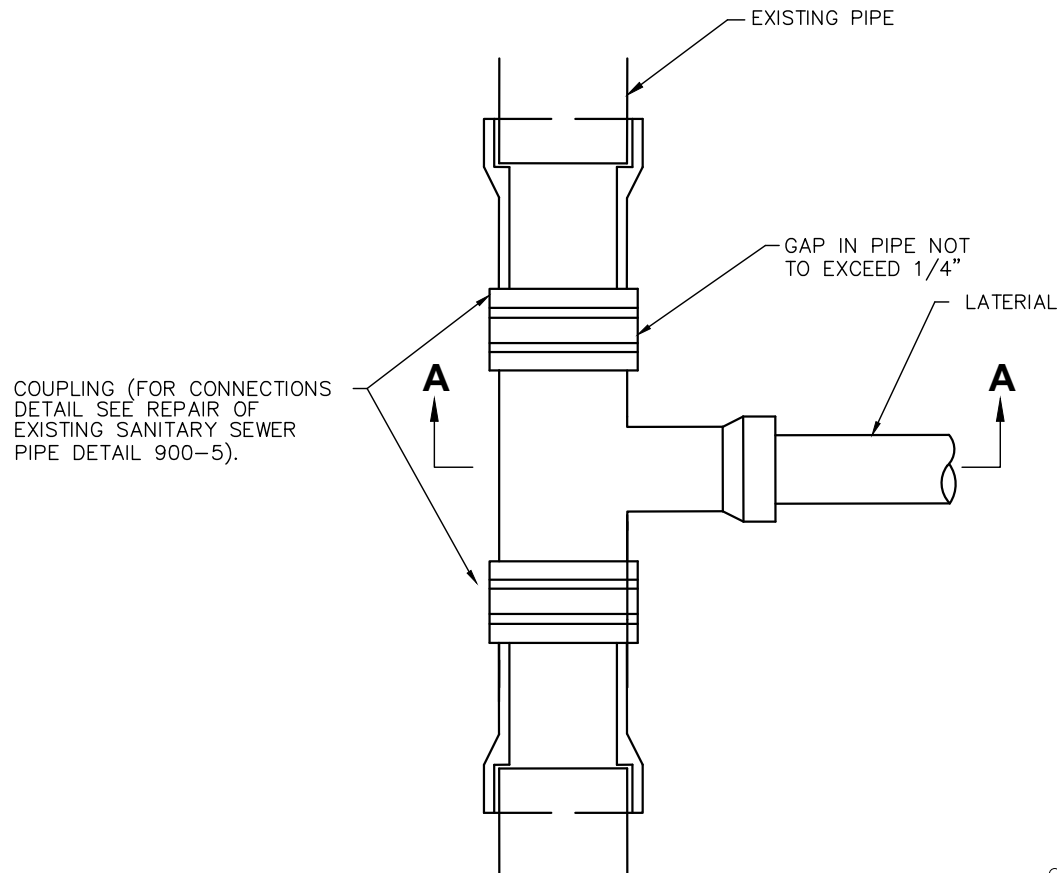
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SERVICE RISER AND SERVICE LATERALS

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
900-6

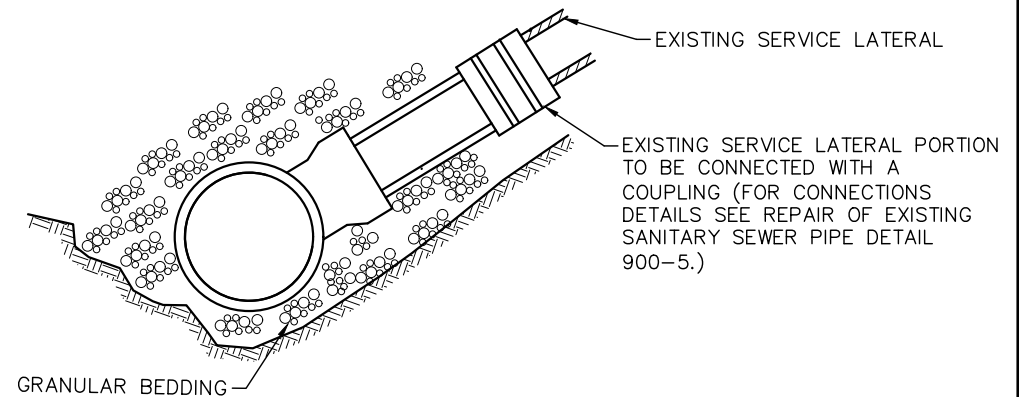


COUPLING (FOR CONNECTIONS
DETAIL SEE REPAIR OF
EXISTING SANITARY SEWER
PIPE DETAIL 900-5).

