

Development:

Submittal Type:

Review Date:

Reviewed By:

C - Concept, PP - Pre Plat, FP - Final Plat



STREET DESIGN AND GEOMETRICS						
C	PP	FP	Geometric Design, Local Residential Street	Yes	No	N/A
X	X	X	Minimum Street Width, back of curb to back of curb - 28'			
		X	Center Crown - 3%			
	X	X	Minimum Longitudinal Grade - 0.5%			
	X	X	Maximum Longitudinal Grade - 8.0%			
	X	X	Maximum Intersection Approach Grade, First 100-feet - 2.0%			
	X	X	Minimum Vertical Curve Length, Crest - K=19			
	X	X	Minimum Vertical Curve Length, Sag - K=37			
	X	X	Minimum Horizontal Curve Radius - 100'			
X	X	X	Intersection Angles - 90 degrees			
	X	X	Minimum Intersecting Street Offset, from Centerlines - 150'			
		X	Curb Radius, Minimum Local to Local - 20'			
		X	Curb Radius, Minimum Local to Collector - 25'			
	X	X	Minimum Diameter of Cul-de-sac - 90'			
		X	Minimum Grade around Cul-de-sac - 0.5%			
X	X	X	Maximum Cul-de-sac Street Length - 1000'			
	X	X	Temporary turn-around/cul-de-sac - ask PW			
C	PP	FP	Geometric Design, Collector Street	Yes	No	N/A
X	X	X	Minimum Street Width, back of curb to back of curb - Varied (32' min)			
	X	X	Maximum Longitudinal Grade - 6.0%			
X	X	X	Intersection Angles - 90 degrees			
		X	Tangent Length at Intersection from Curb Line, Local Streets - 50'			
		X	Tangent Length at Intersection from Curb Line, Higher Class Streets - 100'			
		X	Tangent Minimum between curves - 50'			
	X	X	Minimum Vertical Curve Length, Crest - State-Aid for min design speed			
	X	X	Minimum Vertical Curve Length, Sag - State-Aid for min design speed			
	X	X	Minimum Horizontal Curve Radius - State-Aid for min design speed			
X	X	X	Minimum Intersecting Street Offset, if allowed, from Centerlines - 250'			
X	X	X	Street/Roadway Access - Per City Spacing Guidelines			
X	X	X	Driveway Access, Residential - Prohibited			
X	X	X	Driveway Access, Commercial - Per City Spacing Guidelines			
		X	Curb Radius - 25'			
C	PP	FP	Pavement Section Design	Yes	No	N/A
	X	X	Subbase, Select Granular Borrow (SPEC 3149.2B) - 24"			
	X	X	Subsurface Drainage System - Required			
	X	X	Base, Aggregate Base, Class 6, 100% Stone Aggregate - 8"			
	X	X	Non-Wearing Course, MnDOT 2360 Type SP 12.5, Mixture 2B - 2"			
	X	X	Wearing Course, MnDOT 2360 Type SP 9.5, Mixture 2B - 1.5"			
C	PP	FP	Drainile/ Street Subsurface Drainage	Yes	No	N/A
	X	X	6" Rigid PVC SCH 40 Perforated with Sock			
	X	X	Location - Full Length of Street			
C	PP	FP	Curb and Gutter	Yes	No	N/A
X	X	X	Material - Concrete			
		X	Strength, Min Requirements - 3,900 PSI			
	X	X	Type, New Developments, Single Family Residential - Surmountable			
	X	X	Type, New Developments, Multifamily, Commercial - B618			
	X	X	Type, Collector Roads, Reconstruction - B618			
C	PP	FP	Utility Conduit	Yes	No	N/A
		X	Type - PVC Schedule 40			

