STANDARDS

TOWN of LYNDON SANITARY DISTRICT

ADOPTED AUGUST 18th, 2008 W6081 CTH N Plymouth, WI 53073

Contacts	Title	Phone No.	Fax No.
Professional Staff			
Chirie	Plymouth Review (Official Newspaper) 113 East Mill Plymouth, Wisconsin 53073	(920) 893-6411	(920) 893-5505
Elected and Appointed Officials			
Ray Zimmermann *	President	(920) 528-8036	
Dave Triebensee *	Commissioner		
James Weigel	Commissioner		
John St. Peter, Esquire	Law Offices of John St. Peter P.O. Box 1276 10 Forest Avenue Fond du Lac, WI 54936-1276	(920) 922-0470 office	(920) 922-9091 fax
Meetings Held	Sanitary District	as needed at a location identified by public notice	

ADDITIONAL INFORMATION

- 1. "Assessment Policy". The District recognizes their right to enforce their Statutory Police Powers regarding allocating costs for public improvements based on benefit through Special Assessments.
- 2. "Standard Fees / Rate Schedule" apply to all efforts associated with private and public projects and are available from the District (copy available from District Secretary).
- 3. **Private Development Projects**. Developer is responsible for all costs associated with the respective projects including but not limited to District Administration and Staff, Permits and Submittals, Reviews, and Professional Services (Legal, Planning Reviews, Engineering, Construction Services).
- 4. **Additions / Amendments**. Developer is responsible for all costs to the District associated with additions or amendments including but not limited to a) petition for addition or amendment b) survey map and legal description prepared by a Wisconsin registered land surveyor c) map and development plan for service area and d) District and professional services.

5. Construction Process and Performance Guarantees

- a. **Approval Required**: District approval of all plans and specifications is required for projects which modify existing or extend utility services.
- b. Additions and modifications to existing infrastructure **must** be approved by designated District representative (District or Engineer). All public work improvements **shall** be designed **and** bear the seal of a Wisconsin professional engineer.
 - 1) Developer is responsible for requesting infrastructure services. Request shall include a minimum of location, duration, and description of the work.
- c. Warranty: Contractor / Developer shall warrant / guarantee Work from the date of substantial completion for a minimum of 2 years for all defects, workmanship, etc. as provided in the Engineering Joint Contract Documents Committee (EJCDC) General Conditions (most recent edition).
- d. **Surety**: Contractor / Developer shall provide financial surety (option of performance and payment bonds, and irrevocable letter of credit) for the complete value of the Work (plus 10% contingency) naming the District as a primary beneficiary.

e. Record Drawings:

- 1) Developer's Contractor shall provide "as-built" record drawings (two paper copies) at the completion of the improvements and shall include a minimum of all lengths, alignments, grade, and service / lateral information that document the improvements.
- 2) Record Drawings must be provided to the District no later than 90 days after construction is complete.
- 3) Developer shall also provide an **electronic copy** of the design documents (including but not limited to plan and detail drawings) that may be amended as record drawings. Electronic documents shall be referenced to the Sheboygan County Coordinate System.
- f. **Public Acceptance**: District may accept public improvements constructed by private Developers / Contractors after the District determines the Work is completed to all applicable codes, ordinances, permits and standards; and all necessary documentation is submitted and approved.

g. Construction Services:

- 1) Developer is responsible for all costs associated with Construction Services necessary to install the improvements (including but not limited to District services).
- 2) Construction Services include, but are not limited to, contract administration, staking (and survey reference points), site observations and record drawings.
- 3) All public works improvements (public sanitary sewer and watermain) shall be observed under the supervision of a licensed Wisconsin Professional Engineer (as required by Wisconsin Statute and Administrative Code). The District may elect for a District employee or Agent to perform observations.

6. Operation of Sanitary Infrastructure

- a. Only District public works staff may operate the sanitary infrastructure.
- b. The District **must** be provided a **minimum of 48 hours notice** requesting operation of or access to the infrastructure.