SERVICE LATERAL

NOTES

A TEE WILL BE CUT IN IF AN EXISTING LATERAL IS
NOT PROVIDED.
A SADDLE TYPE CONNECTION MAY BE USED WITH
PRIOR WRITTEN PERMISSION.



SECTION A-A

CONNECTION DETAIL

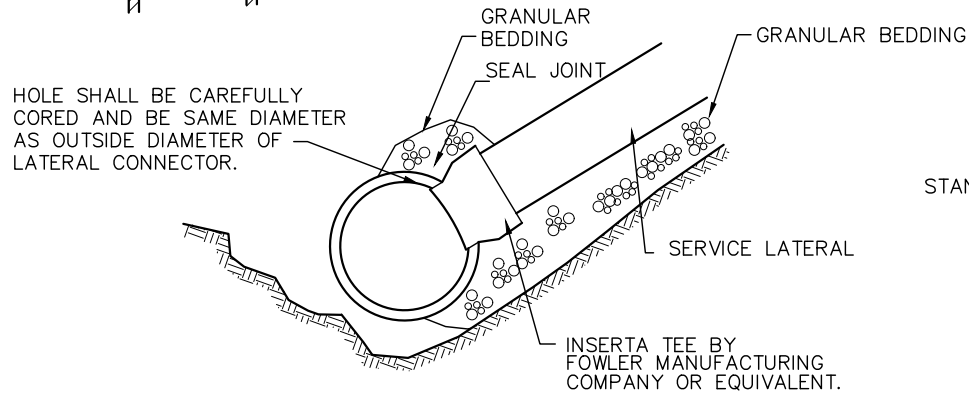
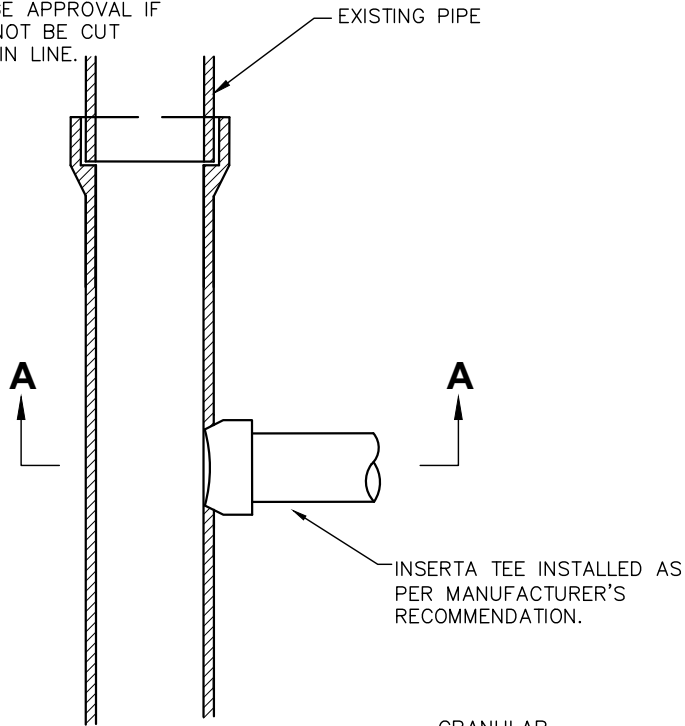
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SANITARY SEWER CONNECTION DETAILS

