



VILLAGE OF LA GRANGE
DEPARTMENT OF COMMUNITY DEVELOPMENT

RESIDENTIAL SITE DEVELOPMENT PERMIT PACKET

Revised: December 23, 2014
Revised: February 14, 2013
Revised: October 4, 2012
Revised: April 18, 2012
Revised: September 12, 2011
Revised: June 1, 2007
August 25, 2003

Village of La Grange



To: Permit Applicant

Re: Residential Site Development Permit Packet

Dear Applicant:

This packet has been prepared as a compilation of the instructions, specifications, and guidelines for residential site development within the Village of La Grange. First issued in 2003, the site development permit packet has been periodically updated to reflect changes in code and practice, and to address issues encountered since that time.

Flooding, rear-yard drainage, and excavation safety remain as the most cited concerns of residents when faced with construction within their neighborhood. This packet has been updated with these environmental concerns in mind, promoting sustainable development principles in order to reduce neighborhood impacts from construction.

This packet outlines the specific standards for review by the Village Engineer for projects which require topographical survey and a site grading plan. There are two ways that grading plans would be required (1) if your project disturbs more than 250 square feet of site area, then a site grading plan will be required; or (2) if you are constructing an addition that increases building coverage to within 5% of the maximum allowable coverage, a site grading plan is also required [Example: (25% within a district with a maximum of 30%)]. You will need to retain a licensed civil engineering consultant to prepare the required plans and documents.

In addition, if your project involves the construction of a new residence or an addition with basement excavations within five feet of the property line, then a geotechnical consultant will also need to be retained to verify soil conditions as outlined in this packet. A drainage dissipation system must be installed when the project includes a ground water sump pump or when site characteristics necessitate special drainage control.

As consideration is given to the content of the permit packet, we request that the purpose and intent of the requirements be embraced by your builder and consultants, so that the completed development satisfies not only your expectations, but also that of your neighbors.

If you should have any questions, please feel free to contact the Department of Community Development at 708-579-2320.

Thank you and good luck with your project!

Sincerely,

VILLAGE OF LA GRANGE
Community Development Department

53 South La Grange Road P.O. Box 668 La Grange, Illinois 60525 (708) 579-2313 Fax (708) 579-0980

Residential Site Development Permit Packet
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 Department of Community Development
 Village of La Grange

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Residential Site Development Permit Packet
CERTIFICATION AND ACKNOWLEDGMENT
 Department of Community Development
 Village of La Grange

APPLICANT CERTIFICATION:

I hereby certify as permit applicant, that I have read and understand the submission requirements as detailed in the Permit Packet, and understand that:

1. Should the submitted permit planning documents be found to be incomplete, the documents will be returned without review.
2. Subject to the review of submitted documents by Village staff or consultants, any revisions to the planning documents that may be required to address identified deficiencies, must be completed before permit approval is granted.
3. **The cost incurred by the Village in the review of the submitted planning documents, including legal and engineering consultant costs, shall be paid by the applicant prior to the issuance of the Building Permit.**
4. **The legal and engineering consultant cost incurred by the Village during construction of the permitted work, shall be paid by the applicant prior to the issuance of the Certificate of Occupancy.**

Applicant Signature:

Date:

Printed Name:

Address:

Telephone/Email:

Project Address:

Residential Site Development Permit Packet
PERMIT SUBMISSION AND REVIEW PROCEDURES
Department of Community Development
Village of La Grange

The following outlines the [site plan](#) review process involved in the permitting of residential property [development](#), [redevelopment](#), or modification projects within the Village of La Grange.

- The [applicant shall](#) submit a fully completed and endorsed copy of the Certification and Acknowledgment with the [building permit](#) application.
- The [applicant shall](#) submit three (3) copies of the Plat of Survey, [Topographical Survey](#), and [Site Development Plan](#) with the [building permit](#) application. The survey and plan documents [shall](#) clearly define the existing property, the proposed scope of work, and the measures planned to avoid adverse impacts on public infrastructure and neighboring private properties. All printed copies are to be signed and sealed by the licenced professional responsible for their preparation.
- The [applicant shall](#) submit three (3) copies of geotechnical reports that have been prepared to aid the design of building foundations, foundation excavation supports, and drainage [dissipation](#) systems.
- The [applicant shall](#) submit fully completed and endorsed copies of the check sheets with the [building permit](#) application. The Illinois licenced [land surveyor](#) and [civil engineer](#), engaged in the preparation of the [planning documents](#) on behalf of the applicant, [shall](#) complete the check sheets.
- The [applicant shall](#) submit a fully completed and endorsed copy of the Site Development Data Sheet and the [Site Drainage Dissipation](#) Data Sheet with the [building permit](#) application. The Illinois licenced [civil engineer](#) engaged in the preparation of the [Site Development Plan](#) on behalf of the applicant, [shall](#) complete the data sheets.
- Following submission, the [Village's](#) staff and consultants will review the [planning documents](#) to ensure conformance with applicable codes, standards, and regulations, and to ensure that the drainage characteristics of the [development](#) have been identified and potential impacts reasonably mitigated.
- The [applicant](#) will receive review comments identifying any planning deficiencies identified during the review. The [applicant shall](#) submit revised [planning documents](#) with a letter of disposition outlining changes made to address review comments. Depending on circumstance, additional changes [may](#) be required as the plan content is refined and made acceptable. The [applicant](#) should expect each review cycle to require between three (3) and ten (10) working days.
- Once all planning deficiencies have been satisfactorily addressed, and all permit review fees paid by the [applicant](#), the [building permit](#) will be issued.

Residential Site Development Permit Packet
PLAT OF SURVEY - CHECK SHEET
 Department of Community Development
 Village of La Grange

✓	Check Sheet Item	
	1. The plat has been prepared within 3 years of the date of submission, and depicts current conditions within the development parcel .	
	2. The plat shows the legal description , street address, subdivision parcel numbers, and parcel identification number (PIN) for the development parcel .	
	3. The plat shows and identifies adjacent street right-of-way and distance to nearest cross-street right-of-way.	
	4. The plat locates, dimensions, and defines existing utility easements within the parcel .	
	5. The plat shows, parcel dimensions, lot corner markers found or set, fence or building offsets or encroachments.	
	6. The plat is clear and legible, utilizing line styles and weights, fill patterns, and text to differentiate dimensions and features.	
	7. The plat shows existing building structure type, exterior wall dimensions, and off-set dimensions between building structures and all lot lines.	
	8. The plat shows public sidewalk and roadways adjoining the parcel , and private sidewalk, driveway, patios, and deck surfaces within the parcel .	
	9. The plat is prepared using a standard engineering scale, dimensioned in decimal feet units, with a north reference, a legend of symbols, and printed in scale. The survey shall also be distributed electronically in a Portable Document Format (PDF) to aid and expedite the review and comment process.	
	10. The plat is signed, sealed, and dated by a Illinois licensed land surveyor. The plat survey identifies the survey company name, address, and telephone numbers, survey date, the issue date, and survey project reference number.	
Licensed Professional Completing Check Sheet:		
_____	(Seal)	_____
Signature		Date

Residential Site Development Permit Packet
TOPOGRAPHIC SURVEY - CHECK SHEET
 Department of Community Development
 Village of La Grange

✓	Check Sheet Item
	1. The topographic survey provides all of the content of the plat of survey, including legal description , street address, parcel identification number, parcel dimensions, utility easements , adjacent street right-of-way dimensions, and distance to nearest cross-street right-of-way.
	2. The survey is clear and legible, utilizing line styles and weights, fill patterns, symbols, and text to differentiate dimensions and objects, providing an effective presentation.
	3. The survey is prepared using a standard engineering scale, dimensioned in decimal feet units, with a north reference, a legend of symbols, and has been printed in an acceptable scale on acceptable paper media. Acceptable scales are 1-inch equals 10-feet, and 1-inch equals 20-feet; acceptable paper media shall not be smaller than the 11-inch x 17-inch (ANSI-B) standard. Other standard scales may be accepted for displaying larger survey areas. The survey shall also be distributed electronically in a Portable Document Format (PDF) to aid and expedite the review and comment process.
	4. The plat locates, dimensions, and defines existing utility easements within the parcel .
	5. The survey identifies and describes the Village survey marker used for the elevation datum and identifies local control points set on semi-permanent structures adjoining the site .
	6. The survey shows all building locations and dimensions within the parcel , and all buildings within an area extending at least 30 feet beyond the parcel lot lines.
	7. The survey locates and identifies private sidewalk, driveway, patios, and deck surfaces within the parcel , and within an area extending at least 30 feet beyond the parcel lot lines.
	8. The survey identifies tree locations and sizes within the parcel and within an area extending at least 30 feet beyond the parcel lot lines.
	9. The survey elevations are shown with positional x-markers, and are oriented at a common angle to the horizontal.
	10. The survey shows the location of public sidewalk, street pavement, electrical boxes, power poles, light poles, fences, sewer manholes , catch basins , water valve boxes, vaults, and other similar utility features within the street right-of-way or utility easement adjoining parcel .
	11. The survey shows the alignment and elevation of water main extending from valve vault or valve box positions relative to the parcel lot line.
	12. The survey dimensions the location of upstream and downstream sewer manholes relative to parcel lot lines, and identifies sewer type, sewer size, flow direction, structure rim elevation, and sewer invert elevations.

✓	Check Sheet Item
	13. The survey shows location and elevation of drainage swales , ditches , or other watercourses located within the parcel , and within the survey area extending at least 30 feet beyond the parcel lot lines.
	14. The survey provides spot elevations on 20 to 25 foot intervals, and at critical high and low points within the parcel , along the parcel lot lines, and within a survey area extending at least 30 feet beyond the parcel lot lines.
	15. The survey shows top of foundation elevations of residences, foundation steps or brick ledge elevations, the entrance elevation for garage structures , and spot elevations at building corners, doorways, and window wells or other ground level window openings.
	16. The survey shows spot elevations for existing walkways, driveways, top of curb, centerline of pavement, drainage structure covers, sewer pipe inverts.
	17. The survey is signed, sealed, and dated by a licensed land surveyor or civil engineer. The survey identifies the survey company name, address, and telephone numbers, survey date, the issue date, and survey project reference number.
Licensed Professional Completing Check Sheet:	
_____	(Seal)
Signature	Date

Residential Site Development Permit Packet
SITE DEVELOPMENT PLAN - CHECK SHEET
 Department of Community Development
 Village of La Grange

✓	Check Sheet Item
	1. The site plan shows all content itemized in the topographic survey check sheet, but with existing building outline and site improvements shown in background.
	2. The site plan identifies the existing items to be removed including existing buildings, pavements, utility structures , and trees.
	3. The site plan shows the location of the soil borings taken to guide foundation design, guide the design of soil support systems, and guide the design of drainage dissipation systems.
	4. The site plan shows a configuration for proposed buildings, accessory structures , or building additions, that matches that shown on architectural plan.
	5. The site plan shows dimensions of the proposed buildings, accessory structures , or building additions, with lot line offset dimensions indicated.
	6. The site plan shows the location of proposed doorway openings, doorway stoops, bay windows, and window well projections.
	7. The site plan shows the dimensional configuration, elevation, and material characteristics for proposed driveways, walkways, doorway stoops, patios, decks, stairways, and porches.
	8. The site plan shows the configuration, elevation, and cross-sectional details for proposed pervious driveway or patio pavement surfaces.
	9. The site plan shows width and gradient of new driveways, and the width dimensions of new drive aprons and the curb depression.
	10. The site plan shows the elevation of the proposed top of foundation and garage floor entrance elevation, and identifies elevations for foundation steps and/or brick ledges.
	11. The site plan shows proposed elevation contours and proposed spot elevations at building corners, lot lines, and within side-yard and rear-yard drainage swales .
	12. The site plan delineates drainage swales with centerlines, and identifies design gradients and elevations along the flow path, and provides elevations for the controlling summit points, transitional grading points, and low points.
	13. The site plan shows a drainage dissipation system appropriately located in the rear-yard area and details volume, dimensions, elevations, material specification, cross-section configuration. The volume of the dissipation system equals or exceeds that required for the development .

✓	Check Sheet Item
	14. The site plan shows proposed storm water drainage outlet provisions, such as surface inlets , sewer connections, drainage dissipation systems, and overland swales routed to avoid or minimize discharge into neighboring properties.
	15. The site plan shows downspout discharge points and sump pump discharge points, and routes drainage within the site to suitable outlets. Sump pump discharges to rear-yard surfaces or below-grade dissipation system constructed in the rear-yard. Sump pump pit shown and located relative to foundation walls.
	16. The site plan shows location and elevation of the existing sewer main and water mains in adjacent public right-of-way or easements .
	17. The site plan delineates the location, elevation, and specification of proposed sanitary sewer and storm sewer service or main construction, and any proposed extensions to serve accessory structures.
	18. The site plan delineates the location, elevation, and specification of proposed water service construction, and any proposed extensions to serve accessory structures, and specifies utility separation dimensions.
	19. The site plan specifies the length of curb and gutter replacement that is required for driveway and utility construction or other site development activities.
	20. The site plan specifies the length of public sidewalk that will be replaced as a result of driveway or utility construction or other site development activities.
	21. The site plan shows and specifies the replacement of street pavement expected to be damaged by the construction of utilities or other site development activities.
	22. The plan specifies and delineates tree protection measures that will be provided during the construction of the site improvements.
	23. The site plan specifies the restoration of landscape surfaces disturbed by construction activities including sodding of parkways and the replacement of parkway trees.
	24. The site plan indicates the location of the municipal street light system and specifies protection or relocation measures required by the site development activities.
	25. The site plan specifies the location of temporary erosion control measures, including the site construction entrance, silt barrier fence, inlet filters, and filter bag sediment traps, and specifies areas designated for excavation spoil or material storage, and placement of sanitary facilities required to support the site development activities.
	26. The site plan provides clearly annotated construction details for all proposed improvements such as walkways, driveways, patios, water services, sanitary sewer , storm sewer , sewer main connections, water main connections, clean-out risers, dissipation systems, inlet structures , vapor traps , silt fencing, tree barrier fencing, sediment traps, inlet filters, and roadway pavement patches.
	27. The site plan shows proposed elevations with positional markers and common orientation angle and text characteristics, that clearly differentiates them from existing elevations.

✓	Check Sheet Item
	28. The site plan identifies and describes the Village survey marker location, number, and elevation referenced to establish the design datum and identifies local control points set on semi-permanent structures adjoining the site .
	29. The site plan is clear and legible, utilizing line styles and weights, fill patterns, symbols, and text to differentiate dimensions and objects, and distinguish between proposed and existing facilities.
	30. The site plan specifies that the contractor notify the Joint Utility Locating Information for Excavators (JULIE) service before undertaking any excavations within public right-of-way or the private development site.
	31. The site plan is prepared using a standard engineering scale, dimensioned in decimal feet units, with a north reference, a legend of symbols, and has been printed in an acceptable scale on acceptable paper media. Acceptable scales are 1-inch equals 10-feet, and 1-inch equals 20-feet; acceptable paper media shall not be smaller than the 11-inch x 17-inch (ANSI-B) standard. Other standard scales may be accepted for displaying large planning areas. The plans shall also be distributed electronically in a Portable Document Format (PDF) to aid and expedite the review and comment process.
	32. The site plan is signed, sealed, and dated by a Illinois licensed civil engineer. The site plan identifies the engineering company name, address, and telephone numbers, original issue date, revision dates, and project reference number.
Licensed Professional Completing Check Sheet:	
_____	(Seal)
Signature	Date

Residential Site Development Permit Packet
RECORD DRAWING (AS-BUILT) - CHECK SHEET
 Department of Community Development
 Village of La Grange

✓	Check Sheet Item
	1. The record drawing shows all content displayed on the site plan as itemized in the site plan check sheet.
	4. The record drawing shows the configuration of constructed buildings, accessory structures , or building additions.
	5. The record drawing shows dimensions of the constructed buildings, accessory structures , or building additions, with front, side, and rear lot line offset dimensions indicated.
	7. The site plan shows the dimensional configuration, elevation, and material characteristics for proposed driveways, walkways, doorway stoops, patios, decks, stairways, and porches.
	8. The site plan shows the configuration, elevation, and cross-sectional details for proposed pervious driveway or patio pavement surfaces.
	9. The site plan shows width and gradient of new driveways, and the width dimensions of new drive aprons and the curb depression.
	10. The record drawing shows the top elevation of the building foundation and garage floor entrance elevation, and identifies elevations for foundation steps and/or brick ledges.
	11. The record drawing shows spot elevations and contours with spot elevations at building corners, lot lines, and within side-yard and rear-yard drainage swales .
	12. The record drawing delineates drainage swales with centerlines, and identifies elevations along the flow path, including the controlling summit points, transitional grading points, and low points.
	13. The record drawing shows the outline of the drainage dissipation system constructed in the rear-yard and details access riser rim elevations, invert elevations, and connecting pipe elevations.
	14. The record drawing shows surface drainage inlets , sewer connections, drainage dissipation systems, and overland swales .
	15. The record drawing shows downspout discharge points and sump pump discharge points and pipe outlets.
	17. The record drawing delineates the location and elevation, the constructed sanitary sewer service.
	18. The record drawing shows the constructed location of the water service, curb stop, and corporation stop connection, and specifies utility separation dimensions.

✓	Check Sheet Item
	26. The record drawing shows all constructed surface improvements including walkways, driveways, patios, decks, window wells.
	29. The site plan is clear and legible, utilizing line styles and weights, fill patterns, symbols, and text to differentiate dimensions and objects, and distinguish between proposed and existing facilities.
	31. The site plan is prepared using a standard engineering scale, dimensioned in decimal feet units, with a north reference, a legend of symbols, and has been printed in an acceptable scale on acceptable paper media. Acceptable scales are 1-inch equals 10-feet, and 1-inch equals 20-feet; acceptable paper media shall not be smaller than the 11-inch x 17-inch (ANSI-B) standard. Other standard scales may be accepted for displaying large planning areas. The plans shall also be distributed electronically in a Portable Document Format (PDF) to aid and expedite the review and comment process.
	32. The site plan is signed, sealed, and dated by a Illinois licensed land surveyor or civil engineer. The site plan identifies the engineering company name, address, and telephone numbers, original issue date, revision dates, and project reference number.
Licensed Professional Completing Check Sheet:	
_____	_____
Signature	(Seal)

	Date

Residential Site Development Permit Packet
SITE DEVELOPMENT DATA SHEET
 Department of Community Development
 Village of La Grange

PROPERTY ADDRESS:								
See Table 5	TABLE 1 - BUILDING SETTING		<u>Lot</u> Width:		<u>Lot</u> Depth:		<u>Lot</u> Area:	
	Zoned <u>Lot</u> Classification:	R-	Existing		Proposed		Zoning District Requirements	
	Front Yard Set-Back Dimension		FT		FT		FT	
	Side-Yard Set-Back Dimension		FT		FT		FT	
	Side-Yard Set-Back Dimension		FT		FT		FT	
	Rear-Yard Set-Back Dimension		FT		FT		FT	
	See Table 6	TABLE 2 - BUILDING COVERAGE		Existing		Proposed		Net Change
Primary <u>Structure</u> Area		SF		SF		SF		
<u>Accessory Structure</u> Area		SF		SF		SF		
Total Building Area		SF		SF		SF		
Percent Building Coverage		%		%		%		
Maximum Permissible Building Coverage from Table 5:				SF		%		
See Table 6	TABLE 3 - <u>LOT</u> COVERAGE		Existing		Proposed		Net Change	
	Primary <u>Structure</u> Area		SF		SF		SF	
	<u>Accessory Structure</u> Area		SF		SF		SF	
	Driveway Surface Area		SF		SF		SF	
	Patio/Deck Surface Area		SF		SF		SF	
	Walkway Surface Area		SF		SF		SF	
	Total Impervious Surface Area		SF		SF		SF	
	Percent <u>Impervious Area</u>		%		%		%	

TABLE 4 - <u>LOT</u> COVERAGE ALLOWANCE CALCULATIONS				Area Values	Percent of Total
1	Total Proposed <u>Impervious Area</u> from Table 3			SF	%
2	If there is an open front porch, enter total area		SF		
3	Enter actual open front porch surface area, up to a maximum of 160 square feet			SF	
4	Enter total foundation/floor area of detached rear-yard garage		SF		
5	Enter half of the value of Line 4, up to a maximum of 330 square feet			SF	
6	Enter driveway surface area serving detached garage, up to a maximum of 450 sf			SF	
7	Enter total area of <u>approved</u> pervious pavement surface. (Specification Section M)			SF	
8	Enter the sum of areas (line 3 + line 5 + line 6 + line 7)			SF	
9	TOTAL <u>IMPERVIOUS AREA</u> WITH ALLOWANCES Subtract value in Line 8 from line 1 to determine adjusted values			SF	%
10	Maximum Permissible <u>Lot</u> Coverage from Table 5				%

TABLE 5 - ZONING DISTRICT REQUIREMENTS					
Description / Residential Zoning Classification	R-1	R-2	R-3	R-4	R-5
Minimum Front Yard (1)	35 feet	35 feet	35 feet	35 feet	35 feet
Minimum Corner Side Yard (2)	24 feet	24 feet	17 feet	17 feet	17 feet
Minimum Interior Side Yard (3)	10 %	10 %	10 %	10 %	10 %
Minimum Interior Side Yard	8 feet	8 feet	5 feet	5 feet	5 feet
Total Minimum Interior Side Yard (4)	N/A	N/A	12 feet	12 feet	12 feet
Minimum Rear Yard	20% of lot depth or 25 ft, whichever is greater, 35 ft maximum				
Maximum Building Coverage - Interior Lot (5)	25%	25%	30%	30%	35%
Maximum Building Coverage - Corner Lot (5)	30%	30%	35%	35%	40%
Maximum Impervious Lot Coverage (5)	45%	45%	45%	45%	45%
<p>Note 1: The front yard setback is based on the average of the two adjacent properties, minimum 25 ft.</p> <p>Note 2: The corner side yard is defined as the longer of the two yards fronting on the street right-of-way.</p> <p>Note 3: The interior side yard percentage is based on the average lot width.</p> <p>Note 4: The total minimum side yard is computed as the sum of the two interior side yards.</p> <p>Note 5: The maximum coverage is shown as a percentage of total lot area.</p>					

TABLE 6 - AREAS TO BE INCLUDED IN ZONING & LOT COVERAGES		
Project Type / Building or Lot Coverage Calculation Required	BUILDING	LOT
New Building Construction	Yes	Yes
Building Addition	Yes	Yes
Garage (new or replacement)	Yes	Yes
Interior remodel, limited to work inside existing building walls and roof	No	No
Bay window or chimney	Yes	No
Cantilever building projections	Yes	No
Porch, "Open" or screened	Yes	Yes
Building eaves less than three feet from lot line	Yes	Yes
Shed or similar accessory building	Yes	Yes
Dormer addition to existing structure	No	No
Swimming pool	No	Yes
Wood deck (Note 2)	No	Yes
Driveway, sidewalk, or patio pavements (Note 1)	No	Yes
Patio constructed of permeable materials (Note 2)	No	No
Aggregate pathway (Note 2)	No	Yes
<p>Note 1: New or expanded pavement surfaces require lot coverage calculations; pavement replacement projects do not require calculations, unless associated with other building project that requires calculation.</p> <p>Note 2: A determination as to whether a particular surface material is impervious or permeable will be made by the Village Engineer. All proposed permeable or pervious pavement surface areas must satisfy design and construction criteria issued by the Village for passive dissipation systems. All pavement surfaces are to be regarded as impervious unless otherwise designated by the Village Engineer following the review of plans.</p>		