		X	Location/Depth - Perpendicular to Street and below Subgrade			
C	PP	FP	Entrances/Driveways	Yes	No	N/A
		X	Maximum Driveway Width at Right-of-way - 24'			
		X	Bituminous Driveway Minimum Thickness, Section - See Detail			
		X	Residential Concrete Driveway Minimum Thickness - 6"			
		X	Commercial Concrete Driveway Minimum Thickness - 8"			
C	PP	FP	Signing	Yes	No	N/A
		X	Design Standards - MMUTCD			
		X	Sheathing Type - High Intensity Diamond Grade DG3			
		X	Sign Posts, unpainted galvanized metal - 3.0LBS/ft			
RIGHT-OF-WAY AND BOULEVARD LAYOUT						
C	PP	FP	Right of Way Widths	Yes	No	N/A
X	X	X	Local Residential Street Minimum Width - 60'			
X	X	X	Cul-de-sacs - 60' Radius			
X	X	X	Collector Street Minimum Width - Varies, 77' min			
C	PP	FP	Boulevard, Local Residential Street	Yes	No	N/A
	X	X	Width - 16'			
	X	X	Slope, Typical and Max - 4.0% and 4:1			
		X	Topsoil min - 6"			
		X	Turf Treatment - Lawn Sod			
	X	X	Tree Location - Per City Detail, with Root Barrier			
		X	Street Light Location - 5' back of curb			
	X	X	Hydrant Location - 5' back of curb			
C	PP	FP	Sidewalks	Yes	No	N/A
X	X	X	Collector Street - As directed			
X	X	X	Local Residential Street - Required on one side			
X	X	X	Cul-de-sac Street - Required for trail connection			
	X	X	Width - 6'			
	X	X	Sidewalk Max Longitudinal Grade - 6.0%			
		X	Pavement Section - 5" Conc, 4" Select Granular			
C	PP	FP	Trails	Yes	No	N/A
X	X	X	Locations - Per City Trail Plan			
	X	X	Width, Local Trail - 8.5'			
		X	Pavement Section, Local Trail - 2.25" Bit, 8" min Class 5			
C	PP	FP	Berm Construction in Boulevard	Yes	No	N/A
	X	X	Max Side Slope with Maintenance Requirements - 3:1			
	X	X	Max Side Slope with Natural Vegetation - 2:1			
SANITARY SEWER						
C	PP	FP	Force Main	Yes	No	N/A
	X	X	Material - PC or HDPE			
	X	X	PVC, 2"-24" - C900/C905			
	X	X	HDPE Class, 1" - SDR 9			
	X	X	HDPE Class, 2"-24" - SDR 11			
		X	Min Cover - 8'			
	X	X	Location of main in Street - Project Specific			
		X	Trace Wire - 12 Gauge Copper			
		X	Air Relief Valve and MH Locations - All High Points			
C	PP	FP	Gravity Main	Yes	No	N/A
	X	X	Min 8" - PVC			
		X	Class, up to 20-feet deep - PVC SDR 35			
		X	Class, 20-25 feet deep - PVC SDR 26			
		X	Class and Material over 25-feet deep, Project Specific			
	X	X	Min Cover - 5.5'			
	X	X	Max pipe depth - 30'			

	X	X	Location of main in street - Centerline			
		X	Trace Wire - 12 AWG solid, PRO-TRACE HF-CCS PE45 for off-road sewer			
		X	Slope - Ten States Standards			
C	PP	FP	Sanitary Sewer Manholes	Yes	No	N/A
		X	Type - Precast Concrete			
	X	X	Maximum inlet/outlet elevation difference - 2'			
	X	X	Minimum depth of Manhole - 6'			
		X	Type of Casting - R-1642-Specialized			
		X	Joints and Assembly - Per City Details			
	X	X	Location - Street Centerline			
	X	X	Maximum Spacing - 400'			
		X	Flow Line Match Required - 8/10ths Rule			
	X	X	Drop Across All Manholes - 0.1'			
		X	Connections to Existing Manholes - Core Drill			
		X	Outside drop min - 2'			
		X	Outside drop Material - Ductile Iron			
C	PP	FP	Service Pipe	Yes	No	N/A
		X	Min 4" PVC			
		X	Class - Schedule 40			
		X	Trace Wire - 12 AWG solid, PRO-TRACE HF-CCS PE45			
		X	Location - Downstream of water service			
WATERMAIN						
C	PP	FP	City Water System Adequate Service Pressure Zone (2-story residential, 50psi static)	Yes	No	N/A
	X	X	First Floor Elevation below 1,021 - Adequate			
	X	X	FFE at 1,021-1,030 - Booster Pump			
	X	X	FFE at 1,030 or above - Eng. Analysis			
C	PP	FP	Main Pipe	Yes	No	N/A
	X	X	Material - PVC			
	X	X	Class - C900, DR-18			
	X	X	Minimum Diameter - Mainline - 8"			
	X	X	Minimum Diameter - Residential Hydrant Lead - 6"			
	X	X	Minimum Diameter - Commercial/Industrial Hydrant Lead - 8"			
		X	Minimum Cover - 7.5'			
	X	X	Location of main in Street - North or West			
		X	Tracer Wire - Pro Trace CCS #12 AWG THWN			
	X	X	Max Length of Dead Ends - 600'			
		X	Air Release measures - MH, Hydrant			
C	PP	FP	Hydrants	Yes	No	N/A
		X	Type - Waterous Pacer WB-67			
		X	Depth of Bury - 8.5'			
		X	Spacing Radius from Building - 250'			
		X	Gate Valve on Hydrant Leads			
	X	X	Hydrants at high points			
C	PP	FP	Valves	Yes	No	N/A
		X	Resilient Seat Gate Valve, for 12-inch pipe & smaller - Amer Flow Control 2500 Series			
		X	Butterfly Valve, for pipe over 12-inch - Mueller Lineseal III			
		X	Valve Box - Tyler G-Box6860			
	X	X	Maximum area isolated by valving - 20 services			
	X	X	Maximum distance between valves on Trunk Mains - 800'			
	X	X	Location - reasonable for PW operation			
C	PP	FP	Service Pipe	Yes	No	N/A
		X	Service Material - SIDR 7 IPS PE			
		X	Corporation Stop - A.Y. McDonald 74701B			
		X	Curb Stop - A.Y. McDonald 76104			
		X	Curb Box - A.Y. McDonald 5614 w/rod & Mpls. Top			