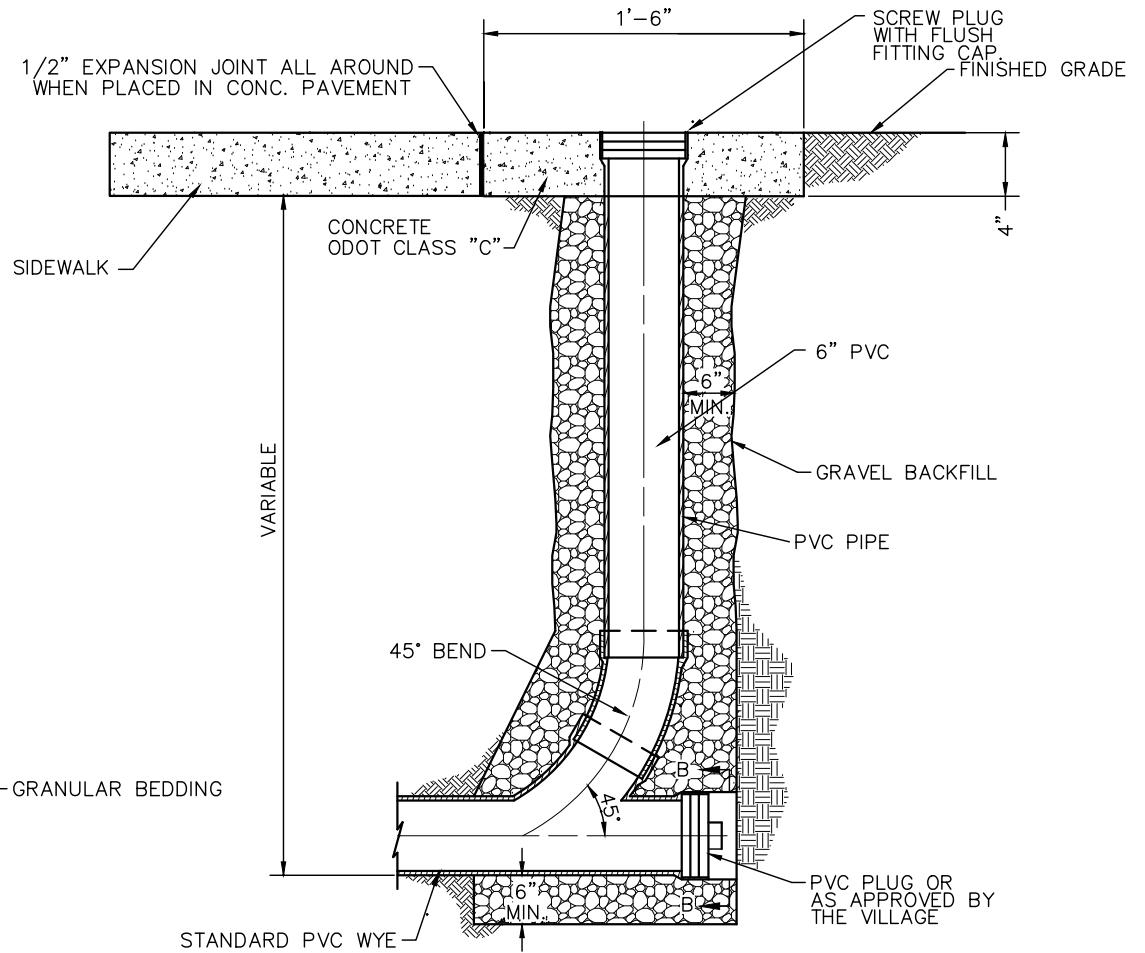
REVISIONS:	DATE
	APPROVED:
	08-01-2006
	PAGE No.
	900-7

SADDLE TYPE CONNECTION
MAY BE USED ONLY WITH
PRIOR VILLAGE APPROVAL IF
A TEE CAN NOT BE CUT
INTO THE MAIN LINE.



OTHER SADDLE TYPES THAT MAY BE
APPROVED ON CASE-BY-CASE BASIS
DEPENDING ON SITUATIONS ARE ROMAC
STYLE "CB" SEWER SADDLE AND
DFW/HPI FLEXIBLE SADDLE.

SECTION A-A



CLEANOUT DETAIL

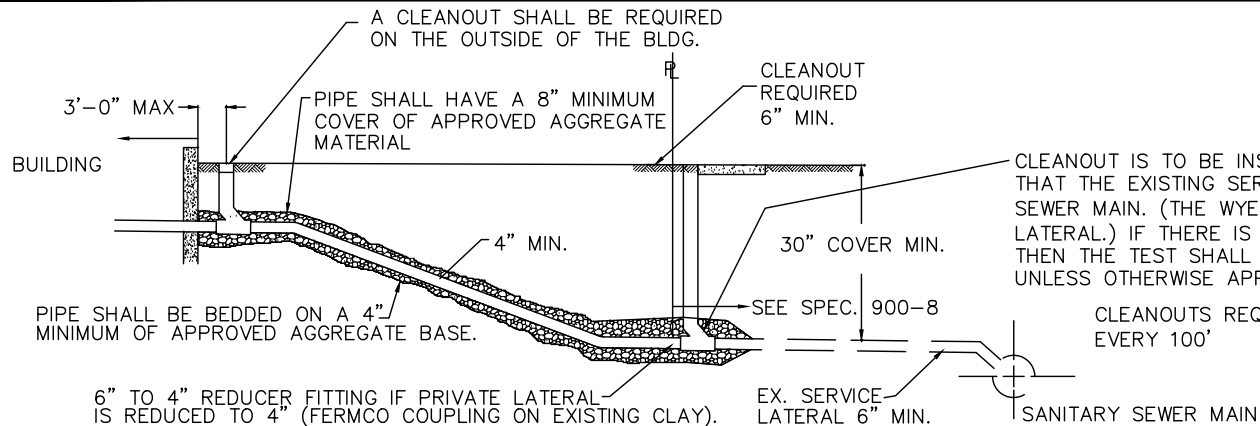
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SANITARY SEWER CLEAN OUT AND SADDLE DETAILS

REVISIONS:

DATE
APPROVED:
08-01-2006
PAGE No.
900-8



NOTES

APPROVED AGGREGATE MATERIAL SHALL BE CRUSHED STONE OR GRAVEL, ODOT 603 TYPE 3 (67 OR 57) OR OTHER APPROVED EQUAL.