Residential Site Development Permit Packet
SITE DRAINAGE DISSIPATION DATA SHEET
 Department of Community Development
 Village of La Grange

PART 1 - PROPERTY STREET ADDRESS	
1.1	

PART 2 - BASEMENT FOUNDATION DISPLACEMENT VOLUME			
2.1	Property Corner Elevation No.1 (ft):	PC1 =	
2.2	Property Corner Elevation No.2 (ft):	PC2 =	
2.3	Property Corner Elevation No.3 (ft):	PC3 =	
2.4	Property Corner Elevation No.4 (ft):	PC4 =	
2.5	Average Surface Elevation (ft):	$ASE = (PC1 + PC2 + PC3 + PC4) \div 4 =$	
2.6	Design Groundwater Elevation (ft):	(See Note 2) $DGE = ASE - 5.0 =$	
2.7	Bottom of Footing Elevation (ft):	BFE =	
2.8	Computed Depth Below Groundwater Elevation (ft):	$DBGE = DGE - BFE =$	
2.9	Total Surface Area Occupied by Basement Foundation (sq ft):	BFA =	
2.10	Computed Volume Displaced by Basement Foundation (cu ft):	$BFV = DBGE \times BFA \times 0.10 =$	

PART 3 - SURFACE AREA DRAINAGE VOLUME			
3.1	Front <u>Lot</u> Line Length(ft):	FLL=	
3.2	Rear <u>Lot</u> Line Length (ft):	RLL=	
3.3	Side <u>Lot</u> Line Length 1 (ft):	SLL1=	
3.4	Side <u>Lot</u> Line Length 2 (ft):	SLL2=	
3.5	Adjusted <u>Lot</u> Area (sq ft):	$ALA = [((FLL + RLL) \div 2) \times ((SLL1 + SLL2) \div 2)] \times 0.45 =$	
3.6	Rain Depth Factor (ft):	RDA=	0.0833
3.7	Computed Surface Drainage Volume (cu ft):	$SDV = ALA\% \times RD =$	

SUMMARY - DISSIPATION STORAGE VOLUME REQUIRED			
2.10	Computed Basement Foundation Displacement Volume (cu ft):	BFV =	
3.7	Computed Surface Drainage Volume (cu ft):	SDV =	
	Total Volume Required for <u>Dissipation</u> Storage (cu ft):	(See Note 3) RV =	

PART 4 - GROSS <u>DISSIPATION</u> TRENCH VOLUME			
4.1	Length of Excavated <u>Dissipation</u> Trench (ft):	LDT =	
4.2	Width of Excavated <u>Dissipation</u> Trench (ft):	WDT =	
4.3	Depth of Excavated <u>Dissipation</u> Trench (ft):	DDT =	
4.4	Computed Volume of Excavated <u>Dissipation</u> Trench (cu ft):	EDT = L x W x D =	

PART 5 - GROSS PIPE VOLUME			
5.1	Diameter of Pipe Cylinder (ft):	D =	
5.2	Length of Pipe Cylinder (ft):	L =	
5.3	Number of Pipe Cylinders (#):	N =	
5.4	Computed Volume of Pipe Void Space (cu ft):	PVS = $[3.14 \times ((D \div 2)^2)] \times L \times N =$	

PART 6 - STORAGE VOLUME TO BE PROVIDED			
6.1	Computed Volume Occupied by <u>Dissipation</u> Trench Aggregate (cu ft):	TA = EDT - PVS =	
6.2	<u>Dissipation</u> Trench Coarse Aggregate (CA) Specified: CA-	Void Space (%): V% =	
6.3	Computed Volume of Aggregate Void Space (cu ft):	AVS = V% x TA =	
6.4	Computed Volume of Pipe Void Space (cu ft):	PVS =	
6.5	Total Contained Trench Volume (cu ft):	CTV = PVS + AVS =	
6.6	Total Dissipation System Volume to be provided (cu ft):	(See Note 3) RV =	

REFERENCE DATA - AGGREGATE POROSITY CHARACTERISTICS	% VOIDS
Coarse Aggregate - IDOT Gradation CA-1	35%
Coarse Aggregate - IDOT Gradation CA-7	25%
Coarse Aggregate - IDOT Gradation CA-11	25%
Coarse Aggregate - IDOT Gradation CA-16	20%
Coarse Aggregate - Pea Gravel	20%

DATA SHEET NOTES	
1.	An electronic version of the drainage <u>dissipation</u> data sheet can be obtained from the Department of Community Development Applications & Forms page, of the Village of La Grange web site (www.villageoflagrange.com).
2.	The seasonal design groundwater elevation (DGE) in La Grange is 5 feet below the average surface elevation.
3.	The required volume (RV) to be provided below grade is the computed volume displaced by the basement foundation. The computed surface drainage volume, shall be provided above grade, or added to the required below grade volume.
Licensed Professional Preparing Data Sheet:	
_____	_____
Signature	Date
	(Seal)

Residential Site Development Permit Packet
GENERAL PROVISIONS AND SPECIFICATIONS
Department of Community Development
Village of La Grange

A. APPLICANT RESPONSIBILITIES

1. The general contractor, developer, builder, or owner that has been defined as the permit applicant for the project, shall be responsible for all permitting fees and bonds required for the completion of all work identified on the site development plans and associated written directives, or other related building permit documentation.
2. The applicant shall be responsible for engaging the licensed professionals required to design and plan the work, and ensure satisfactory construction. Such professionals shall typically include architects, land surveyors, civil engineers, structural engineers, and geotechnical engineers.
3. The applicant shall provide complete contact information to facilitate communications during the permit review and construction process, including the applicant's name, mailing address, telephone number, and email address. Contact information for other individuals responsible for project design and construction shall also be provided by the applicant as required, to complete the distribution of written communications.
4. The applicant shall comply with Village ordinance when planning and constructing improvements within the public right-of-way. The applicant shall contact the Director of Public Works for instruction as to the requirements for working with the public right-of-way.
5. Prior to the start of construction the applicant shall attend the preconstruction meeting scheduled by the Department of Community Development to review permit requirements and construction expectations.
6. During construction of the site development, the applicant shall be responsible for ensuring that all constructed improvements, as well as all surface restoration, is completed in accordance with the permit planning requirements. The applicant shall secure rights-of-entry from neighboring property owners before trespassing and installing equipment, scaffolding, bracing or other materials associated with the work. The applicant shall be responsible for the restoration of any damage caused to public property or private property by the discharge of surface runoff, the discharge of pumped drainage, soil erosion, wind blown construction debris, soil subsidence, failure of constructed utility or structural systems, moving of equipment, storage of materials, or by action of the labor engaged in the work.
7. Following the construction of improvements described in site development plans, and prior to the issuance of the of Certificate of Occupancy (CO), an "as-built" development plan depicting a survey of the constructed configuration and elevation for the completed site development project shall be submitted by the applicant to confirm conformance with the approved grading and drainage scheme. The plan shall be prepared and sealed by the licensed land surveyor,

essentially updating the original [topographic survey](#) and [site development plan](#) submitted with the permit application. The [record drawing shall](#) be submitted to the Department of Community Development for review and approval.

8. [Grading](#) or construction deficiencies identified will be expected to be corrected or repaired prior to issuance of the Certificate of Occupancy. A [Temporary Certificate of Occupancy \(TCO\)](#) [may](#) be granted only to address exterior deficiencies caused by inclement weather occurring during the winter season, occurring between November 30th and April 15th. Prior to the issuance of a TCO, the [applicant shall](#) post a cash bond equal to the value of the uncompleted work determined by the Village Engineer, as a performance guarantee, to ensure completion of work or the correction of identified exterior deficiencies.

B. STANDARD SPECIFICATIONS AND CODES

The applicable portions of the Codes, Standard Specifications, and Manuals as herein identified, [shall](#) apply to all work and materials employed in the [development](#) of property within the Village of La Grange. In case of conflict between standards, the [Village Engineer shall](#) interpret the specification and make the determination as to the standard applicable to the given circumstance.

- a. The most current edition of the "CODE OF ORDINANCES" of the Village of La Grange.
- b. The most current edition of the "ZONING CODE" of the Village of La Grange.
- c. The most recent edition of the "ILLINOIS PLUMBING CODE" (Illinois Administrative Code Title 77, Chapter 1, Sub-chapter R, Part 890), adopted by the Village of La Grange.
- d. The most recent edition of the "NATIONAL ELECTRICAL CODE", adopted by the Village of La Grange.
- e. The most recent edition of the "BUILDING OFFICIALS AND CODE ADMINISTRATORS" (BOCA) developed building codes, adopted by the Village of La Grange.
- f. The most recent edition of the "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", adopted by the Illinois Department of Transportation.
- g. The most recent edition of the "ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", adopted by the Illinois Department of Transportation.
- h. The most recent edition of the "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", adopted by the Illinois Environmental Protection Agency.
- i. The most recent edition of the "MANUAL OF PROCEDURES FOR THE ADMINISTRATION OF THE SEWER PERMIT ORDINANCE", adopted by the Metropolitan Water Reclamation District of Greater Chicago.
- j. The most recent edition of the "ILLINOIS URBAN MANUAL", issued by the National Resources Conservation Service (NRCS) and maintained by the Association of Illinois Soil and Water Conservation Districts (AISWCS), and adopted by the Illinois Environmental Protection Agency (IEPA).

C. SITE DRAINAGE MANAGEMENT

1. Surface drainage generated by or passing through each developed parcel of property, shall be properly managed within the parcel, so that a public nuisance is not created, or a burden is not placed upon neighboring properties. Given this basic tenet, it is the responsibility of each property owner that drainage outlets not be obstructed, that drainage is not misdirected, and that drainage rates are not unreasonably increased. As dictated by elevation and surface conditions, parcels of property of higher elevation shall manage and limit the discharge of runoff conveyed into lower properties. Lower properties shall similarly receive and manage drainage, so that it can eventually arrive at a suitable outlet. It is the intent of the site development planning process to identify the means and methods of drainage management that are expected to be employed to satisfy the responsibility requirements. The applicant must consider the inherent obligation of property ownership in managing drainage when preparing the site development plan, and be proactive in ensuring a satisfactory outcome.
2. Site development grading schemes shall be designed and constructed to route surface runoff toward outlets established by elevation contour and the configuration of drainage containment and disposal systems. Surface drainage shall be routed away from buildings and neighboring properties, and where feasible, toward the nearest contiguous road right-of-way where a public sewer system is maintained. Since site elevations generally dictate the feasibility of measures that may be applied, custom grading and drainage schemes must be devised to manage drainage within each development site to achieve these objectives.
3. The measures incorporated into a site drainage management system are expected to include a combination of surface conveyance, sub-surface pipe conveyance, and storage-dissipation systems, as described in the following:
 - a. Surface conveyance systems provide either dispersed surface flow across landscape and paved surfaces, or concentrated surface flow along paved gutters or landscaped drainage swales. Surface conveyance systems shall be designed to discharge to another surface conveyance system, a subsurface pipe conveyance system, or to a storage-dissipation system located within the development site.
 - b. Sub-surface pipe conveyance systems provide for the collection and routing of surface drainage to an appropriate drainage outlet. Such systems include drainage inlet structures and storm water or ground water piping networks designed to discharge to a public sewer system, a surface drainage channel, or to a storage-dissipation system.
 - c. Drainage dissipation systems provide temporary containment of drainage in constructed below-grade or above-grade storage volumes, and the disposal of drainage through natural infiltration, transpiration, and evaporative processes. Drainage dissipation systems include such measures as infiltration trenches, dry-wells, and surface depressions located in the rear-yard of the development site away from building foundations. Regardless of measure employed, the storage-dissipation system is to be configured using the site drainage dissipation system methodology developed for and included as part of the Permit Packet.

4. [Drainage system](#) connections to the public sewer system [may](#) be specified where a suitable surface drainage outlet is not available and where soil conditions limit the functionality of a [dissipation](#) system. Building [sanitary sewer](#) services [shall](#) not be used to convey surface drainage or groundwater drainage to a public sewer system. Separate [storm sewer services](#) must be constructed to convey such drainage to the public sewer system, when approved by the Village Engineer and Director of Public Works. The storm sewer services must appear on the site development plan, and be authorized during the permit review process.
5. [Dissipation](#) systems [shall](#) not be directly connected to a public sewer. Only indirect connections by way of an intermediary surface drainage [inlet structure](#) will be permitted. Such overflows [shall](#) be designed to function only after the [dissipation](#) system has exceeded its full storage capacity. When connected to a [combination sewer](#), such [inlet structures](#) are to be constructed with half-trap or running-trap assemblies installed on the outlet pipe to prevent vapor migration. Such construction [shall](#) be fully detailed and dimensioned on the [site plans](#).

D. DRAINAGE [DISSIPATION](#) SYSTEMS

1. As part of the [storm water management](#) provisions required for each [site development](#) project, drainage [dissipation](#) measures [shall](#) be installed to reduce the volume of runoff leaving the [development site](#) and entering the public sewer system. Such drainage [dissipation](#) systems are required for all residential [site development](#) projects disturbing 250 square feet or more of a given property, or for any remodeling or renovation project that includes the installation of a sump pump system to dispose of ground waters. The drainage [dissipation](#) system [shall](#) provide drainage [detention](#) within the [development site](#) in above-grade, below-grade, or a combination of both configurations. The volume specified for a [dissipation](#) system [shall](#) be determined using a methodology which accounts for both groundwater displacement and surface runoff parameters. A worksheet which outlines this methodology is included as part of the Permit Packet.
2. The storage volume computed for a given residential [site development](#), and subsequently encompassed within a [dissipation](#) system, [shall](#) be regarded as a requisite condition of the developed land use. The [dissipation](#) systems [shall](#) be maintained by the [applicant](#) and each successive property owner to ensure continued conformance with [drainage management](#) requirements. The owner of the property is required to repair, replace, or otherwise maintain the [dissipation](#) system and ensure its continued existence and functionality. The responsibility for the drainage [dissipation](#) system [shall](#) therefore be transferable to future owners of the property.
3. The [civil engineer](#) preparing the [site development plan](#) and responsible for detailing the design of the [dissipation](#) system [shall](#) review the findings outlined in the [geotechnical engineering](#) report obtained by the [applicant](#) for the [site development](#) permit. Specifically, information concerning groundwater elevations, soil permeability, and other characteristics [shall](#) be considered when designing the [dissipation](#) system.
4. [Below-grade dissipation](#) systems are intended to receive the [discharge](#) from building [sump pump](#) systems and surface drainage routed through properly configured inlet structures. When approved by the Village Engineer, screened and filtered surface drainage sources [may](#) also be routed into below-grade systems. A minimum volume of 140 cubic feet shall be provided within

the below-grade dissipation system. Below-grade systems shall be constructed with an attached grated structure which will allow excess accumulated drainage to overflow to grade in the event that the system becomes filled, and to receive approved surface drainage sources.

5. Above-grade dissipation systems constructed as part of a rain garden, vegetated swale, or similar measure, are intended to receive and dissipate surface drainage generated by the development through engineered infiltration and transpiration processes. Such surface storage may be configured to adjoin a below-grade dissipation system to complement and enhance functionality of the entire dissipation measure constructed within the space of the development site. Above-grade systems are not intended to replace below-grade dissipation systems, rather such systems should be sized and designed to complement below-grade systems, which are primarily intended to dissipate building sump pump discharges. Surface grading for the above-grade storage area shall be designed to impound site drainage to a depth necessary to provide the storage volume computed to be required before being allowed to discharge from the property. Storage depths of about 6-inches are considered to be a design maximum.
6. The drainage dissipation system is to be located in the rear-yard, a minimum of 10-feet from any principal structure, 5-feet from any accessory structure, and no closer than 3-feet from any property line. All construction details and cross-sections of the system are to be shown on the plans, specifying the type and configuration of materials used in the construction, and validating the containment volume by dimensioned geometry. Planning documents prepared for those rear-yard areas designed to include a surface storage system, shall provide an appropriate number of spot elevations and contour elevations to verify compliance with the volumetric requirements.
7. The above-grade storage volume shall be considered as permanent topographic feature of the development site. If future changes to property use or developed configuration involve filling or modification of the surface storage area, the drainage storage volume displaced by the surface change must still be maintained within the property, and the drainage pathways tributary to the storage area restored to full operation.
8. The overland flow of storm water drainage shall be directed to flow into or through a drainage dissipation system before being allowed to leave the development site. Such management of storm water is necessary to minimize impacts on neighboring properties and the sewer system.
9. All building sump pump systems shall discharge to the rear-yard space of the development parcel. Sump pumps are not permitted to discharge to the side-yard or front-yard spaces, or to sanitary sewer services of the residence. Drain tubes installed to extend sump pump discharges below grade to a more convenient point of discharge, shall not terminate in side-yard or front-yard spaces. In order to reduce the length of drain tube, the discharge outlet pipe shall pass thru the rear-wall, or thru a side-wall point located within 10-feet of the rear-wall corner.
10. In order to reduce risk of ice and debris blockage during winter months, a 3-inch gap between the sump pump outlet and the drain tube entrance shall be provided. The sump pump discharge shall be directly connected to the below-grade drainage dissipation system constructed in the rear-yard space. An overflow opening shall be provided as part of below grade dissipation systems that is designed to allow drainage to escape and flow across landscaped surfaces within the rear-yard of the development site.

11. Downspout [discharges](#) are to be directed to flow overland toward the front-yard or rear-yard space of the [development site](#). Downspouts are not to be directed to flow into side-yards where neighboring properties might be affected by the concentrated flow. Downspouts [shall](#) not be connected to the footing [drainage system](#) or to the [sanitary sewer](#) service of a building. Further, downspouts [shall](#) not be directly connected to a [storm sewer service](#) that outlets to the [combination sewer](#) system. Downspouts should [discharge](#) to grade at least five (5) feet from the building foundation to avoid foundation saturation. Drain tubes installed to extend downspout [discharges](#) below grade to a more convenient point of [discharge](#), [shall](#) terminate a minimum of fifteen (15) feet from public sidewalks and [shall](#) not terminate in side-yards. In order to reduce risk of ice and debris blockage during winter months, a 3-inch gap between the downspout outlet and the drain tube entrance [shall](#) be provided as part of the buried extension tube construction. A manufactured plastic drainage box and grate [may](#) be installed at ground-level to provide the air gap and to provide a means for separating entrained leaf and twig debris often conveyed by downspout systems. A surface drainage path [shall](#) be defined to route drainage overland to the front or rear-yard spaces in the event that the drainage box becomes obstructed.
12. The typical constructed configuration of a below-grade [dissipation](#) system involves the installation of segments of large diameter perforated pipe, pipe fittings, end caps, filter fabric encasement, and at least one 18-inch minimum diameter maintenance access riser with a solid cover. The pipe size and length [shall](#) be specified to provide the required storage volume computed using the Dissipation Data Sheet, but no less than 140 cubic feet or about 1000 gallons. The system is to be installed at an elevation which provides sufficient cover to support landscape restoration, but should not be greater than 5-feet in depth. The perforated pipe is to be fully encased in drainage aggregate yielding a minimum of 35% void space. The pipe should be placed on at least 6-inches of aggregate bedding and have a minimum of 6-inches of aggregate cover. The entire aggregate and pipe system is to be fully encapsulated in a needle-punched, non-woven geotextile composed of polypropylene fibers with properties that are equal to the *Mirafi 150N*. The installation shall be configured to have a 12-inch of topsoil cover. All connections to the below-grade [dissipation](#) system are to be soil tight, made with manufactured tee connections or field installed pipe coupling connections equal to the *Kore-N-Tee* product or the *Inserta-Tee* product. The couplings shall be installed in accordance with the manufacturers specifications. Manufactured dissipation products equivalent to that manufactured by *Advanced Drainage Systems Inc* shall be utilized in the design and construction of dissipation systems.
13. The typical constructed configuration of an above-grade [dissipation](#) system involves the excavation and [grading](#) of rear-yard surfaces in a manner necessary to create a containment volume capable of storing the volume of a one (1) inch rainfall. The above-grade storage area must be planned so that it can be maintained by the property owner in order to satisfy the [site](#) drainage requirements in perpetuity. A dimensioned detail for the drainage depression system [shall](#) be included on the plans to guide construction and validate the containment volume. The drainage depression [may](#) be configured to function as a [rain garden](#) or other landscape feature of the property, with the appropriate use of plant and soil materials necessary to facilitate the [dissipation](#) of drainage.
14. Both the below-grade and above grade drainage [dissipation](#) systems [shall](#) be inspected during their construction and also must be accessible for inspection during the *rough inspection* phase of

the [building permit](#) compliance process. Failure to complete the [dissipation](#) systems prior to the rough inspection, [shall](#) result in the delay of the rough inspection and a required suspension of building construction until the systems are installed and functional. The constructed location and configuration of the below-grade [dissipation](#) system, and any buried pipe connections, [shall](#) appear on the “[as-built](#)” development plan. The constructed configuration of the above-grade system [shall](#) also be documented by the “[as-built](#)” [plan](#) and the measured containment volume verified.

E. BUILDING ELEVATIONS

1. The top-of-foundation elevation for proposed [structures shall](#) be specified on the [site plan](#). Building addition projects [shall](#) specify existing, as well as proposed foundation elevations. Elevations for stepped foundations and brick ledges [shall](#) be indicated at each transition point. The top-of-foundation elevation for neighboring residential [structures shall](#) also be specified. Considerations in the selection of an appropriate top-of-foundation elevation [shall](#) include compatibility with adjacent residences, public sidewalks and roadways, and prevalent [site](#) drainage conditions.
2. The finished soil elevation adjacent to all new building foundations, [shall](#) be specified to be constructed six (6) inches below the adjoining top-of-foundation elevation to ensure effective drainage separation. The foundations [shall](#) be specified to be stepped, or [shall](#) be constructed with defined brick ledges, to accommodate transitions between lower and higher elevations that are dictated by [site](#) drainage design and the criteria for foundation exposure.
3. The finished floor elevation at garage entrances [shall](#) be specified to be constructed a minimum of six (6) inches below the top-of-foundation defined for the garage [structure](#). The elevation for doorway openings [shall](#) be clearly defined on the [site plan](#). The finished floor and top-of-foundation elevation for neighboring garage [structures shall](#) also be identified on the plan.
4. The [lot](#) line offset dimensions for residential foundations [shall](#) be specified on the [site plan](#) in accordance with the zoning class applicable to the [parcel](#) of property. A minimum offset of five (5) feet [shall](#) be provided between the foundation and the [lot](#) line, unless otherwise stipulated by zoning code.
5. The foundation for rear-yard garage [structures shall](#) be offset a minimum of three (3) feet from adjacent [lot](#) lines to provide a functional open corridor for surface drainage and maintenance access. The construction of [structures](#) within the rear-yard [shall](#) also be planned to conform to the aerial cable clearance requirements of the electric and communications utility companies. The applicable utility easements shall be documented during site planning by the land surveyor, and the applicable clearance requirements verified by the applicant’s building architect and documented on site planning documents prepared by the applicant’s civil engineer.