7. Pre-Construction Conference Required

- a. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by the Developer and District Representatives, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the respective parties general responsibilities, schedules, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- b. The conference will be held at a location selected by the District and Developer. The conference shall be attended by:
 - 1) Developer(s)
 - 2) Developer's Agent(s)
 - 3) Contractor's
 - a) Office Representative(s)
 - b) Resident Superintendent(s)
 - c) Safety Representative(s)
 - "Project Coordinator" designated by Contractor to process and submit Shop Drawings and other submittals to Engineer.
 - Any Subcontractors' or Suppliers' representatives that the Contractor or District may request.
 - 4) District Representative(s) including
 - a) District Engineer
 - b) Local Utilities' Representatives.
- c. A **suggested format** would include, but not be limited to, the following subjects:
 - 1) Project safety
 - 2) Presentation of the preliminary progress schedule and preliminary schedule of Shop Drawings and sample submissions in accordance with the Specifications or General Requirements.
 - 3) Liquidated damages (if applicable).
 - 4) Procedures for handling submittals such as Shop Drawings and other submittals.
 - 5) Direction of correspondence and coordinating responsibility between Contractors.
 - 6) Project meetings.
 - 7) Laboratory testing of material requirements.
 - 8) Procedures for inventory of material and equipment stored on-site or off-site, if off-site storage is authorized.
 - 9) Review schedule of values, application for progress payment, and progress payment procedures (if applicable).
 - 10) Change Order procedures.
- 8. **Development Guidelines** (including example developer's agreements and description of necessary steps), Codes and Ordinances are available from the District as the developer presents planning concepts.

9. **Ownership of Laterals / Services**. Property owners are responsible for maintaining all laterals and services (within public road right of ways or District / utility easements).

AVAILABLE MAPPING

Official Zoning	Town of Lyndon (as by Sheboygan County Planning and Zoning)
Shoreland / Wetlands	Wisconsin Department of Natural Resources Wetland Inventory (stamped "final"). Electronic format is available from Sheboygan County and the Department.
Sanitary Sewer System	1. Miscellaneous Sewer Maps (existing and future service areas) and private development projects
	2. Comprehensive system maps (not applicable)
	3. Original Plans Drawings dated January 1976, prepared by McMahon Associates, Inc. (Menasha, Wisconsin), "Sanitary Sewer, Town of Lyndon Sanitary District no. 1, Sheboygan County Wisconsin" (job number, sheets 1 to 14)
	4. Construction Plan Drawings from various private development projects are also filed with the Director of Public Works.
Storm Water Drainage	No comprehensive system maps
Other	 Sheboygan County (including but not limited to) Land Parcels / Tax Maps USPLS Government Section Corner Tie Sheets Developed Property Addresses Major Drainageways Digital Orthophoto (1' ground resolution) Digital Contours (2') soils USGS (digital) - 1 meter ground resolution (Sheboygan County digital orthophoto with soils classifications) FEMA (federal emergency mapping agency) not applicable Flood Insurance Study - District Community Number (n/a) Community Panel Number (n/a) Mapping available for rural Town of Lyndon areas (Community Panel Numbers 550424 0075-A, 0080-B and 0090-A, post September 1992)

UTILITY CONTACTS

Utility	Representative	Address	Phone No.	Fax No.
Gas	Wendy Johnson	WE Energies 700 Sunset Rd Port Washington WI 53074	(262) 268-3646	(262) 268-3628
Telephone / Fiber Optic	Andre Youmara	Verizon North 70 East Division Street Fond du Lac WI 54935	920-929-1017 800-924-4845 920-948-1167 cellular 414-558-5368 pager	920-929-1064
Electric	Mel Arentsen	WE Energies 700 Sunset Rd Port Washington WI 53074	(262) 268-3634	920-459-6375
Cable TV	Jack Russert, Donnie Dietsch, Supervisor of Construction	Time Warner Cable 1610 N. 2 nd Street Milwaukee WI 53212	414-277-4000 414-904-6757 (pager) 414-771-8400	414-224-6155
Listed w/ Diggers Hotline	 Township is listed, 1 1-800-242-8511 Township ID Num 			