CLEANOUT IS TO BE INSTALLED AT THE PROPERTY LINE. A WYE SHALL BE INSTALLED SO THAT THE EXISTING SERVICE LATERAL CAN BE CLEANED FROM THE WYE TO THE SANITARY SEWER MAIN. (THE WYE SHALL BE INSTALLED INTO THE END OF THE EXISTING SERVICE LATERAL.) IF THERE IS NO EXISTING SERVICE LATERAL AND ONE MUST BE INSTALLED, THEN THE TEST SHALL EXTEND FROM THE BUILDING TO THE SANITARY SEWER MAIN, UNLESS OTHERWISE APPROVED.

CLEANOUTS REQUIRED EVERY 100'

NOTES

- SEPTIC TANKS, WHEN ABANDONED, SHALL BE DEWATERED AND PROPERLY FILLED WITH GRANULAR MATERIAL WITH ALL TILES BEING PLUGGED WITH CONCRETE.
- ROOF DOWNSPOUTS, EXTERIOR FOUNDATION DRAINS, AREAWAY DRAINS OR OTHER SURFACE RUNOFF OR GROUNDWATER SHALL NOT BE CONNECTED TO THE SANITARY SEWER MAIN. ALSO SEE MISC. NOTE B.
- ANY INDIVIDUAL OR FIRM INSTALLING SEWER CONNECTIONS SHALL BE APPROVED BY THE VILLAGE.
- BEFORE BEGINNING WORK, A SEWER TAP PERMIT MUST BE OBTAINED.
- WHEN THE BUILDING CONNECTION MUST ENTER INTO A PAVED PORTION OF THE STREET OR ALLEY, A STREET OPENING PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK.
- WATER SERVICES SHALL BE A MINIMUM OF 10' MEASURED HORIZONTALLY FROM THE SEWER SERVICE AND SHALL BE A MINIMUM OF 18" ABOVE THE CROWN (WHENEVER POSSIBLE) OF THE SANITARY SEWER MAIN WHERE THE WATER SERVICE CROSSES THE SEWER MAIN.

PIPE

- THE PIPE MATERIAL SHALL BE PVC SDR 35, SCHEDULE 40, UTILIZING PURPLE PRIMER, OR AN APPROVED EQUIVALENT.
- PIPE SIZES FOR BUILDING CONNECTIONS SHALL BE 4" MINIMUM FOR SINGLE RESIDENCE AND 6" MINIMUM FOR ALL OTHER USES. THE LATERALS SHALL BE RAN TO WITHIN 3' OF THE OUTSIDE OF THE BUILDING.

INSPECTION

- A TAP INSPECTION SHALL BE REQUIRED ON ALL NEW BUILDING CONNECTIONS AND ALSO ON THE REPLACEMENT OF EXISTING BUILDING CONNECTIONS.
- WHEN THE BUILDING SEWER IS READY FOR INSPECTION, THE VILLAGE SHALL BE GIVEN 48 HOURS ADVANCE NOTICE. THE PIPE SHALL BE LEFT UNCOVERED UNTIL AN INSPECTION HAS BEEN MADE AND APPROVED.
- ANY NEW BUILDING CONNECTION INSTALLED WITHOUT AN INSPECTION SHALL RESULT IN NO ISSUANCE OF A WATER METER FOR THE BUILDING. IF THIS OCCURS, THE ENTIRE LATERAL SHALL BE UNCOVERED SO THAT A PROPER INSPECTION CAN BE MADE.
- NO TAP FEE IS REQUIRED IF AN OLD BUILDING SEWER IS TO BE REUSED. AN INSPECTION WILL BE REQUIRED. THE PUBLIC UTILITY DEPT. SHALL INSPECT THE ENTIRE BUILDING CONNECTION FROM THE CLEANOUT TO THE PROPERTY LINE CONNECTION OR TO THE MAIN SEWER, WHICHEVER IS APPLICABLE.
- WHEN A SADDLE IS TO BE INSTALLED, THE INSPECTOR SHALL BE PRESENT WHILE THE SANITARY SEWER MAIN IS BEING CUT INTO. A SADDLE MAY BE USED WHERE A TEE OR WYE IS NOT PRESENT FOR LATERAL CONNECTION AND WHERE FLOW IS TO GREAT TO ALLOW THE MAIN TO BE CUT. ALWAYS COMPLETELY ENCASE CONNECTIONS AT ANY DEPTH. (12" AND OVER AS APPROVED BY THE VILLAGE.)