F. [SITE GRADING](#)

1. Drainage [swales](#) and surface [grading](#) specified on the [development](#) plan [shall](#) be designed with a minimum one percent (1%) gradient; greater gradients should be specified as allowed by [site](#) conditions, to improve drainage efficiency. Drainage [swales shall](#) also be designed and constructed with a fairly flat cross-section so that they can be easily maintained by the property owner. Sharp [ditch](#) cross-sections [shall](#) not be designed or constructed and will not be acceptable. While cross-[slopes](#) of ten percent (10%) or less should be specified, a maximum thirty percent (30%) cross-[slope may](#) be permitted based upon surface conditions.
2. Side-yard drainage [swales shall](#) be specified to direct tributary surface drainage either to the rear-yard or front-yard spaces, without a diversion into neighboring properties. Objects which might obstruct the function of drainage [swales shall](#) not be located in side-yards, unless otherwise configured to accommodate surface drainage. A minimum clear width of three (3) feet [shall](#) be maintained between any side-yard object and the [lot](#) line to accommodate the passage of surface drainage, pedestrians, and maintenance equipment. The large window well openings installed for emergency escape purposes [shall](#) not be installed in side-yard spaces unless the side-yard exceeds seven (7) feet in width, and a minimum three (3) foot clear width is maintained between the [lot](#) line and the window well. Basement window wells located in side-yard spaces [shall](#) be installed with a top elevation that ensures that drainage will be routed away from the window opening. Window well assemblies [shall](#) be sealed to the foundation to prevent the entry of drainage. Window well covers [shall](#) not be installed as a substitute for proper [grading](#) and [drainage management](#).
3. Thresholds for side-yard doorways [shall](#) be planned to ensure a six (6) inch minimum separation from surfaces conveying drainage. The elevated landings or stoops constructed to serve side-yard doorways [shall](#) not obstruct the drainage conveyed by side-yard [swales](#).
4. The measures specified for the construction of grade transitions across short distances that [may](#) occur between higher and lower properties typically include retaining walls and concrete curb. In those locations where drainage must be routed along a side-yard driveway, the design should encompass the construction of a combination concrete curb and gutter to capture to convey the surface drainage to a suitable outlet.
5. Pedestrian walkways or sidewalks [shall](#) be constructed with longitudinal gradients of between one-half percent (0.5%) and five percent (5%), depending on location and application. Public sidewalks [shall](#) be designed with a two percent (2%) maximum cross-[slope](#) toward the roadway pavement. Public sidewalks [shall](#) generally be constructed with longitudinal [slopes](#) conforming to [site](#) conditions. The transition in longitudinal [slope](#) required to overcome topographic conditions [shall](#) not exceed eight percent (8%). Sidewalk [slopes](#) and ramps [shall](#) conform to the requirements of the Americans with Disabilities Act (ADA).
6. Vehicular driveways for residential [sites shall](#) be constructed with gradients of between one percent (1%) and five percent (5%), depending on [site](#) conditions. A driveway gradient of between two percent (2%) and three percent (3%) should be the objective of site planning. The constructed driveway gradients [shall](#) not exceed eight percent (8%).

G. SEWER SERVICES

1. All sewer construction shall be performed in accordance with applicable provisions of Division III Sections 31 and 34 of the Illinois Standard Specifications for Water and Sewer Main Construction. All sewer construction is expected to be completed in a workmanlike manner consistent with local standards of practice as well as the Standard Specifications.
2. All sanitary sewer construction required for development projects located within the jurisdiction of the South Lyons Township Sanitary District, or the La Grange Highlands Sanitary District, shall be approved by the governing Sanitary District. The applicant and the contractor are responsible for obtaining permits and arranging inspection for the sanitary sewer work. All work shall be in accordance with the requirements of the governing Sanitary District.
3. All polyvinyl chloride pipe used for sanitary sewer and storm sewer service construction shall have a size dimension ratio (SDR) of 26 with a pipe cylinder conforming to ASTM D-2241, and rubber gasket joints conforming to ASTM D-3139. Sewer pipe installations shall be constructed with a minimum depth of cover of two and one-half (2-1/2) feet beneath roadway pavements.
4. All ductile cast iron pipe used for sewer construction shall, at a minimum be Class 52, with the pipe cylinder conforming to ANSI A21.51, and have gasket joints conforming to ANSI A21.11. All cast iron soil pipe used for sewer construction shall have a pipe cylinder conforming to ASTM A-74, and have gasket joints conforming to ASTM C-564. Cast iron soil pipe should be limited to the construction of building drains in accordance with plumbing code.
5. Sanitary and storm sewer services shall be six inches in diameter, installed with a uniform one percent (1%) minimum gradient. Sewer service risers shall be planned where a transition from higher elevation lateral extensions to the lower tapped connection to the sewer main. Where required by site conditions, storm sewer services shall be constructed equal to the sanitary sewer service, with a pipe diameter of six (6) inches and a one percent (1%) minimum gradient.
6. Fittings used in the construction of sewer services shall be of the same material and quality of the joining pipe segments. The maximum deflection at any one fitting shall not exceed forty-five (45) degrees (1/8th bend). The maximum deflection between two adjacent fittings shall also not exceed forty-five (45) degrees unless separated by a straight segment of pipe with a length equal to no less than five (5) pipe diameters. Clean-outs shall be installed on sanitary sewer services upstream of bend locations on straight pipe segments to provide maintenance access. Clean-outs shall be six (6) inches in diameter and include water tight plugs that are installed flush with the finished surface elevation. When located in paved surface areas and subject to vehicular or pedestrian traffic, the clean-outs shall be installed with protective iron cover assembly equal to the *Valvco Series #888* locking sewer clean-out cover.
7. Sewer pipe shall be installed with bedding material consisting of crushed stone with a one-quarter (1/4) inch to one (1) inch gradation, conforming to IDOT gradation CA-11. The bedding shall be placed with a minimum depth below the pipe of not less than four (4) inches. The bedding material shall also be installed to a depth of twelve (12) inches above the top of the sewer pipe, so that the pipe is fully encased. The bedding material shall be firmly placed and

compacted around the pipe to prevent settlement. Tamping and spiking, or other such compaction methods, [shall](#) be carefully employed to prevent displacement of the pipe.

8. Connections to the public sewer [shall](#) be made (a) by circular saw-cutting the sewer main with a proper tapping machine and the installation of an approved hub wye saddle or hub tee saddle in accordance with manufacturers specifications; or (b) by removing an entire section of pipe and installing a manufactured wye or tee fitting. If the structural condition of the public sewer is found to be defective, the tapped connection option will not be acceptable. When removing a pipe section, a pipe cutter [shall](#) be used to neatly and accurately cut out the required length of pipe for insertion of the proper fitting and pipe segment. Flexible couplings with non-shear rings and clamps are to be used to fasten and secure the pipe segments in accordance with manufacturers specifications.
9. The reuse of existing [service laterals shall](#) only be considered for that portion of the lateral located beneath a public street. The determination of acceptability will only be made after the existing service has been televised and the inspection recording reviewed by the Director of Public Works. The Public Works Department must witness the video inspection work and receive a copy of the video recording for review by the Director. A non-shear flexible coupling specified in this section [shall](#) be used to join new pipe material to existing pipe material.
10. The portion of existing vitrified clay pipe [service laterals](#) intended to be reused [shall](#) be lined with a fiber reinforced resin tube, or other material acceptable to the Director of Public Works, to provide structural reinforcement and a tree root barrier.
11. At those locations where [storm sewers](#) are required for [site](#) drainage, separate storm service connections [shall](#) be made to the public [storm sewer](#) or [combination sewer](#) main located in the public right-of-way or easement. The [storm sewer](#) service shall not connect to the public [sanitary sewer](#) main or to a [sanitary sewer](#) service lateral. A separate tapped connection to the sewer system [shall](#) be made for the storm sewer and sanitary sewer services.
12. A single [sanitary sewer](#) service [shall](#) be provided for the principal residential structure constructed on the development parcel. Sewer services [shall](#) not be shared by adjoining properties. When authorized by the [Village](#), accessory structures may be provided with sanitary sewer services extending from the principal structure. Such construction [shall](#) be detailed and documented on the site development plan, and diagramed on the record drawings submitted to the [Village](#) as part of the final permit approval process.
13. Existing sewer services that are specified to be abandoned, [shall](#) be exposed and sealed with a water tight plug at the point of connection to the sewer main, or as otherwise authorized by the Department of Public Works.
14. All non-shear flexible couplings (*Mission Rubber "Band-Seal"* or equal) installed as part of sewer construction [shall](#) be manufactured with a special elastomeric material formulated for sewer applications. The couplings manufactured with stainless steel band clamps, designed to securely attach the coupling to the pipe segments, providing a positive seal against water [infiltration](#). The coupling assembly [shall](#) conform to applicable portions of ASTM A240, C564, and C1460. All flexible couplings [shall](#) also incorporate a stainless steel reinforcing band or anti-shear ring to

help maintain pipe alignment and prevent joint movement. The coupling shall conform to the dimensional requirements and properties of the pipe segments being joined.

15. Wherever a sewer service crosses under a water main, the minimum vertical distance from the top of the sewer to the bottom of the water main shall be eighteen (18) inches. Furthermore, a minimum horizontal distance of ten (10) feet between the sewers and water mains shall be maintained unless the sewer is laid in a separate trench, keeping a minimum of eighteen (18) inches vertical separation; or the sewer is laid so that the water main is located in the same trench on a bench of undisturbed earth, keeping a minimum eighteen (18) inches vertical separation. If neither the vertical or horizontal distances can be maintained, or the sewer crosses above the water main, the sewer shall be constructed with pressure pipe meeting water main standards. If the sewer is to be constructed over the water main it must have a minimum of eighteen (18) inches vertical separation and include a casing pipe installed in accordance with the Standard Specifications for Water and Sewer Main Construction in Illinois, referenced in Section B of these General Provisions and Specifications.
16. The applicant or property owner is responsible for the operation, maintenance, and replacement of the sanitary and/or storm sewer service laterals constructed to serve the site development. This responsibility includes the pipe segments located under roadways and includes the connection to the public sewer main. All expense required to satisfy this responsibility shall be borne by the applicant or property owner.

H. WATER SERVICES

1. All water main construction shall be performed in accordance with Division IV Sections 41 and 44 of the Standard Specifications for Water and Sewer Main Construction in Illinois. All water construction is expected to be completed in a workmanlike manner consistent with local standards of practice as well as the Standard Specifications.
2. All water service lines shall be Type K soft temper seamless copper water tube conforming to ASTM B88. The minimum water service size shall be one (1) inch in diameter. The specification of water service sizes shall be based upon fixture demand criteria as defined by the Illinois Plumbing Code. Printed copies of the computation of fixture demand shall be provided for municipal review as part of the permit documentation. Water service lines shall be laid at a minimum depth of five and one-half (5-1/2) feet below finished grade.
3. Stainless steel service saddles with neoprene O-ring gaskets equal to a Cascade style CSC2, shall be used for all service connections. Corporation stops shall be Ford 1000 or approved equal. Curb stops shall be Ford type ball valves with pack joints or approved equal. Water service boxes shall be cast iron with a Minneapolis pattern base, Ford EM2-60-56 or approved equal. The service box specified shall have sufficient adjustment length to allow a six (6) inch adjustment above the finished surface grade. All materials shall be as approved by the Department of Public Works.

4. A minimum horizontal distance of ten (10) feet between the water service and building [sanitary sewer service](#), or [storm sewer service](#) [shall](#) be specified and constructed in accordance with the Standard Specifications for Water and Sewer Main Construction in Illinois.
5. Connecting new water services to existing water services will not be permitted unless authorized by the Department of Public Works. Water services that are specified to be abandoned [shall](#) include the removal of the curb stop box, and the closure of the existing water tap connection to the public water main. If a connection to the existing water service is authorized, the existing service valve and box [shall](#) be replaced with a new valve and box as part of the connection procedure.
6. The Department of Public Works provides the contractor with the corporation stop, curb-box, saddle, and round-way as part of the tapping fee for water service sizes up to and including two (2) inches. For larger service sizes the contractor must provide all labor, equipment, and materials required to complete a pressure connection to the municipal water main. All service connections shall be inspected and approved by the Department of Public Works.
7. A new meter is required for all new water service installations, which is to be paid for as part of the permit fees. The Department of Public Works will provide one water meter assembly for each tapped water service connection. Water meters for services that are smaller than 1-1/2 inches will be installed by the Department of Public Works. Water meters for services that are 1-1/2 inches and larger are to be installed by the plumbing contractor and inspected by the Department of Public Works. All new wire connecting the meter assembly and the exterior meter interface unit is to be installed by the plumbing contractor.

I. DRAINAGE STRUCTURES

1. All drainage [structures](#) [shall](#) be installed in accordance with Division II Section 33 of the Standard Specifications for Water and Sewer Main Construction in Illinois. All construction is expected to be completed in a workmanlike manner consistent with local standards of practice as well as the Standard Specifications.
2. The drainage [inlets](#) installed in rear-yard locations [shall](#) be either manufactured of polyvinyl chloride (PVC), high density polyethylene (HDPE), or precast concrete (PCC) materials sized and designed for drainage applications. Construction details [shall](#) be provided as part of the [site development plan](#) indicating specified material composition, elevations, and dimensions of the specified [inlet structure](#). Sewer pipe connections to [inlet structures](#) that are tributary to the public sewer system [shall](#) be fabricated and assembled with water-tight flexible couplings conforming to ASTM D-923. Typical details for drainage structures are included within the Appendix section of the permit packet.
3. The rear-yard drainage [inlets](#) connecting to a [combination sewer](#) [shall](#) be provided with properly sized and configured [vapor trap](#). The vapor trap device [shall](#) consist of a combination half-trap and clean-out assembly as detailed in the Appendix section of the permit packet. Projecting elbow and hanging wall trap assemblies may be used in larger drainage structures with diameters

of 36-inches or greater. The proposed trap assembly [shall](#) be fully detailed and dimensioned on the [site plans](#) to guide construction and aid review.

J. EXCAVATION AND BACKFILL

1. All trench construction [shall](#) be performed in accordance with Division II, Section 20 of the Standard Specifications for Water and Sewer Main Construction in Illinois. All construction is expected to be completed in a workmanlike manner consistent with local standards of practice as well as the Standard Specifications.
2. All trench excavations [shall](#) be constructed at the minimal width required to properly install the utility pipe or other facility specified. The excavations [shall](#) be planned and managed to avoid soil subsidence which might endanger the work or workers. Allowances [shall](#) be made for any sheeting, shoring, bracing, trench boxes, or other measures required by the Occupational Health and Safety Agency (OSHA) to install the utility pipe while maintaining minimal trench widths. Ground water or sewer flow [shall](#) be managed by pumping around or fluming through the work area during construction.
3. All trenches located below or within one (1) foot of a pavement surface [shall](#) be backfilled with crushed limestone conforming to IDOT gradation CA-6. The trench backfill [shall](#) be placed and compacted in 6-inch lifts as outlined in Section 20-4.06 of the Standard Specifications for Water and Sewer Main Construction in Illinois, before undertaking final pavement restoration.
4. All excavations required for the construction of residential foundations [shall](#) be planned and executed to manage the bulk removal and staging of soils retained for use as foundation backfill, without detrimental affects on neighboring properties. Effective measures [shall](#) be employed to prevent the flooding and soiling of surfaces outside the bounds of the [development parcel](#).
5. During the initial planning for those projects involving full redevelopment of a [site](#) and the construction of a new residence, the [applicant shall](#) engage a [geotechnical engineer](#) to conduct an investigation of subsurface soil conditions and prepare a report of findings and recommendations. The [geotechnical engineer shall](#) provide the [applicant](#) with at least six (6) copies of the report for use in meeting design and permit submission requirements. The investigation is required to obtain information necessary to:
 - a. guide foundation design;
 - b. guide the design of soil shoring support systems; and
 - c. guide the design of drainage [dissipation](#) systems.

In meeting these three design objectives, the [geotechnical engineer shall](#) complete at least two (2) soil borings with depths extending at least 15-feet below surface grade, or to a depth that is at least 5-feet below the footing elevation of the proposed residential [structure](#). The soil borings should be appropriately positioned within the [parcel](#) to yield data that is representative of the structural and drainage characteristics. In particular the boring excavations [shall](#) be made in the rear-yard area to support [dissipation](#) system design, and at front-yard and side-yard positions to support the assessment of foundation design and shoring design requirements. The [geotechnical](#)

[engineer shall](#) consult with the project [architect](#) to verify whether the boring locations and depths are adequate for the foundation and shoring design purposes.

6. Soil samples extracted from soil boring excavations [shall](#) be subjected to laboratory analysis to verify soil properties needed to satisfy the design objectives. The [geotechnical engineer shall](#) provide a written report detailing the findings of both the field and laboratory investigations, and making recommendations to support the design and construction of foundations, foundation excavations, and drainage [dissipation](#) systems. The groundwater elevations documented to establish prevalent groundwater characteristics, will be considered by the geotechnical engineer when determining the available dissipation opportunities offered by the site geology. In this respect it is recognized that not all soils have equivalent capacities for dissipation of drainage and design considerations must be applied to conditions unique to each site. Given this objective, the investigation should not be conducted during the winter season when soils are frozen and ground water levels are depressed and soils characteristics are not well represented. The civil engineer engaged by the applicant shall review and consider the findings of the geotechnical engineering report when planning and specifying the drainage [dissipation](#) systems for the site.
7. All excavations required for the construction of residential foundations [shall](#) be planned and managed to avoid soil subsidence which might endanger neighboring properties. Provisions for sheeting, shoring, and bracing [shall](#) be included as part of the excavation process to maintain stability of exposed soil surfaces. Prior to the start of the excavation for foundations, the building [contractor shall](#) consult with the building [architect](#) to obtain design guidance and specifications for the fabrication and installation of shoring systems which would prevent the occurrence of soil subsidence that might result in damages on neighboring properties. In developing the shoring specifications, the building [architect shall](#) consult with the [geotechnical engineer](#) engaged by the [applicant](#) and confirm the soil characteristics which will need to be overcome by the shoring measures.
8. All material used to backfill building foundations [shall](#) consist of suitable native soils derived from the foundation excavation or soils of similar composition derived from off-site locations. Unsuitable soils, including organic, permeable, non-structural soils, and construction debris such as brick, block, lumber, and landscape waste [shall](#) not be used for foundation backfill. All unsuitable soils and waste materials derived from the [site](#), [shall](#) be segregated from the suitable soils and removed from the work [site](#) prior the start of backfilling operations. Following the completion of foundation backfill or trench backfill operations, excess soils [shall](#) be removed from the work [site](#) to ensure that final restored surface elevations do not exceed that specified on the permit plans.
9. Any damage to fences, driveways, landscaping and other features within adjoining properties, which occur as a result of the foundation excavation [shall](#) be fully repaired and restored at the expense of the [applicant](#). All repairs [shall](#) be completed prior to the scheduled final inspection of the permitted work.

K. EROSION CONTROL

1. The applicant shall be responsible for the management of soil excavation and storage during the duration of the site development project. Measures employed shall prevent the migration of soils into neighboring properties or into any existing storm drainage systems, and include silt fencing, inlet filters, or other approved method as generally outlined in Section 280 of the IDOT Standard Specifications, and as specified by the Code and Practice Standards contained within the Illinois Urban Manual. Soil stock piles located close to lot lines and expected to remain for a prolonged period shall be covered. Rear-yard area drains and below-grade dissipation systems, installed as part of the site development project, shall be well protected to prevent the entry of soils. The developer shall be responsible for removing sediment or other debris which is found to be deposited in streets, drainage structures, sewers, dissipation systems, parkway surfaces, and on neighboring properties.
2. Perimeter silt fence shall serve as the primary measure used to capture sediment generated by site construction activities. Other measures shall be employed to ensure soil migration does not occur. The silt fence shall be fully functional prior to the start of site excavation. The silt fence shall be properly installed and maintained for the duration of the project, in accordance with Code 920 of the Illinois Urban Manual.
3. Inlet protection shall be provided within roadway drainage inlets situated downstream of the development site. The protection measure shall be installed and maintained for the duration of the project in accordance with Code 861 of the Illinois Urban Manual. The protection shall be removed at the conclusion of the project.
4. A stabilized construction entrance to the work site shall be established once construction work has commenced. The stabilized construction entrance shall be constructed as detailed on the plan, and as generally outlined in Code 930 of the Illinois Urban Manual. For most residential development applications, the stabilized entrance shall align with the existing or proposed driveway access point to the adjacent public roadway.
5. Pumped drainage from the construction sites shall not be discharged into the public right-of-way or neighboring properties, either by overland or piped means, without the installation of a fully functioning and maintained sediment trap. In meeting this objective, filter bag systems equal to the *Carthage Mills FBX* system shall be installed to receive and filter all pumped discharges. Filter bag systems shall be properly located on vegetated permeable surfaces or constructed permeable surface. The location shall also provide a manageable surface outlet flow path which does not degrade or damage public or private properties. The onsite or offsite disposal of the filter bag shall be planned as the site development reaches a concluding stage, or when pumped discharges are no longer required. The filter bags shall be replaced if ruptured, or when it is determined to be over half full of soil, and no longer effective.
6. The below-grade dissipation systems shall be fully protected from site construction activities to prevent structural damage or the contamination by soils which would damage the functionality of the system. The dissipation systems that are damaged or contaminated by soils shall be repaired or replaced to restore the volume and functionality required by the completed development.