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MATERIAL SPECIFICATIONS and CONSTRUCTION STANDARDS

GENERAL

- 1. **Reference Standards** (most recent edition applies complete with applicable addenda / supplements)
 - a. **ASTM** (American Society of Testing Materials)
 - b. AWWA (American Waterworks Association)
 - c. District, Town and County Codes and Ordinances
 - d. **Standard Specifications for Sewer and Water Construction in Wisconsin** (referred to as "Standard Specifications"), including all addenda
 - e. **Specifications for Road and Structure Construction** (Wisconsin Department of Transportation referred to as "State Specifications") including all supplements.
 - f. Wisconsin Administrative Code:
 - 1) Chapter NR 110 (sewerage systems)
 - 2) Chapter COMM 82 (plumbing)
- 2. Manufacturer and Suppliers shall be **North American only**.
- 3. Utility Trenches.
 - a. Compacted Granular Backfill Required.
 - 1) <u>All</u> utility construction within public road rights of ways, or beneath paved or future paved areas within easement areas, shall be backfilled with compacted granular backfill materials. Cohesive soils (clays, silts, etc) shall not be used to backfill excavations. Existing native excavated materials may be used as granular backfill provided a) they meet the gradation requirements below and b) the materials have a moisture content that accommodates compaction to 95% modified proctor (based on density / moisture proctor curves.
 - 2) Granular backfill materials shall be:
 - a) used to backfill trenches, except as otherwise specified.
 - b) granular, grade 2 granular, "pit run" sand, or sand (class I) materials and have the following properties:

Sieve size percentage passing by weight

2 inch 95-100 finer than no. 200 6 (maximum)

- 3) The cost of furnishing and placing granular backfill and disposing of excavated material shall be included in the respective unit price(s) bid for utilities.
- 4) If excavated material is suitable for use as granular backfill, trenches shall be backfilled with suitable excavated granular material when so directed by the Engineer. A credit for using excavated material backfill in place of granular material will be figured based

- upon the price bid in the Schedule of Supplemental Unit Prices. The volume of material will be based upon field measurements of the trench.
- 5) Density testing required. Contractor shall be responsible for necessary soil density testing as a quality control action. Testing frequency shall be specified in the construction documents as approved by the District and / or District Engineer.
- 4. Surplus excavated materials shall either a) be disposed of off site and outside the District limits or b) graded to drain and compacted on site to elevations and grades based on the site grading plan.

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SANITARY SEWER

Item	Description
Service	1. The District requires that all new properties that are to be served by the District are entirely within the District.
Private Interceptors and Pumping Systems	2. Ownership and Maintenance . Private property owners are responsible for maintaining, servicing and repairing privately constructed interceptor sewers and pumping systems.
	3. No New Construction . The District does not allow new construction of private interceptors and pumping systems that serve two or more properties.
Gravity Sewer Service	1. Gravity Sewer Service Required . The District policy and long range plan is to replace existing pumping systems with gravity sewer mains (where technically possible).
	2. Private property owners and developer shall install gravity sewer mains at maximum depth and minimum slope to accommodate future sewer extensions. These parties cannot extend gravity sewers at a depth and slope that is solely for their convenience and cost savings.
	3. Where gravity service cannot be provided private property owners and developers are responsible for all costs associated with installing pumping systems that meet District standards.
Lift / Pump Stations	1. Design, material, and performance requirements are subject to District review and approval.
Manholes	Pre-cast reinforced concrete with pre-formed benches smooth finished
	2. Neenah R-1710 frame and casting with Type "B" self-sealing non-rocking lids with concealed pickhole.
	3. Maximum 4" adjustment rings (total)
	4. Internal chimney seal (Cretex Specialty Products) completely spanning from precast manhole to frame.
	5. Joint seal (external and to frame) - 1/4" butyl rubber sealant, "EZ-Stik" or "Kent-Seal
	6. Precast reinforced concrete with minimum 4' interior diameter
	7. Epoxy coated steps with non-slip surfaces.
	8. Premanufactured flow lines and benches. Benches shall extend minimum 2" above spring line.
	9. Exterior drop manholes.
	10. Granular Backfill
	11. Pipe connections "Kore N Seal" integral rubber boot (or pre-approved equal) meeting physical requirements of ASTM C443 and performance requirements of ASTM C425 and C443.
	12. Laterals shall not be connected to manholes.