STORM SEWER						
C	PP	FP	Design	Yes	No	N/A
		X	Design Frequency for Storm Sewer - 10-year			
		X	Minimum storm sewer design velocity - 3 fps			
		X	Maximum storm sewer design velocity - 15 fps			
		X	Maximum storm sewer outlet velocity - 5-fps			
		X	Minimum Outfall Pipe Slope - Positive Slope			
C	PP	FP	Main Pipe	Yes	No	N/A
	X	X	Storm Sewer Pipe Material - RCP			
		X	Minimum Cover Depth, street - 4'			
		X	Minimum Cover Depth, green areas - 3.5'			
		X	Minimum Pipe Diameter, Laterals - 12"			
	X	X	Minimum Pipe Diameter, Main - 15"			
	X	X	Minimum Catch Basin Lead - 12"			
	X	X	Location of main in Street - South or East			
C	PP	FP	Culvert Pipe	Yes	No	N/A
	X	X	Culvert Material - RCP			
	X	X	Minimum Culvert Size - 15"			
		X	Apron and Trash Guard Required			
C	PP	FP	Manholes	Yes	No	N/A
		X	Type - Precast Concrete			
	X	X	4' Sump Structure - Prior to any stormwater BMP			
		X	Min Structure Depth - 4.5'			
		X	Casting - R-1642-Specialized			
		X	Min Adjustment Rings - 2			
		X	Maximum Adjustment Rings - 1'			
C	PP	FP	Catch Basins	Yes	No	N/A
		X	Type - Precast Concrete			
		X	Min Structure Depth - 4.5'			
	X	X	Max Run to Catch Basin - 350'			
		X	Casting, Curb and Gutter, B Style Curb - R-3067V			
		X	Casting, Area Drain - R-4342			
MISCELLANEOUS						
C	PP	FP	Grading, Drainage and Erosion Control Plans	Yes	No	N/A
X	X	X	Wetlands and Stormwater Features in Outlots deeded to City			
	X	X	Wetland Buffer Signs per MCWD			
	X	X	Drainage swales - min 3% Slopes			
	X	X	Drainage swales - easements provided			
	X	X	NWL, HWL, EOFs provided			
	X	X	Pond/BMP access - minimum 20 -feet, max 10% Slope			
	X	X	Pond Maintenance & Aquatic Bench per Std Detail 416			
		X	Filtration Drintile - 6" min PVC SCH 40 pipe, 3/8" perfs., Tracer Wire, max bend 45 deg			
		X	Filtration Drintile - max bend 45 deg, Wye connections			
	X	X	Outlet Pipe RCP			
		X	Right of way boulevards adjacent to City owned outlots - Sod (MNDOT 3878.2A Lawn Sod)			
		X	City owned outlots - Seed (MndOT 3876, 25-151 Turf Mix w/ PLS rate of 200 lbs/ac)			
		X	City owned outlots - EC Blanket (3885-1 Cat 3N, Type 1S, (Natural netting & Stitching)			
		X	Temp. Areas Seed - MndOT 3876, Cat 25-141, 59 lbs/ac applied rate			
		X	Temp. Areas EC Blanket - MndOT 3885-1, Cat 0, Type 1S (netting one side)			
		X	Erosion Control Blanket - all 3:1 slopes			
		X	Rip-Rap/Turf reinforcement shown on Pond downstream slopes			
	X	X	Fences provided on Retaining Wall as Necessary			
		X	Inlet protection - all project and off-site impacted inlets.			
C	PP	FP	Additional Items	Yes	No	N/A

	X	X	Stormwater Management Plan			
	X	X	Geotechnical Report			
	X	X	Wetland Delineation Report			
	X	X	Landscaping Plan			
		X	Signing, Striping and Lighting Plan			
		X	Specifications			
	X	X	Retaining Wall Plans			