L. PAVEMENT AND SIDEWALK RESTORATION

1. All restoration of disturbed portions of the public right-of-way shall be performed in accordance with Division II Section 21 of the Standard Specifications for Water and Sewer Main Construction in Illinois, applicable sections of the IDOT Standard Specifications for Road and Bridge Construction in Illinois, and the requirements of the Village of La Grange. All construction is expected to be completed in a workmanlike manner consistent with local standards of practice as well as the noted Standard Specifications.
2. Where roadway pavements must be excavated for the installation of utilities, or for other purposes required by the site development project, the damaged roadway surfaces must be restored to satisfy municipal requirements. Permanent street patches must be scheduled for completion within fourteen (14) calendar days of the pavement excavation. If weather conditions or work site staging matters delay the installation of a permanent pavement patch, then a two (2) inch thick temporary pavement patch shall be installed using cold-mix asphalt materials. The applicant for site development project permit shall be responsible for trench maintenance and roadway cleaning until the permanent patch is installed. The removal of temporary patch materials and the installation of the permanent patch shall also be the responsibility of the applicant. Any costs incurred by the Village for repair and maintenance associated with the pavement patching operation shall be the responsibility of the applicant.
3. Where asphalt surfaced roadway pavements must be restored, the permanent pavement patches shall include a ten (10) inch thick Portland cement concrete base course (IDOT Class PP), and a two (2) inch thick hot-mix asphalt (HMA) surface course, (IDOT Mix "C", N50). Pavement removal required for the restoration of trench excavations, shall extend a minimum of one (1) foot beyond the edge of the trench excavation to create a structural ledge to support the pavement patch material. The perimeter of the pavement removal area shall be uniformly saw-cut full depth, to form a rectangular excavation that is at right-angle to the pavement geometry and alignment. The pavement shall be removed to accommodate the full thickness of the concrete and HMA patch material. The exposed and trimmed aggregate trench and subgrade surfaces shall be shaped and fully compacted. The perimeter of the HMA surface patch shall be sealed with rubberized crack sealant. The applicant shall provide forty-eight (48) hours advance notice of the occurrence of the pavement patching so that inspection can be scheduled.
4. Where concrete surfaced roadway pavements must be restored, the pavement patches shall be constructed with ten (10) inches of Portland cement concrete pavement (IDOT Class PP), finished to match the existing pavement surface. Pavement removal required for the restoration of trench excavations, shall extend a minimum of one (1) foot beyond the edge of the trench excavation to create a structural ledge to support the pavement patch material. The perimeter of the pavement removal area shall be uniformly saw-cut full depth, to form a rectangular excavation that is at right-angle to the pavement geometry and alignment. The exposed and trimmed aggregate trench and subgrade surfaces shall be shaped and fully compacted. Drilled and epoxy secured number six (6) tie bars, twenty-four (24) inches in length, shall be installed on twenty-four (24) inch centers to join the concrete patch material to the existing concrete pavement. The applicant shall provide forty-eight (48) hours advance notice of the occurrence of the pavement patching so that inspection can be scheduled.

5. All existing public sidewalk adjoining the project [site](#) that is defective, as well as all sidewalk that damaged is by the [site](#) construction activities, [shall](#) be replaced as part of the [development](#) project. The new sidewalk [shall](#) be specified to be constructed of concrete conforming to IDOT Class SI providing a minimum compressive strength of 3,500 psi in fourteen days. Concrete [shall](#) be delivered and placed within one (1) hour of initial mix activation, without the addition of water or additives. Public sidewalk [shall](#) be a minimum of five (5) inches thick and five (5) feet wide. Across driveways the walk section [shall](#) be thickened to seven (7) inches. The walk [shall](#) be constructed on a three (3) inch thick compacted stone aggregate bedding layer. Sidewalk [shall](#) be constructed with troweled contraction or score joints. The troweled joints [shall](#) vary between one-eighth (1/8) inch and one-quarter (1/4) inch in width. All formed edges [shall](#) also be troweled with a one-quarter (1/4) inch edging tool to finish walk edges. Bituminous type expansion joint filler three-quarters (3/4) inch thick [shall](#) be placed at intervals of not more than forty (40) feet. Expansion joint filler strips [shall](#) also be installed to provide boundary interfaces between sidewalk and driveways, and separate driveways and curb. Following placement the [applicant shall](#) be responsible for ensuring that the new concrete is protected from damage.
6. In those areas where concrete curb and gutter will be damaged by the construction operations or must be modified to accommodate the [site](#) design, new concrete curb and gutter [shall](#) be specified. The replacement section of curb and gutter [shall](#) typically match the form and dimension of the existing curb and gutter to permit a smooth transition. The minimum thickness of the new concrete gutter [shall](#) be ten (10) inches. Excavation [shall](#) be completed to accommodate this thickness. Curb depressions [shall](#) be formed as part of new curb and gutter installations. Where permitted by [site](#) conditions saw-cut curb depressions will be permitted. Existing drive depressions that will no longer be used [shall](#) be removed and restored with the barrier type curb and gutter existing along the adjacent roadway. The new curb and gutter is to be installed to match or correct existing surface drainage gradients. The [applicant shall](#) ensure that the forming methods applied to the work area are appropriate and satisfy municipal requirements.

M. DRIVEWAY CONSTRUCTION

1. Residential driveways [shall](#) be fully contained within the limits of the [parcel](#). New shared driveway configurations are not permitted. Existing shared driveways should be eliminated where possible as part of the scope of the new [site development](#). The minimum residential driveway width [shall](#) be nine (9) feet to provide sufficient room for vehicle movements. The [site development plan shall](#) specify the driveway dimensions. Transitions in driveway width required to meet larger widths required for garage areas [shall](#) be fully contained within the [site development parcel](#).
2. The driveway apron [shall](#) be constructed with a trapezoid shape such that the width of the apron measured at the back-of-curb [shall](#) be wider than the width measured at the public sidewalk. The maximum width of the apron measured at the back of curb [shall](#) be sixteen (16) feet. The maximum width of the roadway curb depression, formed for the driveway [shall](#) also be sixteen (16) feet. The maximum apron width measured at the public sidewalk [shall](#) be twelve (12) feet. A four (4) foot width transition [shall](#) be constructed between the public sidewalk and the back-of-

curb. The transition in width [shall](#) be symmetrical. In cases where driveway widths are required to match the garage entry apron, a tapered driveway configuration [shall](#) be constructed to transition between garage entry width and the maximum width allowed at the public sidewalk. The [site development plan shall](#) specify the driveway and driveway apron dimensions.

3. The driveway apron [shall](#) be constructed to avoid existing public features such as light poles, trees, fire hydrants, and signs. A minimum separation between the edge of the driveway and a tree [shall](#) be five (5) feet. Similarly the minimum separation between the driveway edge and fire hydrants, light poles, and signs [shall](#) be three (3) feet. When necessary to meet design objectives of a [site development](#), conflicting objects may be relocated at the expense of the Applicant or property owner, in order to maintain the required clearance. Such relocation [shall](#) be reviewed and approved by the Department of Public Works.
4. Residential driveway aprons [shall](#) be specified to be constructed of concrete or hot-mix asphalt (HMA) materials. Although acceptable within private property, concrete, natural stone, or clay pavers are not acceptable materials for use within the public right-of-way. The construction of concrete aprons [shall](#) include a minimum of three (3) inches of compacted coarse aggregate, IDOT gradation CA-6, and seven (7) inches of Portland cement concrete, IDOT Class PV. The construction of HMA aprons [shall](#) include a minimum of eight (8) inches of coarse aggregate, IDOT gradation CA-6, and three (3) inches of hot-mix asphalt surface, for a total compacted thickness of eleven (11) inches. Although either pavement system [may](#) be constructed as part of a residential [site development](#), concrete aprons are considered the most durable and therefore the use of this material for apron applications is encouraged.
5. Residential driveways [shall](#) be specified to be constructed of conventional concrete or hot-mix asphalt materials, similar to that specified for driveway apron construction. Alternatively the residential driveways [may](#) be constructed of pervious concrete, permeable concrete pavers, or other similar materials to meet the design preferences of the [applicant](#). When such permeable paving materials are specified, special drainage control measures are required an [shall](#) be detailed on the [site development plans](#).
6. In planning pervious or [permeable pavement](#) systems, the [site plan](#) must identify the specific configuration of the pavement materials, sub-grade elevations, and the subsurface drainage [conveyance](#) routes. Drainage passing through the [permeable pavement](#) surfaces will fill the void spaces within the underlying aggregate base course materials. The drainage entering the void spaces will flow to the lowest accessible elevation and slowly dissipate into underlying soils. However, in this process the drainage [may](#) be expected to reach adjacent building foundations and their footing [drainage systems](#) through soil fissures that normally form within foundation backfill. Such circumstance will increase the [sump pump](#) operation during rainfall events for buildings where a hydraulic connection is established between the drainage reservoir created within the [permeable pavement structure](#) and the footing [drainage system](#). In order to avoid this circumstance special construction measures must be specified and installed to isolate the driveway [structure](#) from building foundation.
7. As drainage accumulates in the aggregate void spaces the hydrostatic pressure will drive movement to lower elevations, flowing along the pathways created by the interconnecting void spaces. Since drainage does not dissipate effectively into impermeable clay soils which likely

will underlie most pavements in the [Village](#), it can be expected to accumulate to an elevation which permits its escape to a surface outlet. The [site plan](#) depicting pervious or [permeable pavement](#) systems must therefore identify potential surface outlets where concentrated flows might [discharge](#), and specify control measures to avoid potential impacts on public and private properties.

8. Underdrains installed to capture and guide drainage from the [permeable pavement structure](#), are not permitted to be directly connected to [combination sewer](#) or [sanitary sewer](#) systems. An appropriate surface drainage outlet shall be provided to receive and properly convey underdrain flow indirectly into to a sewer or a rear-yard dissipation system.
9. Lot coverage allowances listed in the Site Development Data Sheet will not apply to those permeable pavements with underdrain systems that are planned to discharge to a sewer system.
10. In planning pervious or [permeable pavement](#) systems, the [site plan](#) must consider the long term effectiveness of maintenance measures required to ensure that the surface porosity remains functional. In the event that the permeable surfaces becomes obstructed by soil and debris, a drainage path should be identified which would safely route drainage overland to an acceptable outlet. The [site plan](#) should define a surface overflow route for permeable or pervious pavement systems.

N. LANDSCAPE PROTECTION AND RESTORATION

1. All restoration of disturbed portions of the public right-of-way [shall](#) be performed in accordance with Division II, Section 21, of the Standard Specifications for Water and Sewer Main Construction in Illinois, applicable sections of the IDOT Standard Specifications for Road and Bridge Construction in Illinois, and the requirements of the Village of La Grange.
2. For those projects requiring the removal or relocation of an existing driveway apron, the removal work shall include the removal of all driveway base material as well as the asphalt, concrete, or other surface material. The resulting excavation shall be filled with soils suitable for parkway tree and sod restoration, as approved by the [Village](#) Forester.
3. In order to protect the chemical stability of parkway soils and ensure that parkway trees are not endangered, the parkway areas [shall](#) not be used as a wash-out area for concrete delivery trucks. All concrete wash-out operations [shall](#) be staged with the development site and within containers or containment areas. Furthermore, construction debris, including gravel, [shall](#) not be stored in the parkway areas. All construction materials, debris, and waste products [shall](#) be staged, utilized, or removed from within the [site development](#) property.
4. The contractor shall exercise all due care when planning construction operations. Construction access to the work site shall be planned to utilize existing driveway pavements to avoid damage to parkway surfaces. Fencing shall be installed to guide and prevent construction traffic movements across sensitive landscaped parkway surfaces in order to prevent damage to parkway trees and their root structures. The fencing of the entire landscaped parkway shall be undertaken when specified by the Director of Public Works to prevent damage.

5. The utility trench excavations crossing landscaped parkways shall be backfilled with select soil material suitable for tree and landscape planting. The upper 24-inches of soil backfill shall be topsoil placed as approved by the [Village](#) Forester.
6. All parkway trees [shall](#) be specified to be protected from damage during construction in accordance with Article 201.05 of the IDOT Standard Specifications and as defined in Code 990 of the Illinois Urban Manual. Tree protection [shall](#) include the installation of fenced perimeters to prevent root damage, tree trunk protection to prevent damage from equipment, and branch pruning to allow clearance for equipment entry. Tree protection fencing [shall](#) provide a minimum clear radius of 6-feet around the tree center, with larger radii provided for larger trees. All pruning [shall](#) be performed by a professional arborist after consulting with the [Village](#) Forester.
7. All proposed driveways should be located to avoid the removal of existing parkway trees. In the event the removal of a parkway tree cannot be avoided, the property owner shall pay to the [Village](#) the value of the tree as determined by the [Village](#) Forester. Additionally, the property owner is required to plant a replacement parkway tree at their cost in a nearby location subject to the approval of the [Village](#) Forester. The property owner is also responsible for reimbursing the [Village](#) for the value of any tree damaged as part of construction.
8. Where excavation is required within the drip-line of a parkway tree, root pruning [shall](#) be performed as outlined in Article 201.06 of the IDOT Standard Specifications. All pruning [shall](#) be performed by a professional arborist after consulting with the [Village](#) Forester.
9. Landscaped parkway areas disturbed by new [site development shall](#) be restored with topsoil and sod materials. Topsoil required for planting operations [shall](#) conform to Article 211 of the IDOT Standard Specifications. All sod material and placement [shall](#) conform to the requirements of Section 252 of the IDOT Standard Specifications. Sod material provided [shall](#) be Kentucky Blue or Merion Blue species cut from native stock that is compatible with the project locality. The [applicant shall](#) be responsible for watering the newly placed sodding until adequately established. The replacement of defective or failed sod installations [shall](#) be the responsibility of the [applicant](#).

Residential Site Development Permit Packet
GLOSSARY OF TERMS
 Department of Community Development
 Village of La Grange

The following terms and definitions are provided for use with the site development permit packet.

A	
Accessory Structure	A structure that is detached from the principal structure on the same parcel or building lot, whose use is incidental to the principal structure.
Applicant	The owner of property seeking authorization to adjust or change property characteristics under the terms of a permit issued by the Village.
Architect	The Illinois licensed professional engaged by the applicant to plan and design a development, including the preparation of drawings and supporting documents required for the construction of buildings and accessory elements required for the site development.
As-Built Plans (Record Drawings)	Permit plans that have been amended and reissued as the final record of the permitted construction, specifying surveyed positions, dimensions, elevations, and other physical attributes of the completed work.
B	
Basement	A building level that is situated completely or partially below the finished surface elevation of a site.
Building Permit	The formal authorization issued by the Village for the erection or alteration of a principal residential structure, accessory structure, utilities, surface grading, drainage management, and restoration.
Bioswale	A shallow drainageway or flow path that is engineered to enhance the natural infiltration, transpiration, and evaporation processes, using special plants, soils, grading, and flow control measures. Such swales are intended to aid the disposal of sediments and pollutants conveyed by storm water runoff, and attenuate the volumes of runoff released from a development.
C	
Canal	An artificial navigable waterway constructed to support shipping operations, and in some applications, the conveyance of water.
Catchbasin	A structural component of a storm sewer or combination sewer system

	which collects surface drainage, and intercepts and retains sediment and debris entrained in storm water, to reduce its transmission into the sewer system; a deep, large diameter storm water drainage structure, functioning as an intermediary structure between a surface conveyance path and the sewer system.
Cellar	A small enclosed space constructed beneath the ground surface for storage of goods and materials, and for emergency shelter.
Certificate of Occupancy (CO)	A document issued to the permittee by the Village certifying that the development has been found to be in substantial conformance with the permit plans and permit requirements, and that all fee obligations have been paid, thereby allowing the development parcel to be occupied or sold.
Channel	A natural formation or artificial construction providing for the conveyance of water by a stream, river, or slough.
Cistern	A large buried vessel or structure used to store rain water or pumped ground water typically intended for reuse in irrigation applications. In some regions where rainwater quality is still acceptable, cisterns function as a reservoir for potable water.
Civil Engineer	A professional engineer engaged by the applicant, or by the architect on behalf of the applicant, to prepare plans and supporting documents detailing the surface grading, storm water management, paving, utility infrastructure, and other design elements required for site development.
Clearing	The cutting and removal of trees, brush, and other plant materials from all or part of a tract of land prior to development.
Combination Sewer	A type of sewer which is designed to collect and convey in a single conduit, both sanitary wastewater and stormwater runoff generated by developed properties, and which is tributary to a regional wastewater treatment system.
Combined Sewer Overflow (CSO)	The discharge of polluted wet weather flow from a combination sewer system directly into a river, stream, or other water body through an engineered flow control or regulating structure.
Contractor	Any person or organization undertaking a contract to provide labor, materials, and/or equipment required to complete work under the terms of a building permit.
Conveyance	The action, process, or means of water transport.
D	
Detail	A two dimensional graphical diagram, figure, or technical drawing which illustrates specific design requirements for an item of work that is more

	generally referenced on a plan.
Detention	The temporary storage of storm water within a property by natural or engineered means, that reduces the drainage rates released to lower properties or outlet infrastructure.
Detention Basin	An engineered storm water management facility located within a development which provides temporary storage and controlled release of storm water to protect properties and drainage infrastructure from excess flow rates.
Development	Any engineered change, other than maintenance, to existing structures, paved areas, utility systems, to improved or unimproved property, including, without limitation, the construction of new, or reconstruction of existing buildings, pavements, or utilities; excavation, filling, drilling, mining, grading, paving, or construction operations; and open storage of materials on property surfaces.
Diagram	A two dimensional graphical detail, figure, or technical drawing which illustrates specific design requirements for an item of work that is more generally referenced on a plan.
Discharge	The flow of water from a surface, pipe, swale, ditch or other drainage system or facility.
Dissipation	The gravity driven movement or dispersion of water through soils into groundwater aquifers; the reduction of the kinetic energy reflected in the velocity of flowing waters, by natural or engineered means, to reduce the erosive damage to natural surfaces and developed properties.
Ditch	A formed and well graded trench excavation providing a path for water conveyance to a waterway or waterbody.
Drainage Plan	The engineering drawings, notes, details, and supporting calculations, which describe the existing and proposed storm water drainage systems and environmental features, including surface grading as well as proposed alterations or changes to the drainage characteristics of a property.
Drainage System	All facilities used for the movement of storm water through and from a drainage area including but not limited to, conduits, pipes and culverts, including appurtenant features such as catch basins, inlets, manholes, headwalls, channels, ditches, flumes, curbs, streets and other paved areas, and all watercourses, standing or flowing bodies of water, and wetlands.
Drainage Management	The process by which surface drainage is collected, routed, and conveyed to minimize impacts on the development as well as neighboring parcels of property.

Drywell	An excavation lined with a silt barrier and filled with a highly porous and permeable aggregate media that is intended to promote the disposal of surface runoff or sump pump discharge, through soil dissipation methods. Structural drywells are fabricated from perforated cylindrically formed components manufactured of plastic or concrete to increase the enclosed void space.
E	
Earth Berm	An elevated and landscaped soil barrier separating two surface areas designed to aid drainage management, or to aid in the creation of a visual screen of adjoining land uses.
Earthwork	The disturbance of soils within a development site involving clearing, grading, or excavation activities.
Easement	The grant of right-of-use or incumbrance within a property, to another party for a specified purpose, without transfer of ownership. The term also may refer to such a designated area.
Erosion	The general process whereby earth surfaces are moved and reshaped by rainfall, flowing water, wind, or the action of waves.
Excess Runoff	The volume and rate of flow of storm water discharge from a new development which is, or will be in excess of that volume and rate which existed before the development activity.
Existing Grade	The elevation of the existing land surface or a structure prior to being subjected to development activity.
F	
Finished Grade	The elevation of the land surface or a structure after the completion of a development activity.
French Drain	A trench excavation containing a perforated pipe encased in a silt barrier fabric surrounded by highly porous and permeable aggregate media, that is intended to intercept and transport ground water or other drainage to a point of discharge, or to facilitate its dissipation in soils.
G	
Geotechnical Engineer	Professional engineer engaged by the applicant, or by the architect on behalf of the applicant, to conduct an investigation and analysis of the soils underlying the development site, and specify the requirements for successfully constructing earth excavations, building foundations, sub-surface drainage systems, and pavements for the planned development.

Grading	The reshaping of land surfaces within a parcel of property to achieve elevations required for drainage or other development purposes.
Grading Plan	A plan prepared by a civil engineer depicting existing and proposed surface elevations, contours, and topographical data.
Green Infrastructure	A design approach for stormwater management that proposes measures with lower overall environmental impact that incorporate technologies designed to infiltrate, evapotranspire, capture, and reuse stormwater and thereby attempt to maintain or restore natural hydrologies affected by development.
Greywater	Water generated by domestic activities such as bathing, clothes washing, and dish washing, that can be recycled and processed for use in irrigation of constructed wetlands and landscaping. Any water containing human waste is considered blackwater and must be separately treated.
H	
Hydraulic Conductivity	A measured property of soil and rock that represents the ability for water to move through a given material's pore spaces or fractures, as a function of its intrinsic permeability and the degree of saturation.
Hydrology	The movement, distribution, and quality of water either over the surface as runoff, or below grade as groundwater.
I	
Impervious Area	The area of property that is covered by materials other than soil and vegetation and that has no intended capacity to absorb storm water, such as parking lots, roadways, driveways, sidewalks, patios, roofs and other structures.
Infiltration	The passage or movement of water into soil from surfaces, or from soils into perforated or defective drainage conduits.
Inlet	A structural component of a storm sewer system designed to receive and route surface runoff into a storm sewer; a shallow small diameter storm water drainage structure serving as an intermediary structure, providing a transition between a surface conveyance path and a buried storm sewer.
Inspector	An individual designated by the Village who conducts the review of construction work to ensure conformance with the approved plan or applicable codes and standards.
L	
Land Surveyor	An Illinois licensed professional engaged by the applicant to undertake the measurement of the parcel and to prepare a plat of survey,

	topographic survey plan, foundation spot survey, and other documents required by the building permit.
Legal Description	The written portion of a deed, title, or plat of survey, describing the location of an area of real property in relation to the Public Land Survey System (PLSS).
Lot	A parcel or zoning lot within a tract of land, under single ownership, in which development is planned by the applicant and authorized for construction under a building permit.
Low Impact Development (LID)	A design approach intended to restore pre-development hydrology through sustainable grading and landscaping measures, and strategically placed structural elements within the development site.
M	
Major Drainage System	That portion of a storm water drainage system providing protection of private property and public infrastructure by means of a regional scale conveyance and management of storm water, consisting of large drainage ditches, canals, streams, rivers, lakes, sewer systems, and storm water detention and retention basins.
Manhole	A structural component of a sewer system designed to provide access to the buried sewer system for inspection and maintenance.
May	Implies a permissible action
Minor Drainage System	That portion of a storm water drainage system providing general convenience of public and private property, consisting largely of street gutters, inlets, and shallow drainage ditches and swales.
Municipality	The Village of La Grange when used in this document.
MWRD	The Metropolitan Water Reclamation District of Greater Chicago, an agency of government which has jurisdiction over wastewater treatment and stormwater management within the County of Cook.
N	
Notice of Violation	A written notice issued to the applicant and builder detailing a violation of the building permit.
NPDES	The National Pollutant Discharge Elimination System established by the Federal Water Pollution Control Amendment of 1972 to regulate the discharge of pollutants into the waters of the United States.
O - P	

Open Channel	An unenclosed ditch, channel, or surface conveyance path used to route storm water runoff.
Parcel	A zoning lot or building lot within a tract of land, under single ownership, in which development is planned by the applicant and authorized for construction under a building permit.
Permeability	The measured ability of a material to allow the passage of water, reflecting the interrelationship of porosity, particle density, fluid viscosity on transmissivity.
Permeable Pavement	A paving design methodology which is intended to reduce surface runoff by increasing the effective porosity of the pavement structure and allowing drainage to percolate and infiltrate into underlying soils. Special construction and maintenance measures must be specified as part of the planning process to ensure a successful installation.
Permittee	The applicant to whom a building permit has been issued.
Plan	A drawing, diagram, or list depicting work or steps required to achieve an objective, or communicating means or methods of operation.
Planning Standards	The design standards employed by the Village for the construction of public and private infrastructure.
Planning Documents	The plats, maps, drawings, plans, specifications, check sheets, data sheets, calculations and other documents attached to the building permit application which are examined and evaluated to determine whether the Village permit requirements have been satisfied.
Porosity	A physical characteristic of material representing the measure of the void space or void fraction within a material.
Principal Structure	The main structure erected, or the main use occupying a parcel, as distinguished from an accessory structure or use.
Professional Engineer	An engineer licensed by the State of Illinois, skilled in the practice of civil engineering, structural engineering, geotechnical engineering, or other engineering disciplines.
Proposed Grade	The vertical elevation or contour proposed for the land surface or a structure planned as part of a development activity.
Q - R	
Rain Garden	A vegetated surface depression that receives storm water runoff from tributary surfaces including roofs, driveways, walkways, patios, and lawns, and facilitates disposal through natural infiltration, evaporation, and transpiration processes.
Record Drawings	Permit plans that have been amended and reissued as the final record of