TESTING

- THE OUTSIDE PLUMBER SHALL BE RESPONSIBLE FOR THE TESTING FROM THE CONNECTION TO THE EXISTING SERVICE LATERAL TO THE CLEANOUT.
- ALL NEW BUILDING CONNECTIONS SHALL BE BY AIR WITH 4 PSI PRESSURE.
- THE SEWER TEST SHALL BE FROM THE CLEANOUT TO THE PROPERTY LINE CONNECTION OR TO THE MAIN SEWER, WHICHEVER IS APPLICABLE.

- WHEN A SUBSTANTIAL AMOUNT OF AN EXISTING LATERAL IS REPLACED, THE NEW PORTION OF THE LATERAL SHALL REQUIRE A TEST UNLESS OTHERWISE APPROVED.

MISC.

- STREET EXCAVATION REQUIRES A STREET OPENING PERMIT.
- BASEMENTS MUST HAVE A FLOOR DRAIN AND BE CONNECTED TO THE STORM SEWER (SUMP PUMP).

PIPE LAYING

- THE OPEN ENDS OF ALL PIPES SHALL BE PLUGGED OR OTHERWISE CLOSED WITH A WATERTIGHT PLUG TO THE APPROVAL OF THE VILLAGE BEFORE LEAVING THE WORK SITE FOR THE NIGHT.
- THE JOINING OF PIPE WITH CONCRETE SHALL NOT BE ACCEPTED.
- BEFORE MAKING A CONNECTION TO AN EXISTING SEWER OR SERVICE LATERAL, THE CONTRACTOR SHALL CHECK THE EXISTING PIPE BY UTILIZING A SEWER EEL, STRAP, OR SEWER ROD TO SEE THAT THE EXISTING PIPE IS CONNECTED TO THE SANITARY SEWER MAIN.
- IN THE CASE WHERE A 90° CORNER IS REQUIRED IN THE BUILDING CONNECTION LINE, 2 45° BENDS SHALL BE USED IN LIEU OF A 90° BEND. A CLEANOUT WILL BE REQUIRED.
- THE BUILDING CONNECTION LINE SHALL BE LAID IN AS STRAIGHT A LINE, FROM THE BUILDING TO THE EXISTING LATERAL, AS POSSIBLE.
- ANY TWO-FAMILY RESIDENCE THAT HAS AN EXISTING 4" LATERAL AVAILABLE TO THE LOT SHALL BE REQUIRED TO SEPARATE THE 4" COMMON LATERAL INTO INDIVIDUAL LATERALS, WITH CLEANOUTS, ON THE OUTSIDE OF THE BUILDING UNLESS OTHERWISE APPROVED.
- ALL NEW CONSTRUCTION SHALL HAVE SANITARY LATERALS INSTALLED.
- DRAWINGS SHOWING LATERAL LOCATIONS SHALL BE SUBMITTED WITH A BUILDING PERMIT.

VILLAGE OF
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BUILDING CONNECTION DETAIL

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
900-9

LOW PRESSURE AIR TEST

A. AFTER BACKFILLING, THE AIR TEST SHALL BE CONDUCTED BETWEEN TWO CONSECUTIVE MANHOLES. ALL PIPE OUTLETS MUST BE PLUGGED IN THE SECTION BEING TESTED WITH SUITABLE TEST PLUGS. ONE OF THE PLUGS USED AT A MANHOLE MUST BE TAPPED AND EQUIPPED FOR AN AIR INLET CONNECTION FOR FILLING THE LINE FROM THE AIR COMPRESSOR. AIR SHALL BE SUPPLIED SLOWLY TO THE TEST SECTION UNTIL THE INTERNAL PRESSURE REACHES APPROXIMATELY 4 PSI. IF THE PIPE IS BELOW EXISTING GROUNDWATER LEVEL, THE INTERNAL PRESSURE SHALL BE INCREASED BY THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE, BUT IN NO CASE SHOULD THE INTERNAL PRESSURE EVER EXCEED 5 PSI.

B. AT LEAST 2 MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 PSI, THE AIR SUPPLY SHALL BE DISCONNECTED AND TIMING SHALL BEGIN WITH A STOP WATCH. THE STOP WATCH SHALL BE ALLOWED TO RUN UNTIL THE PRESSURE HAS DROPPED 1.0 PSI. IF THE TIME SHOWN ON THE STOP WATCH IS GREATER THAN THE SPECIFIED MINIMUM TIME, THE SECTION SHALL BE CONSIDERED TO HAVE PASSED THE TEST. TIME MAY BE INTERPOLATED FROM THE FIGURES LISTED BELOW.