Lateral	1. A permit application must be provided to the District a minimum of one (1) week before the proposed sewer improvements are constructed. The application must be provided complete with all documentation and forms required by the District.
	2. Laterals shall not be connected to manholes.
	3. PVC, ASTM D3034, SDR-35
	4. or PVC - SDR26, schedule 40 as pre-approved by the District
	5. A District Representative shall observe the complete lateral installation and all required tests before it may be buried.
	6. Each lot shall be served with their own lateral (generally at lot center installed to property line) a. 4" minimum single family residential
	b. 4" minimum duplex (two family) residential (or sized per COMM 82). Each residence shall have their own lateral.
	c. Commercial / Business / Other - Property Owner responsible for sizing lateral based on design requirements and plumbing code / regulations
	d. Mark the lateral terminus with a hardwood 2"x 4" (top painted green)
	7. Risers . Install risers using inline fittings rotated to 45 degrees up from horizontal. Install riser to depth required for service to the lot.
	8. Granular Backfill required throughout lateral trench
Sewer Materials and Installation	 PVC, ASTM D3034, SDR-35, (depths less than 20') with rubber gasket type joints a. Class "B" Bedding b. Granular backfill required
	2. New Construction . Integral saddles / in-line fittings required for new construction
	3. Existing Sewer mains. Cut - in connections require repair sleeves.
Low Pressure Sewer	1. Public low pressure sewers are not allowed except where existing topography cannot accommodate gravity service.
	2. Gravity sanitary sewer drainage must otherwise be provided.
	2. Gravity saintary sewer dramage must office be provided.
Force Main	1. PVC C-900 (depth less than 20 feet)
1 of the Mann	a. Class "B" Bedding
	b. Granular backfill required

1. Gravity Sewer a. Low-pressure air of both mains and laterals (gravity, PVC) per Standard Specifications b. Lamp for alignment c. Mandrel all flexible pipes (with "go - no-go" device) per Standard Specifications d. Clean all sewer before being placed in service and televising e. Televise mains (8" and larger) including videotape and written report

2. Laterals

- a. Laterals shall be pressure tested before they are buried or placed in service.
- b. Gravity laterals shall be low-pressure air tested.
- c. Pressure pipe laterals, where allowed, shall be hydrostatic pressure tested.
- d. All tests shall be completed in the presence of a District Representaive.

3. Forcemain

- a. Hydrostatic Pressure and Leakage (AWWA) (including laterals for low pressure sewers)
- b. Flush main
- c. Operate all valves in presence of District representatives