(As-Built Plans)	the permitted construction, specifying surveyed positions, dimensions, elevations, and other physical attributes of the completed work.
Retention	The containment and storage of storm water within a property by engineered means, that reduces the drainage rates released to lower properties or outlet infrastructure.
Retention Basin	An engineered storm water management facility located within a development which provides permanent storage of drainage in the form of a pond or infiltration basin, as well as temporary storage above the ponded water surface elevation, and which provides a controlled release of storm water to protect properties and drainage infrastructure from excess flow rates.
S	
Sanitary Sewer	A type of sewer which is designed to collect and convey only the sanitary waste generated by developed properties, and which is tributary to a regional wastewater treatment system.
Sanitary Service (Service Lateral)	A lateral extension of private sewer pipe, from a larger public sanitary sewer or combination sewer main, which collects and conveys the sanitary wastewater from private property to the public sewer.
Sanitary Sewer Overflow (SSO)	The discharge of untreated sewage or wastewater into the environment during dry weather periods, through manhole structures or combined sewer overflow structures, as a result of sewer system defects, excessive flows, or malfunctioning equipment.
Sediment	A natural or man-made particle that is suspended and transported by water until reduced velocity allows settlement and deposition within the stream, sewer, or other means of conveyance.
Shall	Implies a mandatory action
Site	The land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.
Site Plan	A site plan is a set of construction drawings and diagrams used to guide the modification or redevelopment of a parcel of property. The site plan presents the configuration of existing site conditions and prescribes the work required to meet the objectives of a project. The site plan document displays information derived from the plat of survey, topographic survey, and architectural drawings, and specifies a design for grading, paving, drainage, utilities, pollution prevention, and restoration work required for a project. Site plans are to be prepared by licensed professionals and are reviewed to verify conformance with municipal codes and standards.
Slope	A surface gradient characteristic defined by the change in vertical

	elevation in relation to horizontal distance, and expressed as a ratio (V/H) or as a percentage.
Soil	A composition of natural particles consisting of broken rock that have been altered by corrosive, erosive, and weathering processes.
Storm Sewer	A type of sewer designed to receive and convey only the storm water runoff from developed property into a ditch, stream, or waterway.
Storm Sewer Service	A lateral extension of private sewer pipe from a public storm sewer main or combination sewer main, which collects and conveys the stormwater from the private property to the public sewer.
Storm Water Runoff	That portion of the precipitation depth which accumulates and flows over surfaces from a development site.
Storm Water Management	The process by which surface drainage is routed, collected, detained, retained, dissipated, and ultimately discharged from a development.
Storm Water Harvesting	The process by which storm water runoff from roof and other surfaces within a development is collected, stored, and reused for irrigation and other secondary purposes to reduce the volume of potable fresh water used in such applications.
Stream	A moving body of water with a persistent current which follows a narrow channel defined by natural topography and the size of the tributary watershed.
Structure	A constructed or manufactured enclosure or object installed with a fixed location above and below the ground surface elevation.
Sump Pump	An electrically driven device used to remove and convey under pressure, the groundwater collected by building foundation drains to a storm sewer, an exterior surface, or an engineered dissipation system.
Swale	A relatively short and shallow drainage course, with gentle side-slopes providing for the conveyance of storm water runoff or pumped discharge from small tributary drainage areas.
T	
Temporary Certificate of Occupancy (TCO)	A special grant of temporary use issued to the permittee by the Village for a limited period spanning the dates of November 30th and April 15th, when winter weather conditions prevent the completion of exterior work or the correction of previously identified deficiencies.
Topography	The configuration of a surface of a region, defining its relief and the position of its natural and man-made features.

U- Z	
Vapor Trap	A manufactured or fabricated plumbing device used in the construction of combination sewer systems to prevent the migration of sewer odors or vapors through drainage inlets and catch basins.
Vegetated Swale (Bioswale)	A shallow drainageway or flow path that is engineered to enhance the natural infiltration, transpiration, and evaporation processes, using special plants, soils, grading, and flow control measures. Such swales are intended to aid the disposal of sediments and pollutants conveyed by storm water runoff, and attenuate the rates and volumes of runoff released from a development.
Village	The Village of La Grange, Cook County, Illinois
Village Engineer	The individual or firm employed by the Village to review planning documents submitted as part of the building permit application, issue written comments regarding identified planning deficiencies, aid in the inspection of work conducted under the authority of the issued building permit, issue written comments regarding construction deficiencies, and interpret the technical standards, specifications, and guidelines applied to the planning and construction process.
Waterway	A natural navigable body of water (e.g. river, lake).
Xeriscaping	An approach to landscaping design which specifies native water efficient plant species and materials to minimize the need for irrigation.
Zoning Lot	A parcel of property or building lot within a tract of land, under single ownership, in which development is planned by the applicant and authorized for construction under a building permit.

Residential Site Development Permit Packet
APPENDIX - PLANNING DIAGRAMS
 Department of Community Development
 Village of La Grange

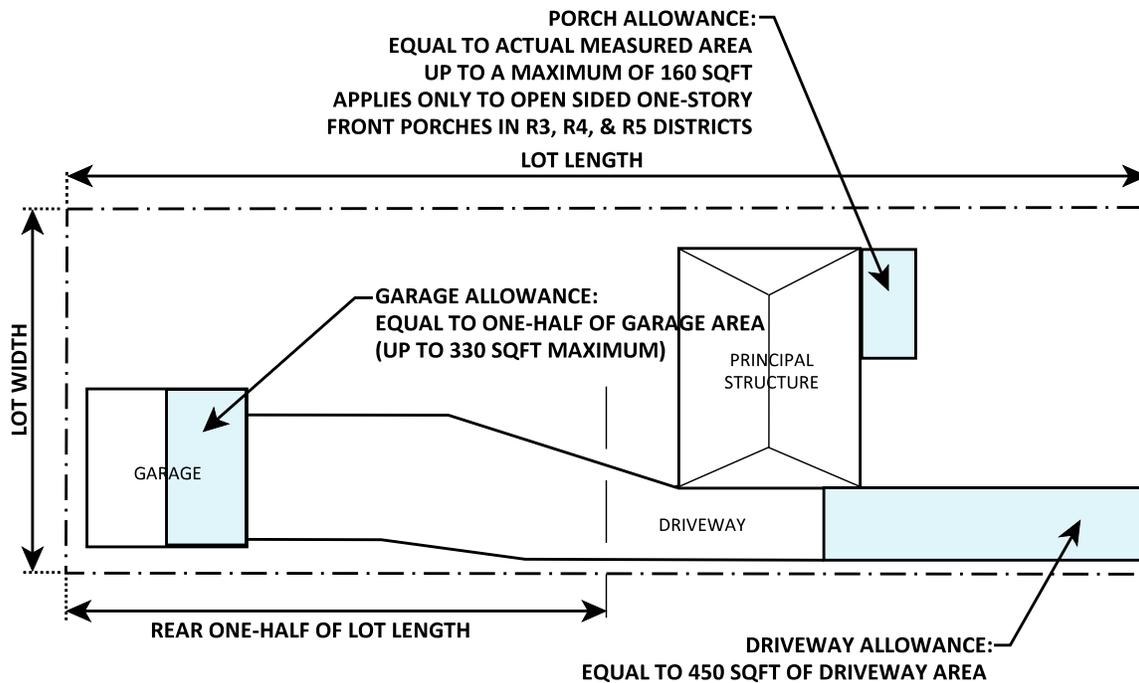
1. USE OF PLANNING DIAGRAMS

- a. The design consultants engaged by the applicant to plan the site development project are responsible for the preparation of plans and diagrammatic details necessary to define and specify the proposed work.
- b. The planning diagrams included within this resource section of the permit packet are intended to be used for general guidance and are not necessarily expected to apply literally to a given project. The design consultants shall prepare project specific details that address the matters identified by the permit packet and apply specifically to the site development conditions.
- c. Changes to the site plans and details may be stipulated during the plan review process, necessitating the submission of updated plans. Regardless, the applicant shall retain full responsibility for the plans and diagrammatic details. There are no warranties or responsibilities implied by, or assigned to the municipality and its consultants, by the planning diagrams.

2. INDEX OF PLANNING DIAGRAMS

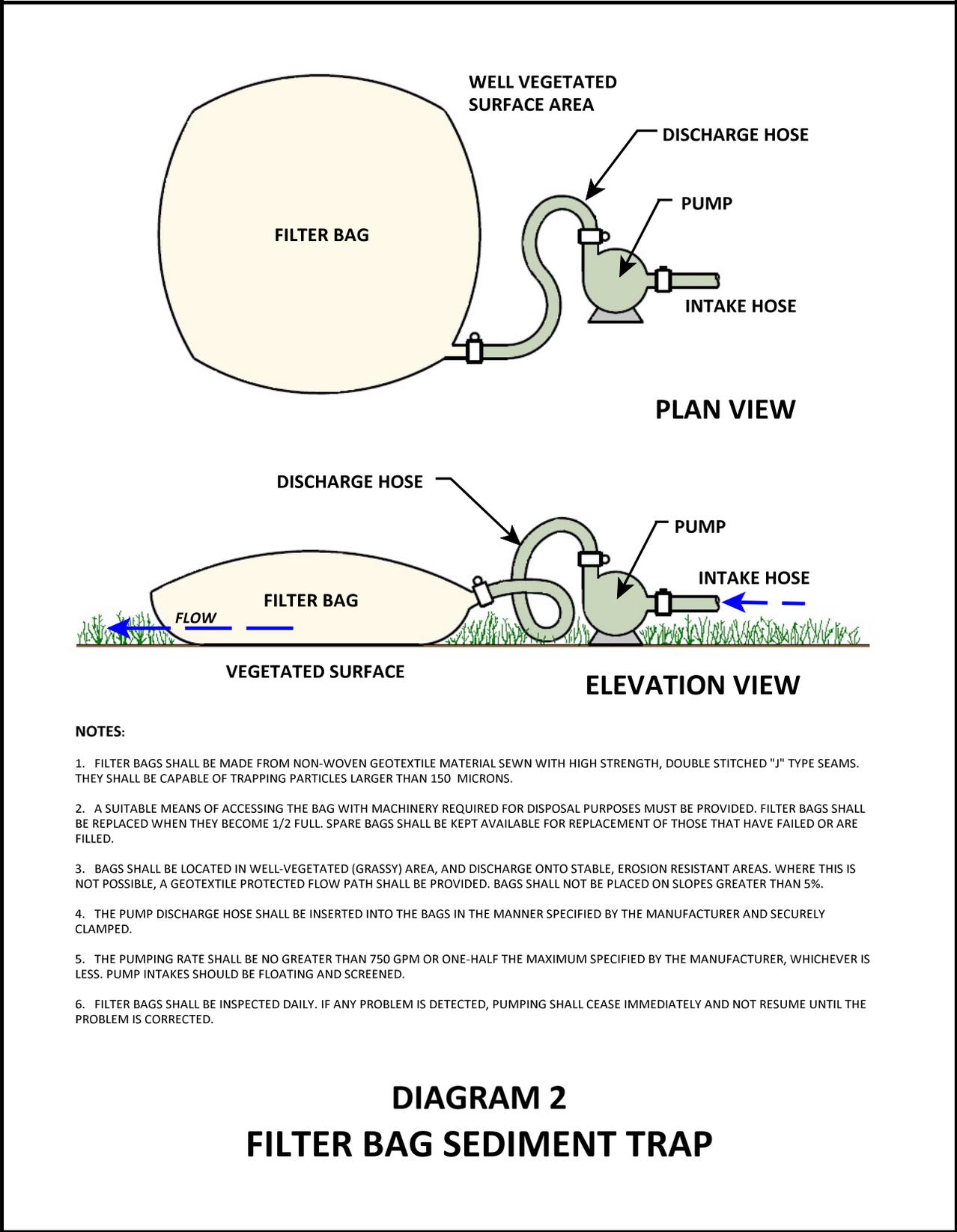
- a. The following presents a list of the planning diagrams included in this section of the permit packet.

Diagram Number & Description	Page	Diagram Number & Description	Page
1 - Lot Coverage Allowance Areas	47	19 - 3-Segment Drainage Dissipation System	65
2 - Filter Bag Sediment Trap	48	20 - Access Riser with Grate	66
3 - Inlet Filter Basket Sediment Trap	49	21 - Infiltration Trench	67
4 - Sump Pump Outlet Drain Pipe	50		
5 - Sump Pump Discharge Dissipation System	51		
6 - Surface Drainage Structures	52		
7 - Sewer Service Tapped Connection	53		
8 - Sewer Trench Excavation and Backfill	54		
9 - Front-Yard Building Service Clean-Out	55		
10 - Side-Yard Building Service Clean-Out	56		
11 - Water Main Service Connection	57		
12 - Roadway Pavement Patch	58		
13 - PCC Residential Driveway Apron	59		
14 - HMA Residential Driveway Apron	60		
15 - Permeable Paver Pavement	61		
16 - Concrete Curb and Gutter	62		
17 - Concrete Sidewalk	63		
18 - Pop-Up Drainage Emitter	64		



NOTE 1 - GARAGE AND DRIVEWAY ALLOWANCES APPLY ONLY WHEN A
 DETACHED GARAGE IS CONSTRUCTED IN THE REAR ONE-HALF OF LOT LENGTH
 NOTE 2 - DIAGRAM 1 IS TO BE USED WITH THE SITE DEVELOPMENT DATA SHEET

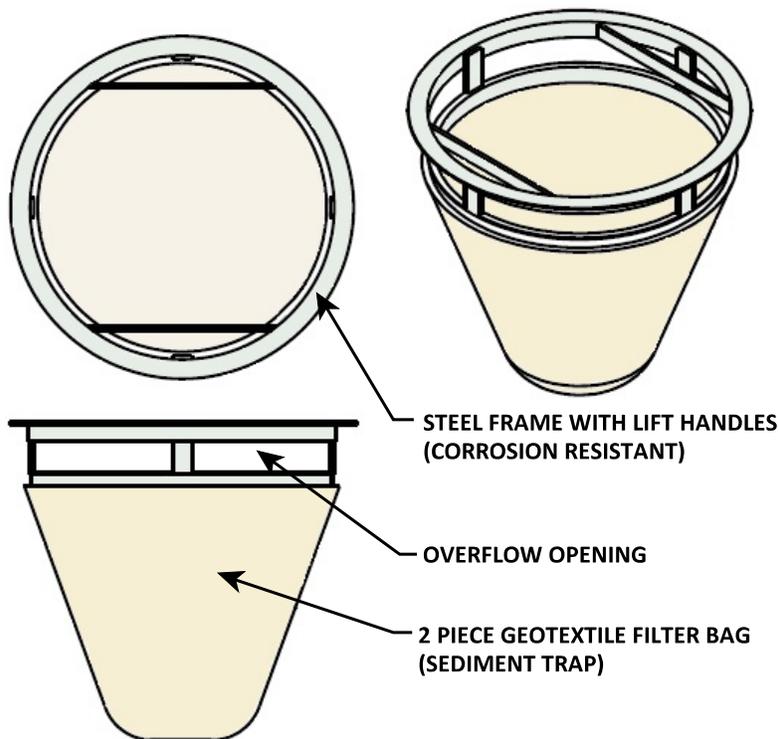
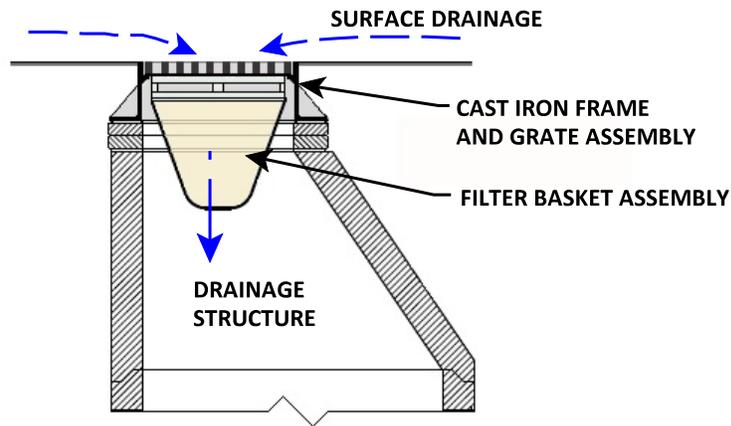
DIAGRAM 1
LOT COVERAGE ALLOWANCE AREAS
 FOR R3, R4, & R5 SINGLE FAMILY DISTRICTS



NOTES:

1. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
3. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE PROTECTED FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
4. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR ONE-HALF THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

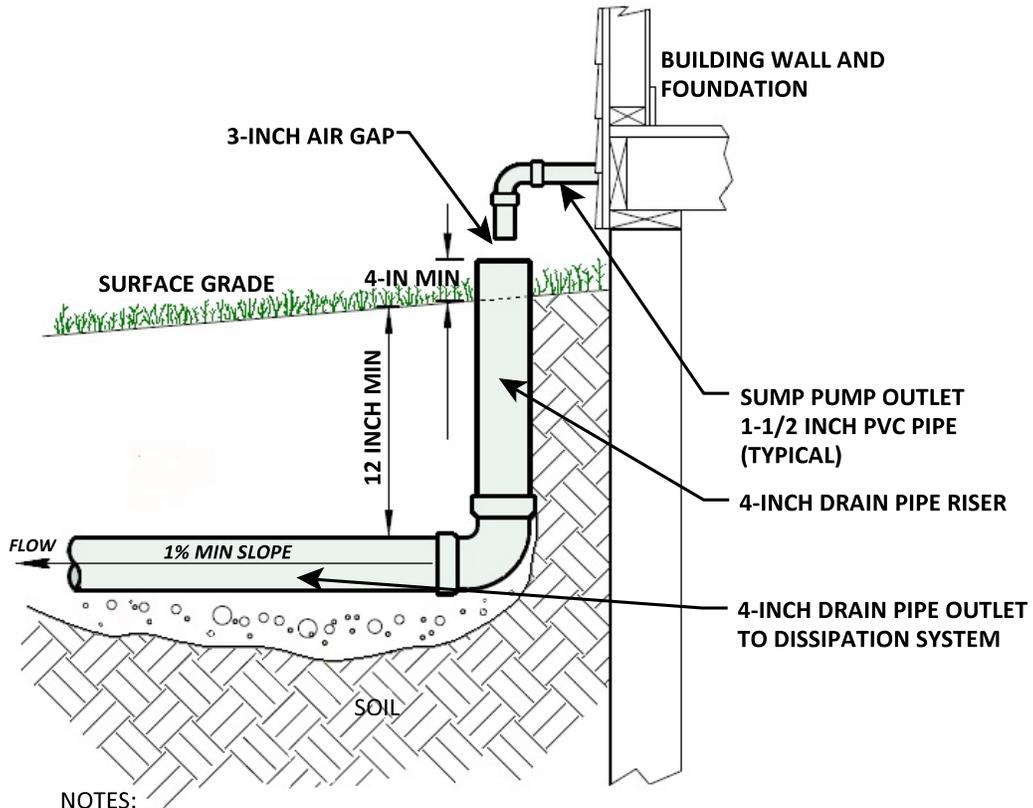
**DIAGRAM 2
FILTER BAG SEDIMENT TRAP**



NOTES:

1. INLET FILTER ASSEMBLY SHALL CONFORM TO IDOT STANDARD SPECIFICATIONS (ISP 04-11).
2. MAINTENANCE/CLEANING OF THE INLET FILTER ASSEMBLY SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND WRITTEN SPECIFICATIONS.
3. PRIOR TO ORDERING MATERIALS, THE CONTRACTOR SHALL DETERMINE THE SIZE AND SHAPE OF THE VARIOUS DRAINAGE STRUCTURES BEING PROTECTED.
4. MANUFACTURER SHALL FURNISH A CERTIFICATION WITH EACH SHIPMENT STATING COMPLIANCE WITH IDOT SPECIFICATIONS.
5. ASSEMBLY SHALL BE AS MANUFACTURED BY INLET AND PIPE PROTECTION, INC., MARATHON MATERIALS, OR APPROVED EQUAL.

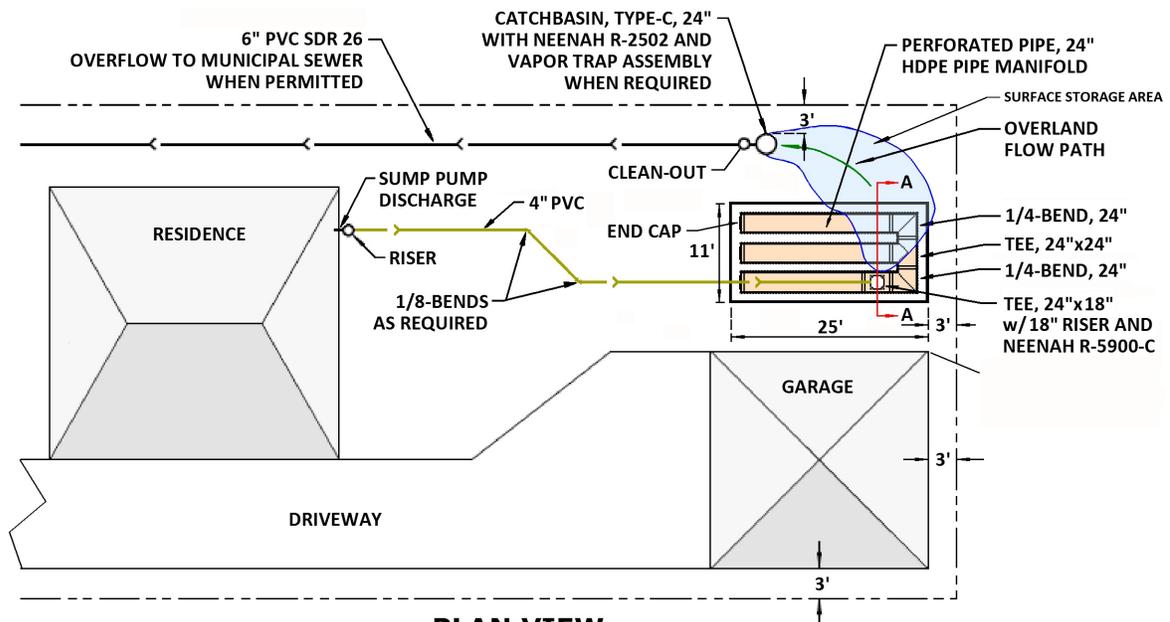
DIAGRAM 3
INLET FILTER BASKET SEDIMENT TRAP



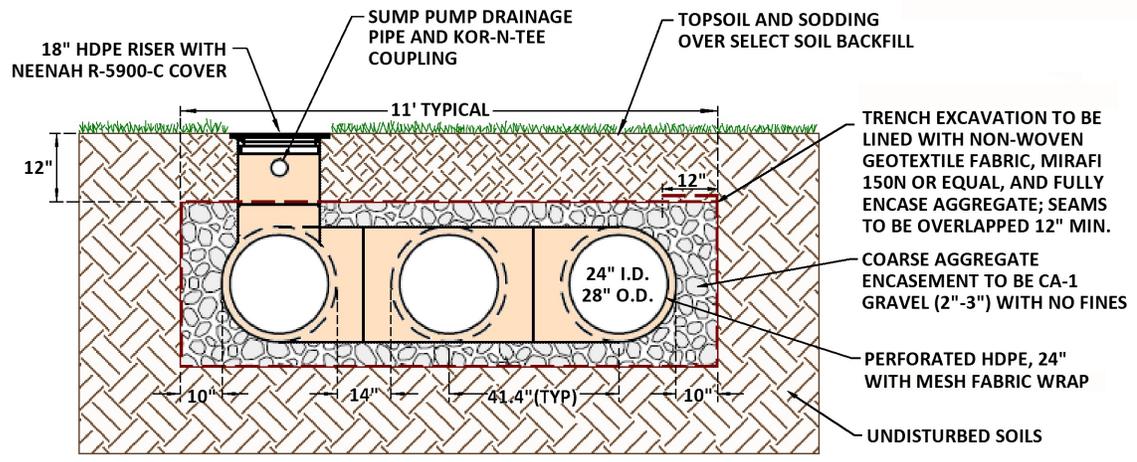
NOTES:

1. DRAIN PIPE OUTLET FOR SUMP PUMP TO BE CONSTRUCTED WITH 4-INCH PVC RUBBER GASKET PIPE CONFORMING TO ASTM D3212, D3034. AND SDR26.
2. PIPE TO BE INSTALLED WITH A MINIMUM COVER OF 12 INCHES AND WITH A 1% MINIMUM GRADIENT.
3. OUTLET PIPE TO PROJECT A MINIMUM OF 4 INCHES ABOVE SURFACE GRADE.
4. A 3-INCH MINIMUM AIR GAP TO BE PROVIDED BETWEEN THE PUMP OUTLET AND THE TOP OF THE DRAIN PIPE RISER.