DEFLECTION TEST

A. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM.

B. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. IF DEFLECTION EXCEEDS 5%, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF APPROVING AGENCY.

C. THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS MANUFACTURED. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM D-2122 STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

MANHOLE VACUUM TEST

ALL SANITARY SEWER MANHOLES SHALL BE VACUUM TESTED USING THE FOLLOWING PROCEDURES FROM ASTM C-1244.

A. PREPARATION OF THE MANHOLE

1. ALL LIFT HOLES SHALL BE PLUGGED.
2. ALL PIPES ENTERING THE MANHOLE SHALL BE TEMPORARILY PLUGGED TAKING CARE TO SECURELY BRACE THE PIPES AND PLUGS TO PREVENT THEM FROM BEING DRAWN INTO THE MANHOLE.

B. PROCEDURE

1. THE FIRST HEAD SHALL BE PLACED AT THE TOP OF THE MANHOLE IN THE CASTING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. A VACUUM OF 10" OF MERCURY (4.9 PSI) SHALL BE DRAWN ON THE MANHOLE, THE VALVE ON THE VACUUM LINE OF THE TEST HEAD CLOSED, AND THE VACUUM PUMP SHUT OFF. THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9" OF MERCURY (4.4 PSI).
3. THE MANHOLE SHALL PASS IF THE TIME FOR THE VACUUM READING TO DROP FROM 10" OF MERCURY (4.9 PSI) TO 9" OF MERCURY (4.4 PSI) MEETS OR EXCEEDS THE VALUES INDICATED ON THE TABLE.
4. IF THE MANHOLE FAILS THE INITIAL TEST, NECESSARY REPAIRS SHALL BE MADE BY AN APPROVED METHOD. THE MANHOLE SHALL THEN BE RETESTED UNTIL A SATISFACTORY TEST IS OBTAINED.

PIPE DIA. (IN.)	Time for Longer Length (sec)	Specified Minimum for Length (L) Shown (min:sec)						
		100 FT.	150 FT.	200 FT.	250 FT.	300 FT.	350 FT.	400 FT.
4	0.380L	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	0.854L	5:40	5:40	5:40	5:40	5:40	5:40	5:42
8	1.520L	7:34	7:34	7:34	7:34	7:36	8:52	10:08
10	2.374L	9:26	9:26	9:26	9:53	11:52	13:51	15:49
12	3.418L	11:20	11:20	11:24	14:15	17:05	19:56	22:47
15	5.342L	14:10	14:10	17:48	22:15	26:42	31:09	35:36
18	7.692L	17:00	19:13	25:38	32:03	38:27	44:52	51:16
21	10.470L	19:50	26:10	34:54	43:37	52:21	61:00	69:48
24	13.674L	22:47	34:11	45:34	56:58	68:22	79:46	91:10

SPECIFICATION TIME FOR LENGTH (L) SHOWN (MIN:SEC)

DIAMETER, INCHES			
DEPTH (FT.)	48	60	72
TIME, SECONDS			
8 OR LESS	20	26	33
10	25	33	41
12	30	39	49
14	35	46	57
16	40	52	67
18	45	59	73
20	50	65	81
22	55	72	89
24	59	78	97
26	64	85	105
28	69	91	113
30	74	98	121

MINIMUM TEST TIMES FOR VARIOUS MANHOLE DIAMETERS

VILLAGE OF
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SANITARY SEWER TESTING NOTES

REVISIONS:

DATE
APPROVED:
08-01-2006

PAGE No.
900-10

NOTES

A. NO WORK SHALL BE APPROVED OR ACCEPTED BY THE VILLAGE UNLESS 2 WORKING DAY'S NOTICE OF COMMENCING WORK IS GIVEN TO THE VILLAGE.

B. ALL TEMPORARY PAVEMENT AND SIDEWALK SHALL BE MAINTAINED BY THE CONTRACTOR OR DEVELOPER AT HIS OWN EXPENSE IN A SUITABLE AND SAFE CONDITION FOR TRAFFIC UNTIL PERMANENT REPLACEMENT IS MADE OR THE PROJECT IS FINALLY ACCEPTED BY THE VILLAGE.