DIAGRAM 4
SUMP PUMP OUTLET DRAIN PIPE



PLAN VIEW



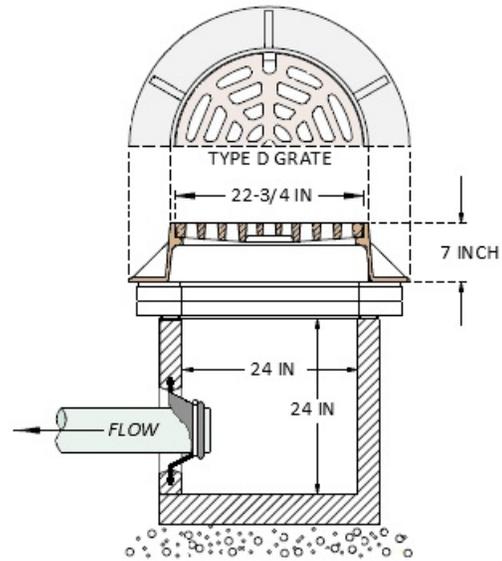
CROSS SECTION A-A

- NOTES:
1. THE RIM ELEVATION OF REAR-YARD INLET STRUCTURE SHALL BE SPECIFIED BY DESIGN TO CREATE AN EFFECTIVE SURFACE STORAGE AREA, AND THEREBY MAXIMIZE THE STORAGE POTENTIAL WITHIN THE DEVELOPMENT SITE. THE MAXIMUM DESIGN STORAGE DEPTH SHALL BE SIX (6) INCHES.
 2. THE HDPE PIPE AND FITTINGS TO BE PLAIN-END, DUAL-WALL, WITH SPLIT BAND COUPLERS EQUAL TO THE N12 PRODUCT SERIES MANUFACTURED BY ADVANCED DRAINAGE SYSTEM (ADS).

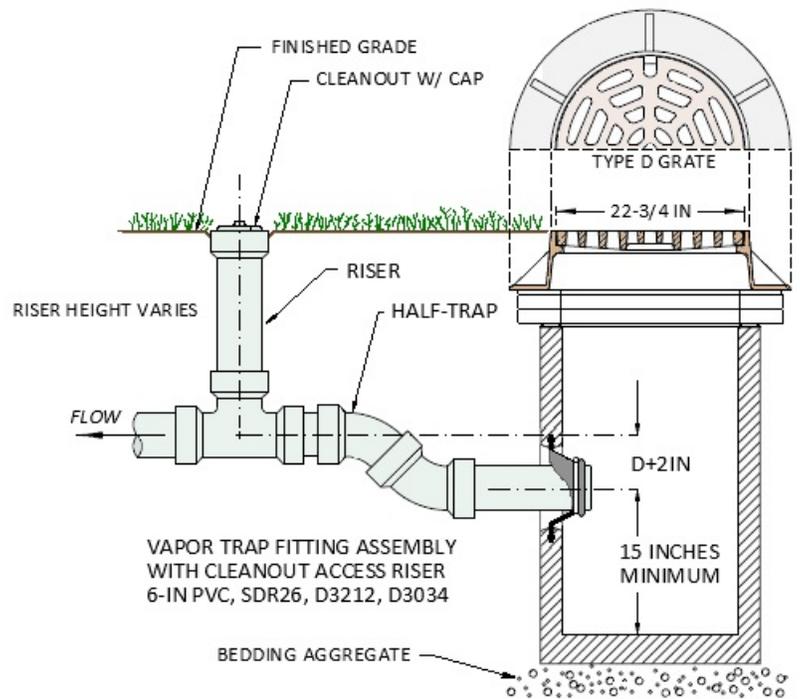
DIAGRAM 5 DRAINAGE DISSIPATION SYSTEM

NOTES

1. CAST IRON FRAME AND GRATE, NEENAH R-2502-D OR EQUAL, TO BE INSTALLED TO MEET SPECIFIED DESIGN ELEVATIONS.
2. FRAME ELEVATION TO BE ADJUSTED WITH PRECAST CONCRETE GRADE RINGS AS REQUIRED TO MEET FINISHED SURFACES.
3. GRADE RINGS TO BE ASSEMBLED WITH BUTYL RUBBER SEALANT WITH A MAXIMUM HEIGHT OF 8 INCHES.
4. DRAINAGE STRUCTURE TO BE PRECAST CONCRETE WITH 3-INCH WALL THICKNESS, FABRICATED IN ACCORDANCE WITH ASTM C478.
5. RESILIENT WATER-TIGHT PIPE CONNECTORS CONFORMING TO ASTM C923 TO BE INCLUDED AS PART OF STRUCTURE ASSEMBLY; ZLOK C107-6 OR EQUAL.
6. STORM SEWER PIPE TO BE 6 INCH PVC CONFORMING TO SDR26, ASTM D3212, ASTM D3034
7. STRUCTURE TO BE INSTALLED AND LEVELED ON COARSE AGGREGATE BEDDING MATERIAL.
8. HALF-TRAP FITTING ASSEMBLY TO PROVIDE AN OFFSET OF AT LEAST 2 INCHES FOR VAPOR SEAL .

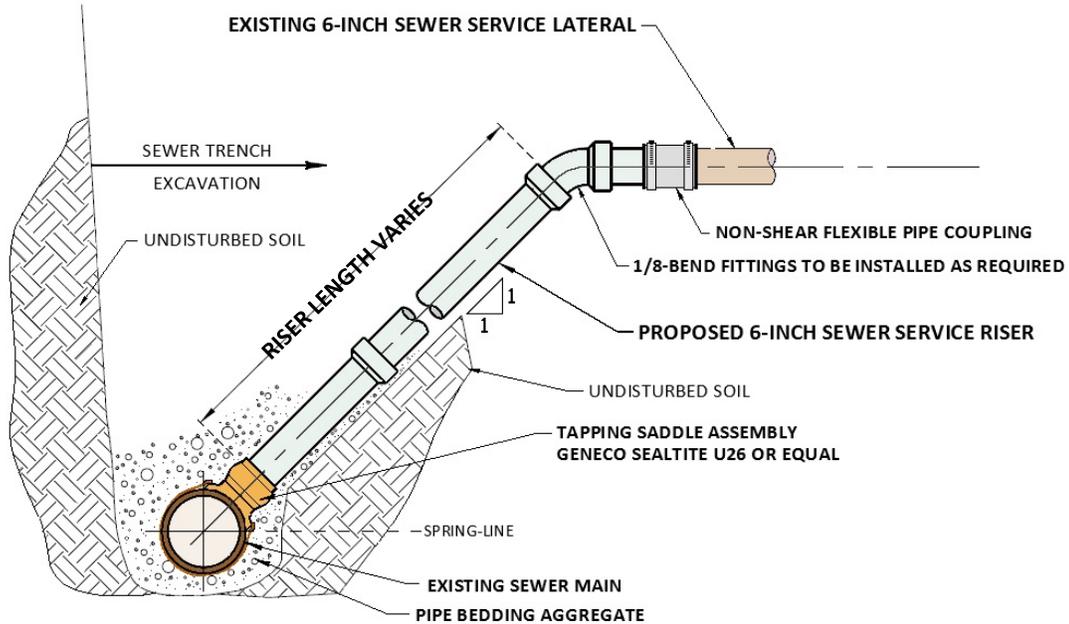


INLET, TYPE A, 24 INCH



CATCH BASIN, TYPE C, 24 INCH

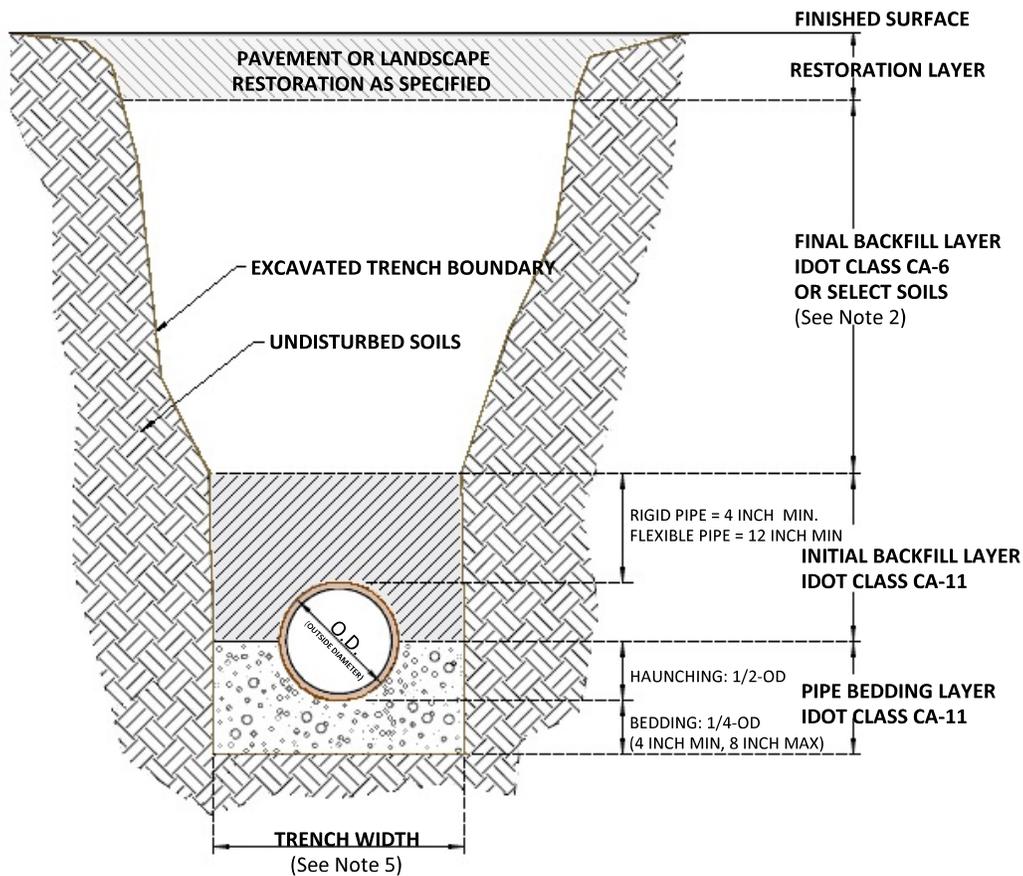
**DIAGRAM 6
SURFACE DRAINAGE STRUCTURES**



NOTES:

1. ALL PVC PIPE AND FITTINGS SHALL HAVE RUBBER GASEKET JOINTS AND CONFORM TO ASTM D3212, ASTM D3034, AND SDR 26.
2. NON-SHEAR RUBBER COUPLINGS (MISSION RUBBER PRODUCTS "FLEX-SEAL-ARC" OR "BAND-SEAL" PRODUCTS) SHALL BE USED TO JOIN ALL NEW PIPE MATERIAL TO EXISTING PIPE MATERIALS.
3. WHERE A NEW SEWER SERVICE LATERAL IS PROPOSED, THE SERVICE RISER AND THE SERVICE LATERAL SHALL BE CONSTRUCTED CONTINUOUS, WITHOUT PIPE COUPLINGS.
4. PIPE BEDDING AGGREGATE GRADATION CA-11, TO BE INSTALLED BELOW AND A MINIMUM OF 12 INCHES ABOVE PVC PIPE AND TEE FITTING.
5. UNDISTURBED EARTH SHALL SUPPORT RISER PIPE, PROVIDING UNIFORM BEARING FOR A FULL 1/4 OF THE PIPE CIRCUMFERENCE.
6. SERVICE CONNECTIONS TO THE SEWER MAIN SHALL BE CENTERED AT OR ABOVE THE SPRING LINE OF THE SEWER MAIN, FROM WHICH THE SEWER SERVICE RISER SHALL BE CONSTRUCTED WITH A MAXIMUM 1/1 (45°) SLOPE.
7. SERVICE CONNECTIONS TO EXISTING SEWER MAIN SHALL BE CONSTRUCTED USING A STANDARD TAPPING DRILL AND SADDLE (GENECO SEALTITE TYPE U26 OR APPROVED EQUAL).
8. AT LOCATIONS WHERE THE SEWER MAIN CAN NOT BE TAPPED, A NEW SEWER TEE OR WYE FITTING SHALL BE INSTALLED BY CUT-IN METHODS.
9. NEW SEWER MAIN SHALL BE JOINED TO EXISTING SEWER MAIN WITH NON-SHEAR RUBBER COUPLINGS (MISSION "FLEX-SEAL-ARC", "BAND-SEAL", OR APPROVED EQUAL).
10. AT LOCATIONS WHERE AN EXISTING SERVICE TEE OR WYE FITTING IS TO BE REUSED, THE CONNECTION SHALL BE MADE USING COUPLINGS AND METHODS APPROVED BY THE DIRECTOR OF PUBLIC WORKS OR VILLAGE ENGINEER.

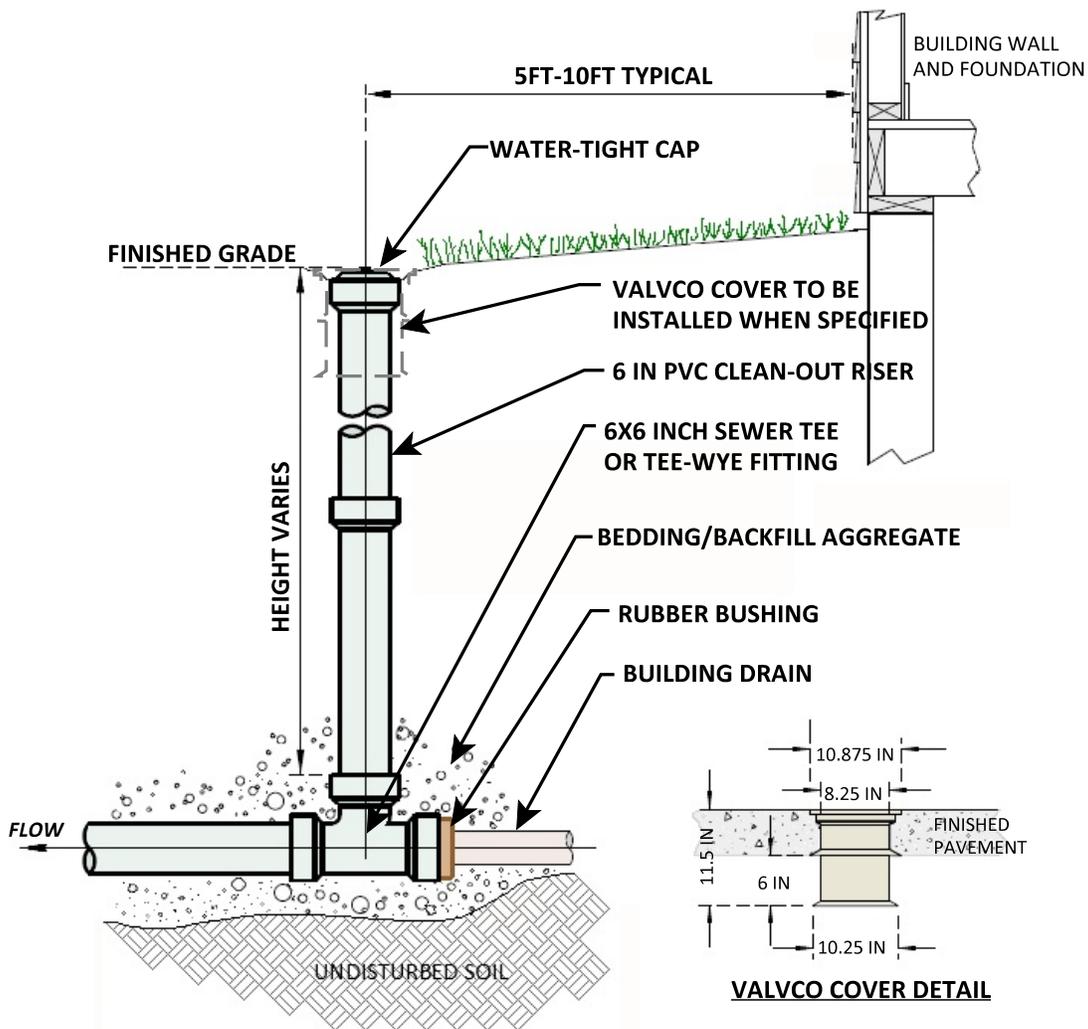
DIAGRAM 7
SEWER SERVICE TAPPED CONNECTION



NOTES:

1. ALL TRENCH EXCAVATIONS BENEATH OR WITHIN TWO FEET OF PAVEMENTS SHALL BE BACKFILLED WITH IDOT CLASS CA-6 AGGERGATE, AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY (MODIFIED PROCTOR).
2. ALL TRENCH EXCAVATIONS BENEATH LANDSCAPE AREAS SHALL BE BACKFILLED WITH SELECT EARTH MATERIALS UNLESS OTHERWISE SPECIFIED.
3. INITIAL BACKFILL MATERIAL SHALL BE IDOT CLASS CA-11, INSTALLED TO A DEPTH OF 12 INCHES ABOVE FLEXIBLE PIPE MATERIALS AND 4 INCHES ABOVE RIGID PIPE MATERIALS.
4. PIPE BEDDING MATERIAL SHALL BE IDOT CLASS CA-11 INSTALLED WITH A MINIMUM DEPTH OF 4 INCHES BELOW BOTTOM OF PIPE.
5. ALLOWABLE TRENCH WIDTH MEASURED AT THE TOP OF PIPE SHALL EQUAL PIPE OUTSIDE DIAMETER PLUS 18 INCHES. WHERE TRENCH SHEETING IS REQUIRED, WIDTH SHALL EQUAL PIPE OUTSIDE DIAMETER PLUS 36 INCHES.
6. RIGID PIPE= DIP, CIP, RCP OR OTHER SIMILAR CAST MATERIALS
FLEXIBLE PIPE= PVC, HDPE OR OTHER SIMILAR EXTRUDED MATERIALS

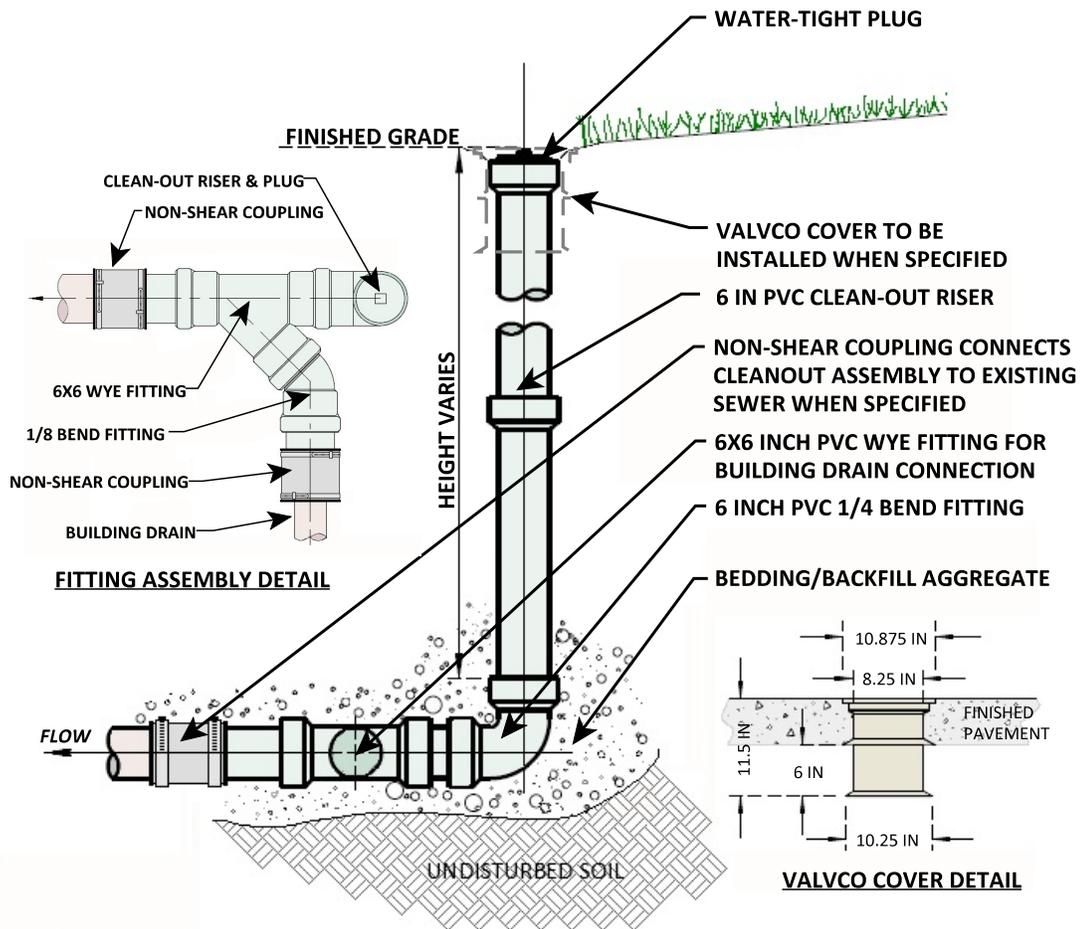
DIAGRAM 8 SEWER TRENCH EXCAVATION AND BACKFILL



NOTES:

1. PVC PIPE AND FITTINGS SHALL HAVE RUBBER GASEKET JOINTS AND CONFORM TO ASTM D3212, ASTM D 3034, AND SDR 26.
2. CAST IRON BUILDING DRAIN TO BE CONNECTED TO PVC CLEANOUT TEE FITTING WITH RUBBER BUSHING OR TO A PVC PIPE STUB WITH NON-SHEAR RUBBER COUPLING (MISSION BAND-SEAL OR EQUAL).
3. PIPE BEDDING AGGREGATE GRADATION CA-11, TO BE INSTALLED BELOW AND A MINIMUM OF 6 INCHES ABOVE PVC PIPE AND TEE FITTING.
4. CLEAN-OUT RISER ASSEMBLIES SHALL INCLUDE A WATER TIGHT PLUG INSTALLED MEET FINISHED SURFACE GRADE. WHEN INSTALLED IN PAVEMENT AREAS A CAST IRON PROTECTIVE COVER SHALL SHALL BE INSTALLED FLUSH TO FINISHED PAVEMENT SURFACE GRADE (VALVCO #888 OR EQUAL).