C. ROOF DRAINS, FOUNDATION DRAINS, SUMP PUMPS, AND OTHER CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

D. WHEN SEWER CONSTRUCTION BEGINS, THE SEWER AT THE EXISTING MANHOLE, IF SMALLER OR EQUAL TO 12", SHALL BE PLUGGED BY HAVING A POLYETHYLENE BAG PLACED INTO THE SEWER PIPE APPROXIMATELY 6" AND THEN POUR CONCRETE INTO AND AROUND THE SEWER PIPE AS DIRECTED BY THE VILLAGE. SIZES LARGER THAN 12" WILL BE PLUGGED BY OTHER APPROVED METHODS. NO PLUGS SHALL BE REMOVED UNTIL CONSTRUCTION IS COMPLETED AND THEN ONLY AS DIRECTED BY THE VILLAGE.

E. CONSTRUCTION OF SANITARY SEWERS SHALL INCLUDE THE VILLAGE DYE TESTING AS DETERMINED BY THE VILLAGE OF ALL PIPES TO BE CONNECTED TO THE NEW SEWER PRIOR TO BACKFILLING.

F. WHEN A CASTING OR OTHER PUBLIC PROPERTY IS ABANDONED IT REMAINS VILLAGE PROPERTY.

G. NEW SEWERS MUST HAVE EPA PLAN APPROVAL.

EXCAVATION AND PIPE LAYING

A. THE LAYING OF THE PIPE SHALL COMMENCE AT THE LOWEST POINT, WITH THE BELL END LAID UPGRADE. THE PIPE SHALL BE CENTERED IN THE TRENCH AND ALL PIPE SHALL BE LAID WITH ENDS ABUTTING AND TRUE TO LINE AND GRADE.

B. LASER SHALL BE USED UNLESS OTHERWISE APPROVED.

UTILITY STAKING

A. LASER METHOD – OFFSET AND GRADE AT EACH MANHOLE. OFFSET AND GRADE 50' AND 100' OUT FROM EACH MANHOLE UNLESS OTHERWISE APPROVED.

TESTING

A. BEFORE ANY SEWER LINE IS PLACED INTO SERVICE OR ACCEPTED BY THE VILLAGE, IT SHALL BE SUBJECTED TO AND PASS LOW PRESSURE AIR TEST. EACH RUN BETWEEN MANHOLES, WITH ALL SERVICE LATERALS STUBBED INTO PROPERTY LINES, SHALL BE TESTED BEFORE BEING ACCEPTED. THE CONTRACTOR OR DEVELOPER SHALL FURNISH ALL EQUIPMENT AND MATERIAL NECESSARY TO CONDUCT THIS TEST. THE TRENCH SHALL BE COMPLETELY BACKFILLED BEFORE TESTING.

B. SEE SANITARY TESTING NOTES.

C. BEFORE FINAL ACCEPTANCE BY THE VILLAGE AND BEFORE ANY SERVICE LINE IS PUT INTO USE, ALL SANITARY SEWERS AND MANHOLES SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER BY USE OF A SEWER-JET, OR EQUAL, TYPE OF EQUIPMENT.

HOUSE CONNECTIONS

A. NO SERVICE LINE SHALL BE ALLOWED TO CONNECT DIRECTLY INTO A MANHOLE, SUBJECT TO APPROVAL BY THE VILLAGE IN SPECIFIC CASES.

B. THE ENDS OF ALL SERVICE LINES OR TEES SHALL BE ACCURATELY LOCATED, MAPPED, AND GIVEN TO THE VILLAGE WITHIN 15 DAYS AFTER INSTALLATION.

C. BEFORE MAKING A CONNECTION TO AN EXISTING SEWER TAP OR SEWER LATERAL, THE CONTRACTOR SHALL CHECK THE EXISTING PIPE BY UTILIZING A SEWER EEL, STRAP, OR SEWER ROD TO SEE THAT THE EXISTING PIPE IS CONNECTED TO THE MAIN SEWER. IF NECESSARY, THE VILLAGE WILL PROVIDE, AT THE CONTRACTOR'S EXPENSE, A HYDRAULIC SEWER CLEANER WHICH WILL PRODUCE LARGE VOLUMES OF WATER TO CHECK THE LATERAL.

D. LATERALS FROM THE MAIN TO THE PROPERTY LINE SHALL BE 6" MINIMUM WITH CLEANOUT AT THE PROPERTY LINE.

E. A PERMIT TO OPEN INTO, ALTER, OR DISTURB ANY PUBLIC SEWER MUST BE OBTAINED.

F. ALL ABANDONED SEWER LATERALS SHALL BE CAPPED AT THE OWNER'S EXPENSE.

PIPE

A. ALL PIPE AND SPECIALS SHALL BE PVC SDR-35 UNLESS OTHERWISE APPROVED BY THE VILLAGE. MINIMUM DIAMETER OF PIPE SHALL BE 8".

B. DUCTILE IRON PIPE WILL BE USED IN STREAM CROSSINGS AND WHERE MAXIMUM SEPARATION CAN NOT BE MAINTAINED.

C. ALL JOINTS SHALL BE OF THE BELL AND SPIGOT TYPE, THE BELLS BEING FORMED INTEGRALLY WITH THE PIPE. THE BELL SHALL CONTAIN A FACTORY INSTALLED ELASTOMETRIC GASKET WHICH IS POSITIVELY RETAINED. NO SOLVENT CEMENT JOINTS WILL BE PERMITTED IN FIELD CONSTRUCTION EXCEPT AS SPECIFICALLY AUTHORIZED BY THE VILLAGE.

<u>FLEXIBLE PIPES</u>	<u>MATERIAL SPECIFICATIONS</u>	<u>JOINT SPECIFICATIONS</u>
POLYVINYL CHLORIDE	ASTM D-3034 (SDR-35) PIPE STIFFNESS = 46PSI	ELASTOMERIC GASKET ASTM D-3212
DUCTILE IRON	ANSI A-21.51 & AWWA C-151	ANSI A-21.11 & AWWA C-111

1. SDR = OUTSIDE DIAMETER DIVIDED BY WALL THICKNESS.
2. THE SPECIFICATIONS ABOVE SHALL BE THOSE MOST RECENTLY ADOPTED BY THE APPROPRIATE STANDARDS SETTING ORGANIZATIONS.

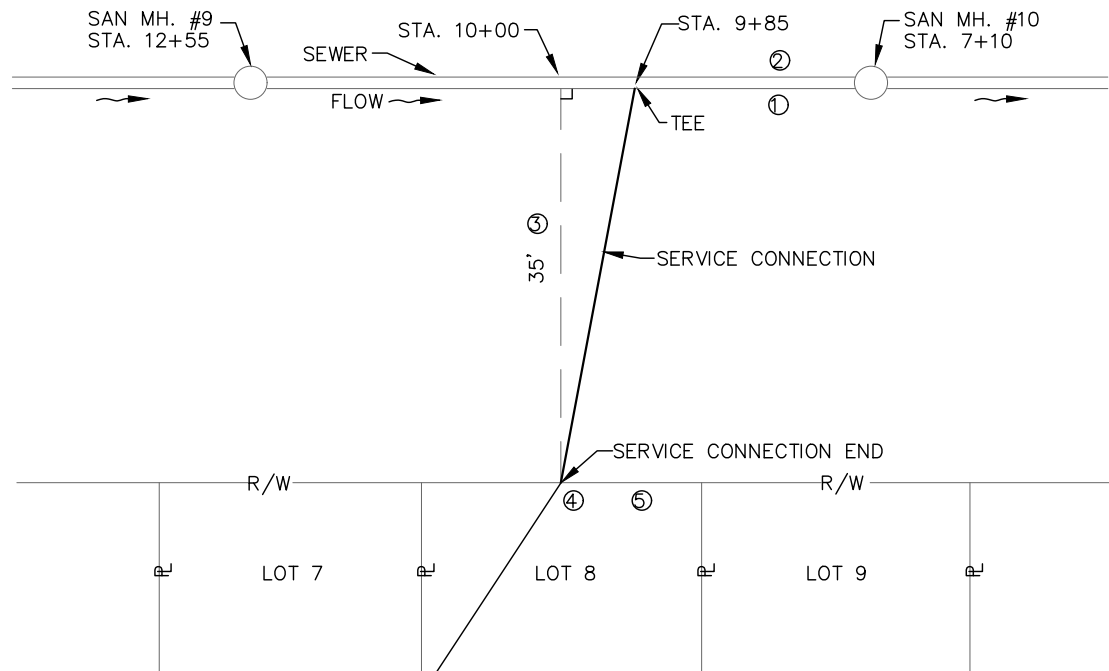
VILLAGE OF
GLANDORF



MISCELLANEOUS SANITARY SEWER NOTES

REVISIONS:

DATE APPROVED: 08-01-2006
PAGE No. 900-11



EXAMPLE

1. 275'
2. 290'
3. 35'
4. 8.9'
5. 942.9

- ① HORIZONTAL DISTANCE OF TEE TO DOWNSTREAM MANHOLE.
- ② HORIZONTAL DISTANCE OF SERVICE CONNECTION END TO DOWNSTREAM MANHOLE ALONG SEWER.
- ③ PERPENDICULAR DISTANCE FROM SEWER TO SERVICE CONNECTION END.
- ④ DEPTH OF SERVICE CONNECTION END FLOW LINE TO ORIGINAL GROUND.
- ⑤ ELEVATION OF SERVICE CONNECTION END FLOW LINE.

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SERVICE CONNECTION LOCATION REFERENCE

REVISIONS:

DATE
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08-01-2006
PAGE No.
900-12