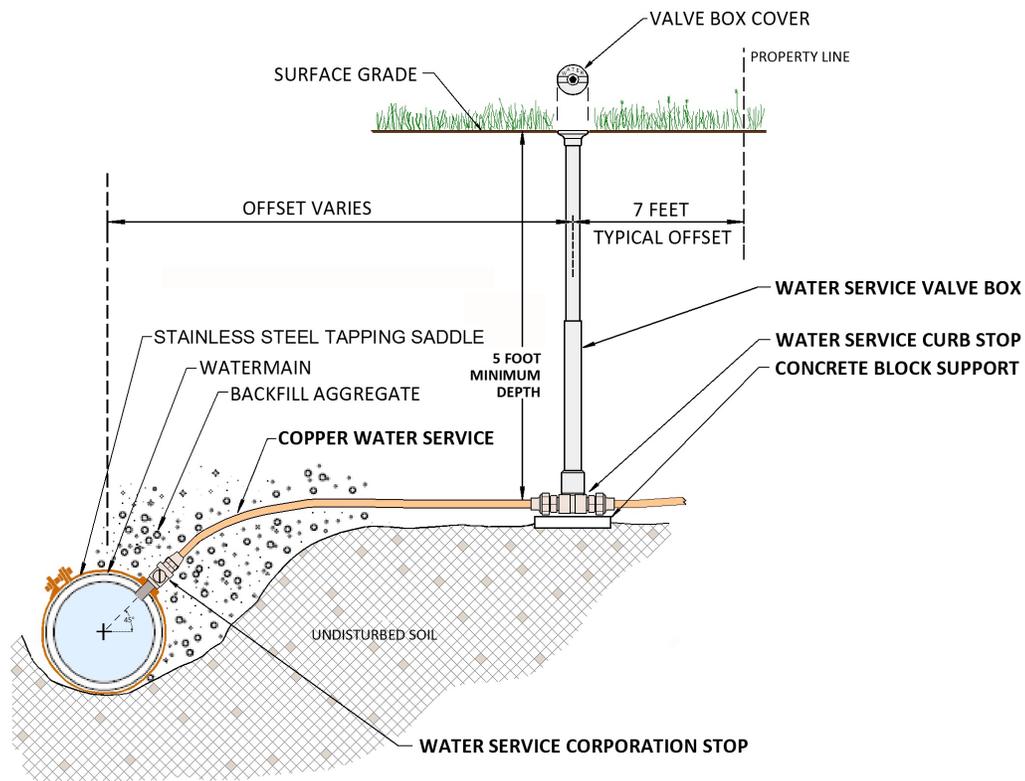
DIAGRAM 9
FRONT-YARD BUILDING SERVICE CLEAN-OUT



NOTES:

1. PVC PIPE AND FITTINGS SHALL HAVE RUBBER GASEKET JOINTS AND CONFORM TO ASTM D3212, ASTM D 3034, AND SDR 26.
2. CAST IRON BUILDING DRAIN TO BE CONNECTED TO PVC TEE-WYE FITTING WITH RUBBER BUSHING OR TO A PVC PIPE STUB WITH NON-SHEAR RUBBER COUPLING (MISSION BAND-SEAL OR EQUAL).
3. PIPE BEDDING AGGREGATE GRADATION CA-11, TO BE INSTALLED BELOW AND A MINIMUM OF 6 INCHES ABOVE PVC PIPE AND TEE FITTING.
4. CLEAN-OUT RISER ASSEMBLIES SHALL INCLUDE A WATER TIGHT PLUG INSTALLED MEET FINISHED SURFACE GRADE. WHEN INSTALLED IN PAVEMENT AREAS A CAST IRON PROTECTIVE COVER SHALL BE INSTALLED FLUSH TO FINISHED PAVEMENT SURFACE GRADE (VALVCO #888 OR EQUAL).

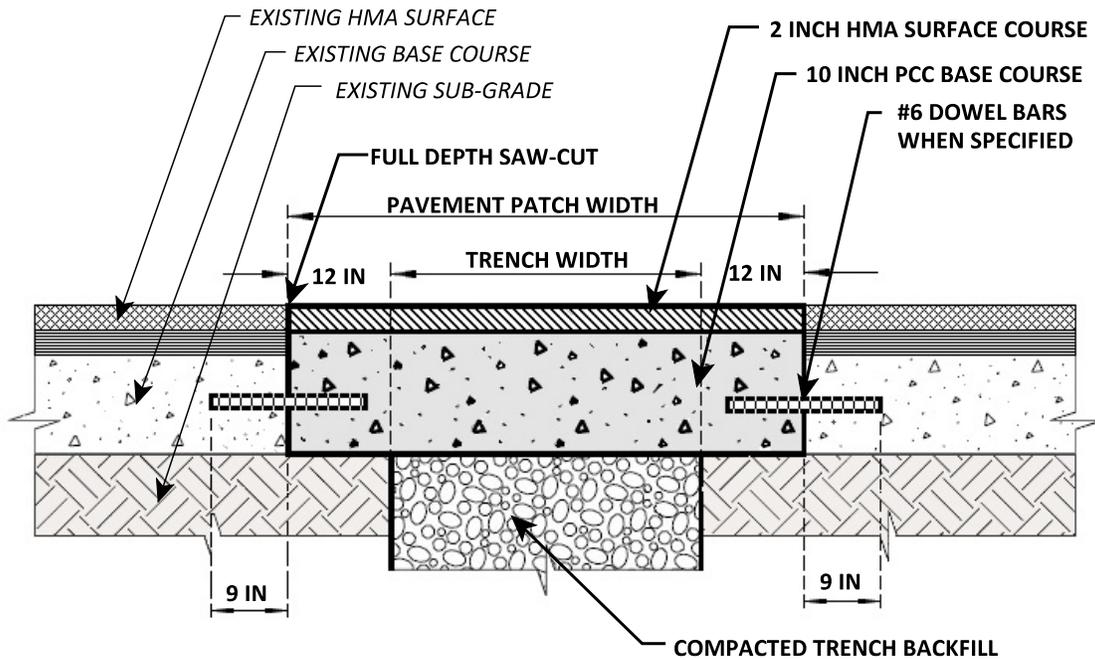
DIAGRAM 10
SIDE-YARD BUILDING SERVICE CLEAN-OUT



NOTES:

1. THE WATER SERVICE TUBING SHALL BE SOFT TEMPER COPPER, TYPE K, CONFORMING TO ASTM B88 AND B251, GREEN STRIPE MARKED WITH MANUFACTURERS IDENTIFICATION. WATER SERVICE TUBING SHALL HAVE A 1 INCH MINIMUM INTERNAL DIAMETER.
2. THE CAST IRON WATER SERVICE VALVE BOX ASSEMBLY SHALL CONFORM TO MODEL #EM-2-55-46-48R, FABRICATED BY THE FORD METER BOX COMPANY OR APPROVED EQUAL. THE BOX SHALL HAVE A STANDARD MINNEAPOLIS BASE PATTERN, PROVIDING A 1-1/2 INCH MINIMUM BASE THREAD DIAMETER. THE BOX SHALL HAVE A MINIMUM DEPTH OF COVER RANGE OF BETWEEN 5 FEET AND 5-1/2 FEET. THE CAST IRON COVER SHALL HAVE THE WORD "WATER" CAST INTO THE COVER PATTERN, AND INCLUDE A STANDARD BRASS PENTAGON HEAD PLUG.
3. THE BRASS WATER SERVICE CURB STOP BALL VALVE ASSEMBLY SHALL CONFORM TO THE MODEL #6104, FABRICATED BY THE A. Y. MC DONALD MANUFACTURING COMPANY, OR APPROVED EQUAL. THE VALVE CASTING SHALL INCLUDE A 2 INCH DIAMETER MINNEAPOLIS BODY THREAD AND PROVIDE FLARE TUBING CONNECTIONS. THE BALL VALVE OPENING DIMENSION SHALL HAVE A MINIMUM DIAMETER EQUAL THE COPPER TUBE DIAMETER.
4. THE BRASS WATER SERVICE CORPORATION STOP BALL VALVE ASSEMBLY SHALL BE A MODEL #4701B, FABRICATED BY THE A. Y. MC DONALD MANUFACTURING COMPANY, OR APPROVED EQUAL. THE VALVE CASTING SHALL CONFORM TO AWWA C800 ASTM B62, AND ASTM B584.
5. THE TAPPED SERVICE CONNECTION SHALL BE CONSTRUCTED WITH A STAINLESS STEEL TAPPING SADDLE EQUAL TO THE F#S300 MANUFACTURED BY THE FORD METER BOX COMPANY, OR AS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.
6. THE WATER SERVICE TAP CONNECTION SHALL BE FULLY SUPPORTED AND ENCASED BY TAMPED COARSE AGGREGATE, IDOT CLASS CA-6, EXTENDING 6 INCHES BELOW AND 6 INCHES ABOVE FITTING. TRENCH EXCAVATIONS TO BE BACKFILLED FULL DEPTH WITH COARSE AGGREGATE BENEATH ALL PAVEMENT AREAS.

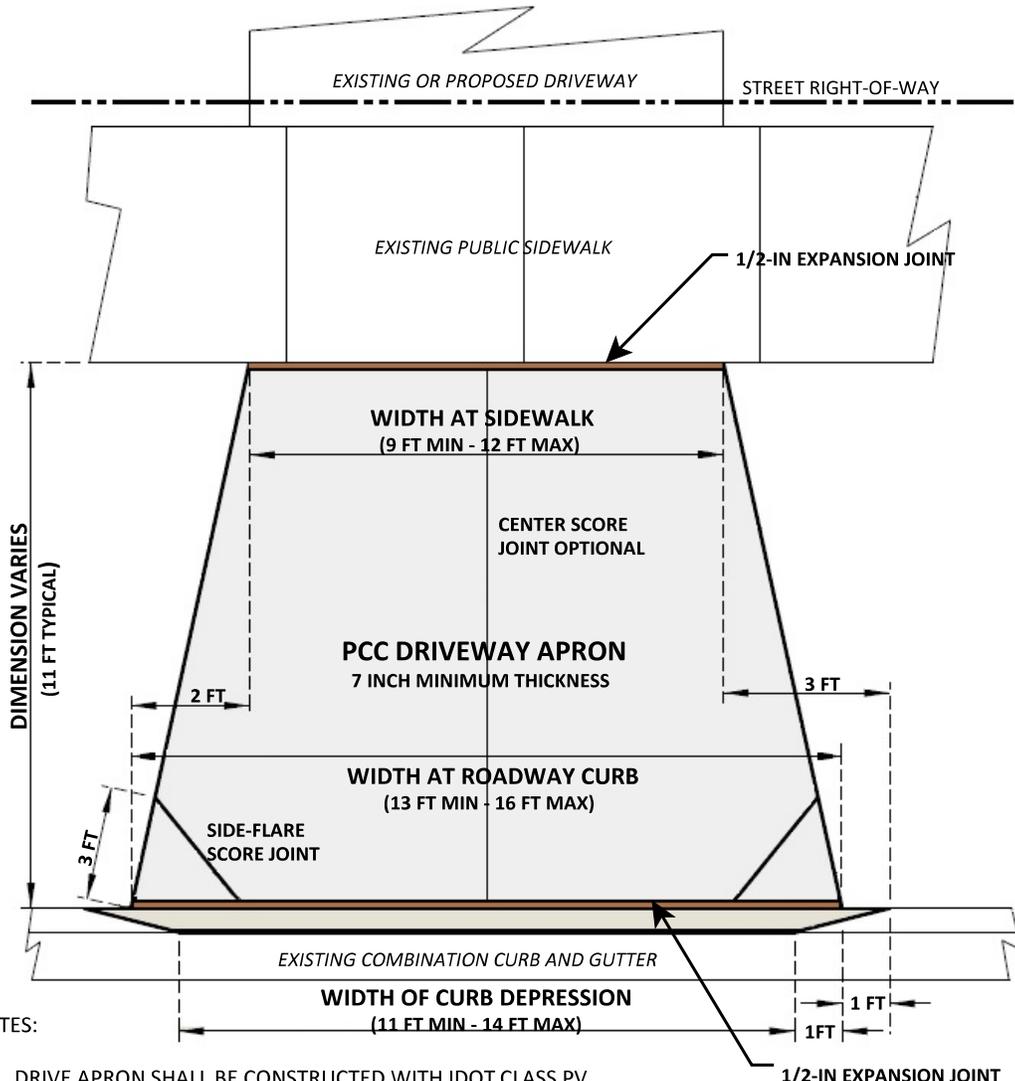
DIAGRAM 11 WATERMAIN SERVICE CONNECTION



NOTES

1. PAVEMENT SURFACE COURSE TO BE RESTORED WITH HOT-MIX ASPHALT SURFACE COURSE (HMA), IDOT MIX C, N50, INSTALLED WITH A 2 INCH MINIMUM THICKNESS.
2. PAVEMENT BASE COURSE TO BE RESTORED WITH PORTLAND CEMENT CONCRETE (PCC), IDOT CLASS PP, INSTALLED WITH A 10 INCH MINIMUM THICKNESS, OR EQUAL TO THE EXISTING BASE COURSE THICKNESS, WHICH EVER IS GREATER.
3. 18 INCH LONG, #6, EPOXY COATED STEEL DOWEL BARS TO BE GROUTED INTO 9 INCH DEEP HOLES DRILLED ON 2-FOOT CENTERS, WHEN JOINING PATCH TO EXISTING CONCRETE BASE COURSE.
4. PAVEMENT PATCH WIDTH TO EXTEND A MINIMUM OF 12 INCHES BEYOND THE EDGE OF THE TRENCH, TO BRIDGE TRENCH EXCAVATION.
5. THE ENTIRE PERIMETER OF PAVEMENT EXCAVATION TO BE SAW-CUT FULL DEPTH . THE PAVEMENT SAW-CUT TO BE SQUARE TO ROADWAY TRAVEL LANE GEOMETRY.

DIAGRAM 12
ROADWAY PAVEMENT PATCH



NOTES:

1. DRIVE APRON SHALL BE CONSTRUCTED WITH IDOT CLASS PV PORTLAND CEMENT CONCRETE (PCC) IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS.
2. THE 7 INCH THICK APRON SHALL BE CONSTRUCTED ON A 3 INCH THICK AGGREGATE BEDDING COURSE. CONCRETE SURFACE SHALL BE BROOM FINISHED PERPENDICULAR TO ROADWAY CURB.
3. EXISTING CONCRETE CURB SHALL BE EITHER SAW-CUT TO FORM THE DRIVEWAY CURB DEPRESSION, OR THE ENTIRE SECTION OF COMBINATION CONCRETE CURB AND GUTTER SHALL BE FULLY REMOVED AND AND REPLACED TO FORM THE NEW DEPRESSION TO THE DIMENSIONS INDICATED .

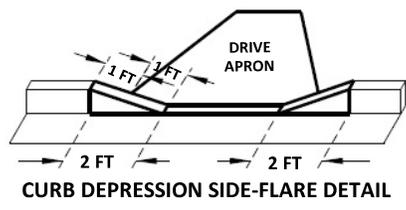
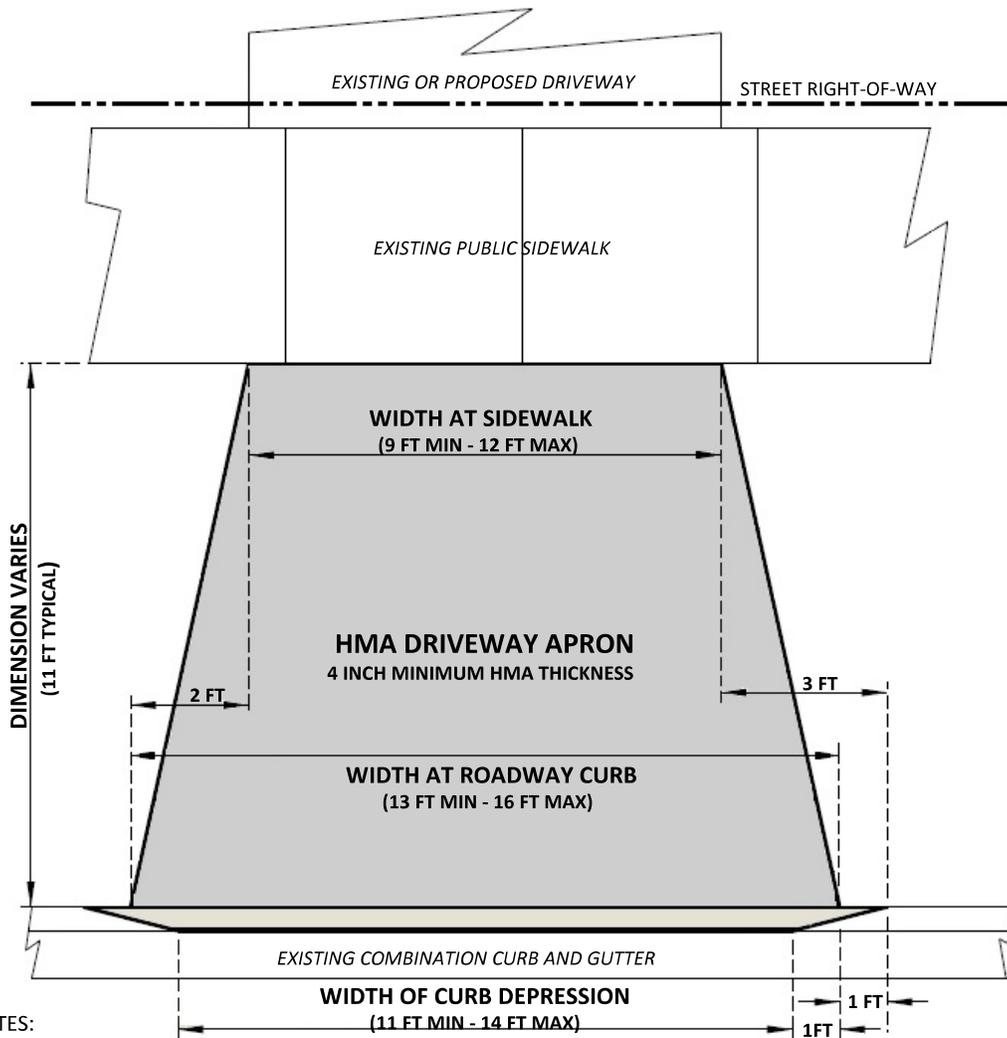


DIAGRAM 13
PCC RESIDENTIAL DRIVEWAY APRON



NOTES:

1. DRIVE APRON SHALL BE CONSTRUCTED WITH HOT MIX ASPHALT (HMA) CONFORMING TO IDOT MIX D, N50, IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS.
2. THE 4 INCH THICK APRON SURFACE COURSE SHALL BE CONSTRUCTED ON A COMPACTED AGGREGATE BASE COURSE TYPE B WITH A MINIMUM THICKNESS OF 6 INCHES, IN ACCORDANCE WITH IDOT STANDARD SPECIFICATIONS.
3. EXISTING CONCRETE CURB SHALL BE EITHER SAW-CUT TO FORM THE DRIVEWAY CURB DEPRESSION, OR THE ENTIRE SECTION OF COMBINATION CONCRETE CURB AND GUTTER SHALL BE FULLY REMOVED AND AND REPLACED TO FORM THE NEW DEPRESSION TO THE DIMENSIONS INDICATED .

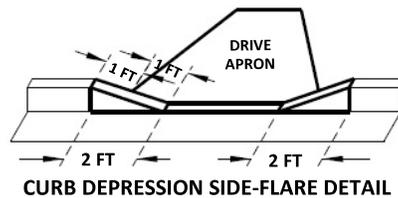
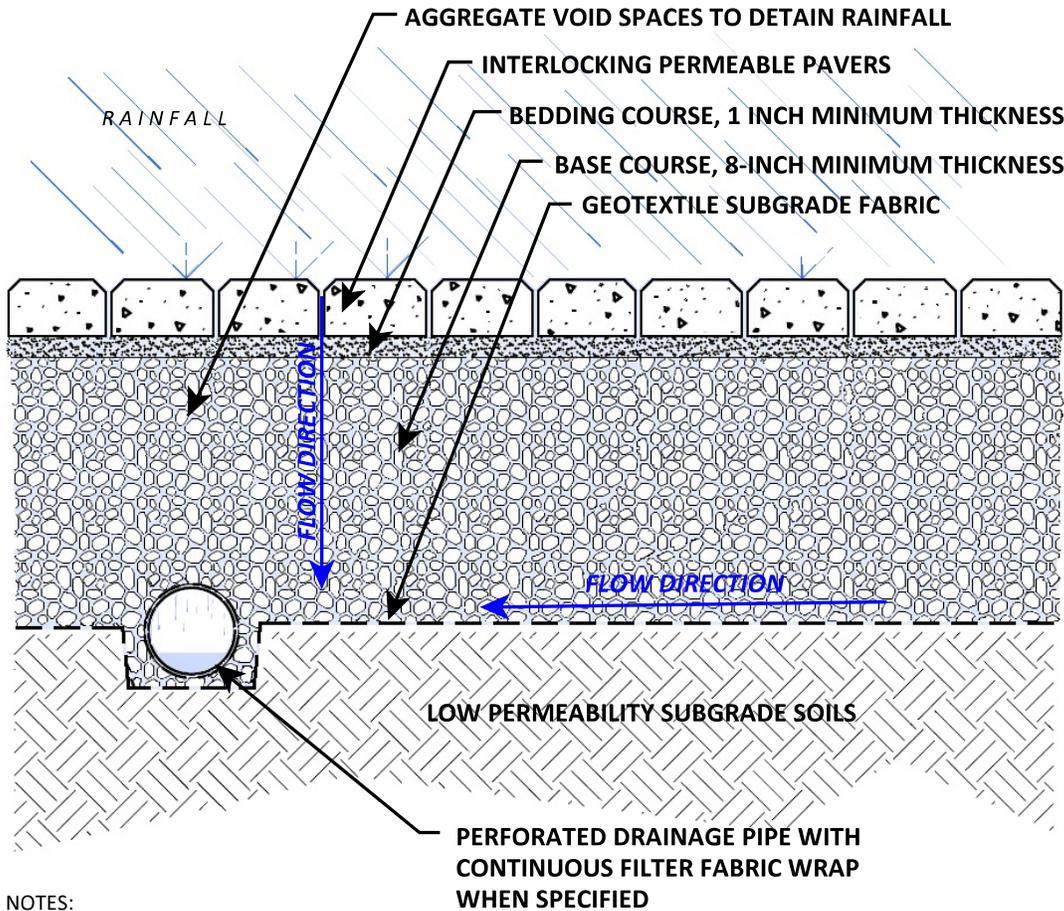


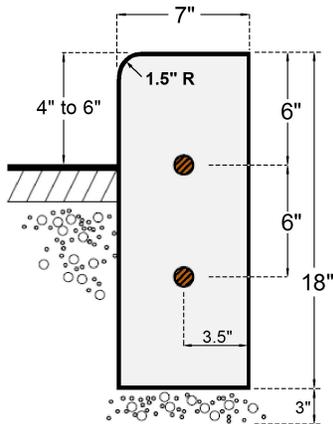
DIAGRAM 14
HMA RESIDENTIAL DRIVEWAY APRON



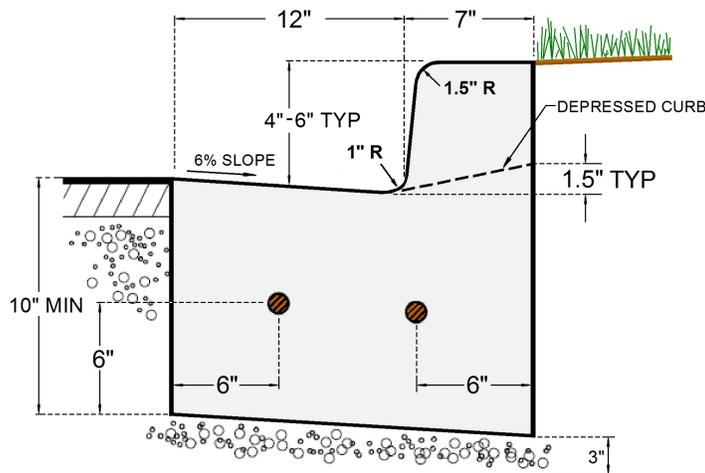
NOTES:

1. PERMEABLE PAVER SYSTEMS TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH DESIGN ENGINEER AND MANUFACTURER'S SPECIFICATIONS.
2. PREPARED SOIL SUBGRADE TO BE GRADED TO CONTAIN AND ROUTE DRAINAGE AWAY FROM RESIDENTIAL STRUCTURES.
3. A NONWOVEN GEOTEXTILE SOIL FILTER FABRIC SHALL BE PLACED OVER SUBGRADE TO ESTABLISH SUBGRADE SOIL CONTAINMENT BOUNDARY LAYER.
4. AGGREGATE BASE COURSE TO BE CONSTRUCTED WITH WASHED COARSE LIMESTONE AGGREGATE, CONFORMING TO IDOT GRADATION CA7 (30% VOIDS), INSTALLED WITH A MINIMUM THICKNESS OF 8 INCHES. MATERIAL TYPE AND DESIGN THICKNESS TO BE SPECIFIED BY PROFESSIONAL ENGINEER TO ACCOMODATE SOIL CONDITIONS.
5. A PAVER SETTING COURSE CONSTRUCTED OF WASHED LIMESTONE CHIP AGGREGATE, 3/8-INCH TO 1/4-INCH IN SIZE, PLACED AND GRADED WITH A 1-INCH NOMINAL THICKNESS.
6. 1/8-INCH TO 1/4-INCH STONE CHIP AGGREGATE TO BE BROOM SWEEPED INTO PAVER SPACES TO FILL VOID SPACE AND ENHANCE PAVER INTERLOCK.
7. PERFORATED DRAINAGE PIPE WITH CONTINUOUS FILTER FABRIC WRAP SHALL BE INSTALLED WHERE SPECIFIED. PIPE TO OUTLET TO SURFACE DRAINAGE DISSIPATION SYSTEM OR STORM SEWER SYSTEM WHEN PERMITTED BY VILLAGE ENGINEER.

DIAGRAM 15
PERMEABLE PAVER PAVEMENT



CONCRETE BARRIER CURB, TYPE B

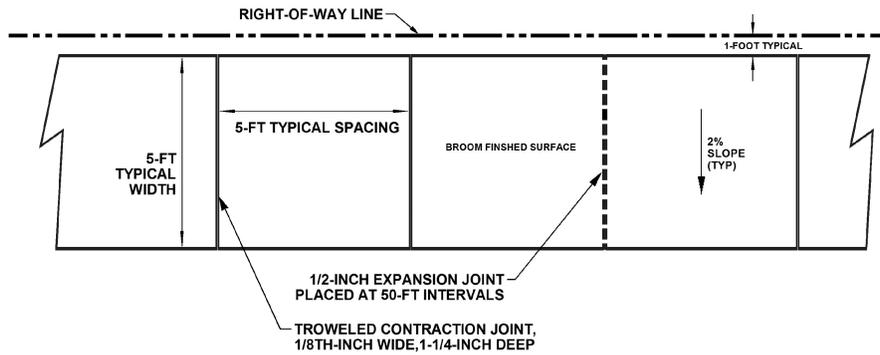


CONCRETE CURB AND GUTTER, TYPE B-6.12

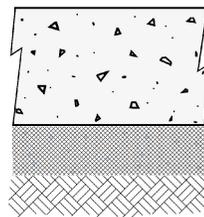
NOTES:

1. CONCRETE CURB AND GUTTER, AND BARRIER CURB TO BE CONSTRUCTED WITH 2, #4 STEEL REINFORCEMENT BARS, CONTINUOUS PLACEMENT. 1-1/4-INCH STEEL DOWEL BARS TO BE INSTALLED ACROSS CONTRACTION JOINTS OF CURB AND GUTTER. EXPANSION JOINTS TO BE PLACED AT 100-FOOT INTERVALS OR AT LOCATIONS SPECIFIED ON THE PLAN.
2. CONCRETE CURB AND GUTTER TO BE CONSTRUCTED ON BEDDING AGGREGATE WITH A COMPACTED THICKNESS OF 3-INCHES.
3. CONCRETE CURB TO HAVE A 4-INCH TO 6-INCH HEIGHT ABOVE GUTTER ELEVATION OR ELEVATION OF FINISHED PAVEMENT.
4. CONCRETE CURB AND GUTTER AND BARRIER CURB TO BE CONSTRUCTED OF IDOT CLASS SI CONCRETE IN ACCORDANCE WITH SECTION 606 AND 1020 OF THE IDOT STANDARD SPECIFICATIONS. CONCRETE SURFACES TO RECEIVE STANDARD BROOM FINISH.

**DIAGRAM 16
CONCRETE CURB AND GUTTER**



CONSTRUCTION PLAN VIEW



PORTLAND CEMENT CONCRETE (PCC), IDOT CLASS SI,
5-INCH MINIMUM THICKNESS, 7-INCH MINIMUM
ACROSS DRIVEWAYS.

COARSE AGGREGATE - IDOT GRADATION CA-6
2-INCH MINIMUM COMPACTED THICKNESS

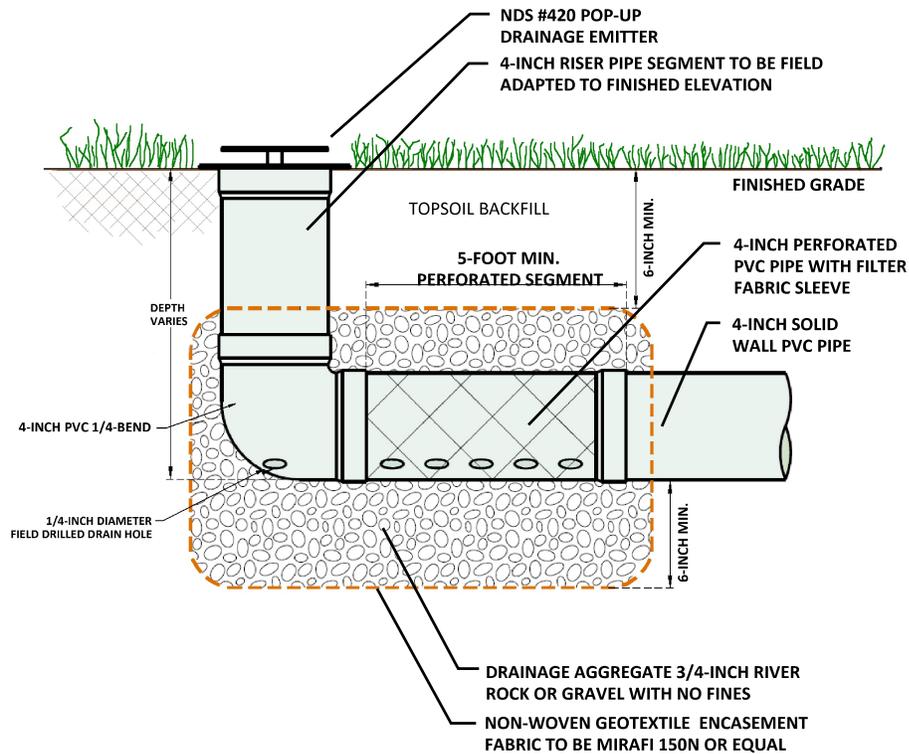
GRADED AND COMPACTED SUBGRADE SOILS

CONSTRUCTION SECTION VIEW

NOTES

1. PUBLIC SIDEWALK SHALL HAVE A NOMINAL WIDTH OF 5- FEET AND A NOMINAL THICKNESS OF 5-INCHES. THE CONCRETE WALK SHALL BE CONSTRUCTED ON AN AGGREGATE BEDDING WITH A NOMINAL THICKNESS OF 2-INCHES.
2. PUBLIC SIDEWALK CROSSING DRIVEWAY LOCATIONS SHALL HAVE A NOMINAL WIDTH OF 5- FEET AND A NOMINAL THICKNESS OF 7-INCHES.
3. THE CONCRETE SIDEWALK SHALL BE PROVIDED WITH A BROOM FINISH, BRUSHED PERPENDICULAR TO RIGHT-OF-WAY.
4. TROWEL FORMED CONTRACTION JOINTS TO BE CONSTRUCTED ON 5-FOOT INTERVALS . EXPANSION JOINTS SHALL BE CONSTRUCTED WITH 1/2-INCH PREFORMED JOINT FILLER BOARD, PLACED ON 50-FOOT INTERVALS. THE FILLER BOARD SHALL BE PLACED 1/4-INCH BELOW THE SURFACE OF THE WALK.
5. PUBLIC SIDEWALK SHALL BE CONSTRUCTED INDEPENDENT OF DRIVEWAY APRONS AND DRIVEWAY PAVEMENTS. PUBLIC SIDEWALK SHALL ALIGN WITH EXISTING SIDEWALK.
6. CONCRETE USED IN THE CONSTRUCTION OF SIDEWALKS SHALL CONFORM TO IDOT CLASS SI, AS DESCRIBED IN THE IDOT STANDARD SPECIFICATIONS SECTION 1020 AND 424.

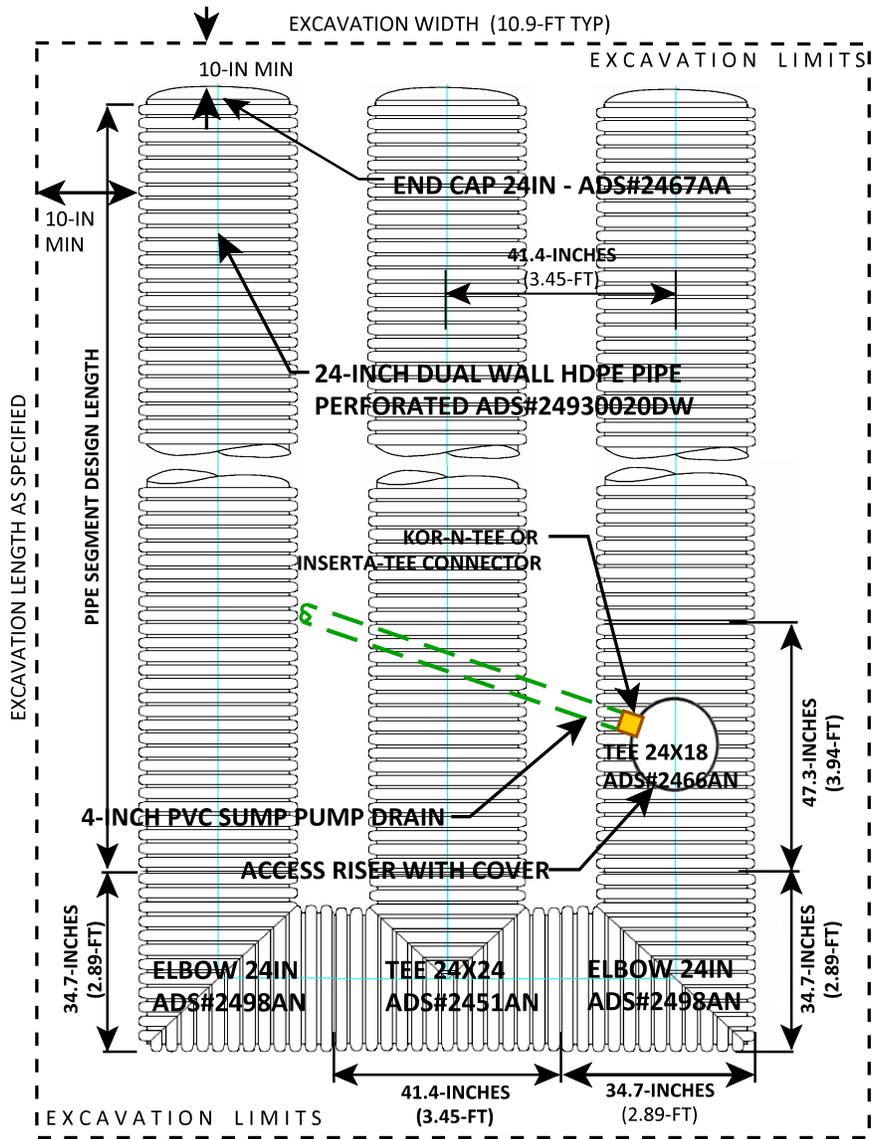
**DIAGRAM 17
CONCRETE SIDEWALK**



NOTES:

1. DRAIN PIPE OUTLET FOR DOWNSPOUTS TO BE CONSTRUCTED WITH 4-INCH PVC PIPE CONFORMING TO SCHEDULE 40 OR SDR26.
2. PIPE TO BE INSTALLED WITH A MINIMUM COVER OF 8 INCHES AT 1% MINIMUM GRADIENT.
3. PERFORATED PVC PIPE SEGMENT TO INCLUDE FILTER FABRIC SLEEVE.
3. NDS POP-UP DRAINAGE EMITTER TO BE INSTALLED FLUSH TO FINISHED GRADE.

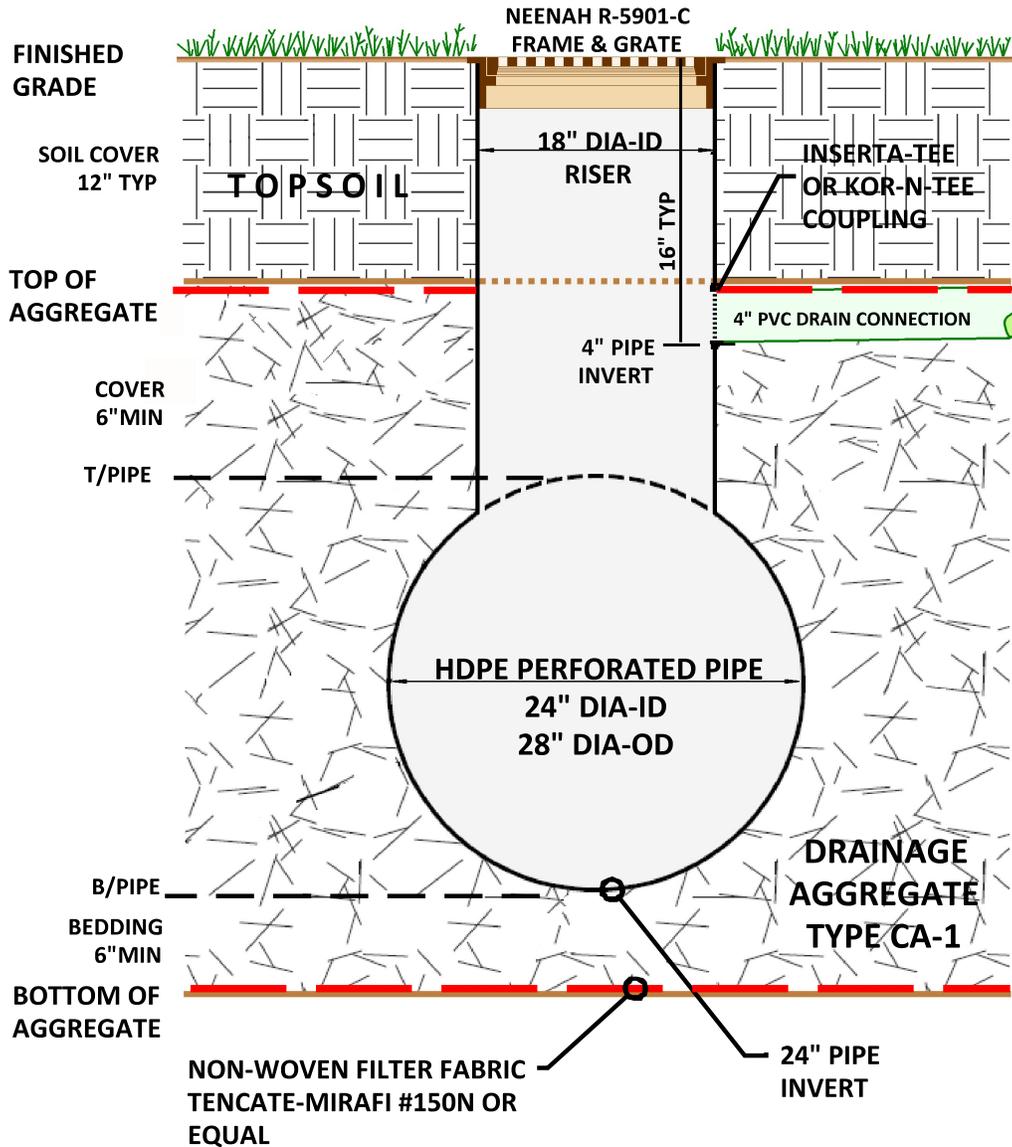
DIAGRAM 18
POP-UP DRAINAGE EMITTER



NOTES:

1. THE HDPE PIPE AND FITTINGS TO BE PLAIN-END, DUAL-WALL, WITH SPLIT BAND COUPLERS EQUAL TO THE N12 PRODUCT SERIES MANUFACTURED BY ADVANCED DRAINAGE SYSTEM (ADS).
2. THE 18-INCH ACCESS RISER SHALL BE TERMINATED AT GRADE WITH A NEENAH R-5900-C OR A R-5901-C CAST IRON FRAME AND SOLID COVER OR GRATE.
3. ALL CONNECTIONS TO THE HDPE PIPE SHALL BE BY MANUFACTURED FITTING OR CORED CONNECTOR.

DIAGRAM 19 3-SEGMENT DRAINAGE DISSIPATION SYSTEM



NOTES:

1. THE ACCESS RISER TO BE CONSTRUCTED WITH MANUFACTURED 24"X18" HDPE TEE FITTING.
2. THE 18-INCH ACCESS RISER SHALL BE TERMINATED AT GRADE WITH A NEENAH R-5901-C FRAME AND GRATE OR A R-5900-C FRAME WITH SOLID COVER.
3. THE DRAIN PIPE CONNECTION TO BE CORE-DRILLED TO ACCEPT INSERTA -TEE OR KOR-N-TEE COUPLING.
4. THE FILTER FABRIC ENVELOPE SHALL FULLY ENCASE AGGREGATE AND PERFORATED PIPE.

DIAGRAM 20
DISSIPATION SYSTEM ACCESS RISER w/GRATE

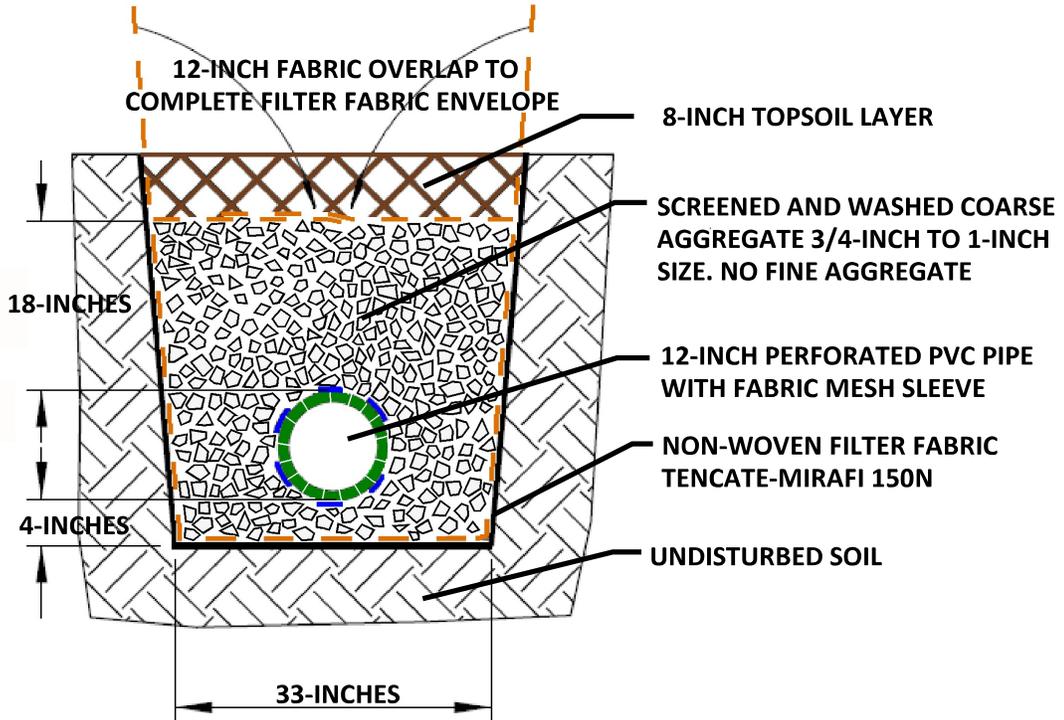


DIAGRAM 21
INFILTRATION TRENCH