ROAD, DRIVEWAY, and SIDEWALK CONSTRUCTION

See standard roadway typical section

A. Rural roadway applicable to

1. residential

B. Urban roadway applicable to

- 1. commercial
- 2. intersections
- 3. named streets

- 1. Grading per State Specifications.
 - a. Construct subgrade per State Specification 205.3.1 and 207.3.6.3.
 - b. Grade surfaces within ½ inch of plan grade.
 - c. Perform proofroll with loaded quad truck. Areas with deflections exceeding 1" shall not be graveled until the surfaces are conditioned, and defective conditions replaced.
- 2. **Roadway geotextile fabric** installed where subgrade soils cannot pass a "proofroll". Install at roadway subgrade below all aggregate base course including shoulders. Acceptable manufacturers include Mirafi 600X, Trevira 1135, Amoco 2006, Exxon GTF-300, Phillips "Supac 14NP", Nicolon "HP 500", or preapproved equal.
- 3. Crushed aggregate base course.
 - a. Gradation No. 2 (State Specification 304.2.3. and 304.2.6). Aggregate shall have minimum of 50% machine fractured faces for particles retained on the no. 4 sieve. Agree
 - b. **Residential** 12" minimum
 - c. Commercial (or roads classified as arterial or collector) 12" minimum
 - d. 3' minimum shoulders from edge of pavement (plus in-slope runout required).
- 4. Concrete curb and gutter, (Type "D", 30" or "mountable") 3,500 psi, 28-day strength, Type "A"
- 5. Asphaltic pavement (Wisconsin Department of Transportation, Type "LV")
 - a. **Residential** street, 3-1/2" (2" binder, 1-1/2" surface) minimum 24' wide
 - b. **Commercial**, 4" (2-1/2" binder, 1-1/2" surface)
 - c. Sawcut all existing pavements full depth. Minimum pavement width is 8 feet.
 - d. Binder course (and concrete curb and gutter) installed with initial development.
 - e. **Surface course** installed the earlier of two years from the date of project completion or upon 60% of properties being developed.
 - f. Perform one **density test** per State Specification 407.5.1 from a sawcut sample of compacted pavement. Restore the disturbed area with new compacted pavement.
 - g. Pavement thickness shall not vary by more than 1/4 inch from the identified compacted thickness.

4. Turf Restoration

- a. Disturbed areas shall be finish graded per master site grading plans, engineering design drawings, or to match pre-construction conditions. Restored areas shall adequately drain surface water with no negative impacts to adjoining properties.
- b. Areas shall be restored with a minimum 4" topsoil (State Specification sections 625.2.1 and 625.2.2), seed ("Madison Parks" blend 6 pounds and additional perennial rye 2 pounds per 1,000 square feet), fertilizer (State Specification section 629) and straw mulch (State Specification section 629) disk crimped in place.

Utility connections, sawcuts, removals and patching

- 1. Utilities and services shall meet the District material specifications.
- 2. Excavations shall be backfilled with compacted granular materials.

3. Full-depth sawcuts required

- a. Disturbed paved surfaces shall be sawcut full depth.
- b. Sawcuts shall be neat, parallel and perpendicular to the roadway centerline.
- c. Removal limits shall accommodate minimum 8' wide asphalt pavement equipment. Removal limits shall include all disturbed areas. Removal limits for concrete pavement shall be to the nearest construction joint or as approved by the District.
- d. Disturbed areas shall be restored to an "equal" or "better than" pre-construction condition.
- 4. Paved surfaces shall be restored in-kind to the minimum specified dimensions. Concrete surfaces shall be "doweled".

Driveways

1. Concrete

- a. Residential and business (6" 3,500 psi, 28-day strength, Type "A") with 6" crushed aggregate base course
- b. Commercial (8" 3,500 psi, 28-day strength, Type "A") with 6" crushed aggregate base course

2. Asphaltic

- a. Residential and business (2" one lift, Type "LV") with 6" crushed aggregate base course
- b. Commercial (4" two lifts, Type "LV") with 9" crushed aggregate base course

3. Driveways replaced in kind.

- 4. **Dimensions** (minimum and maximum widths at the right of way)
 - a. **Residential** 12' minimum at right of way, 16' minimum / 30' maximum curb opening, 24' maximum width at right of way
 - b. **Business** 16' minimum at right of way, 28' maximum at right of way, 35' maximum width within right of way
 - c. **Commercial** 16' minimum at right of way, 28' maximum at right of way, 35' maximum width within right of way
 - d. **Agricultural** 16' minimum at right of way, 24' maximum at right of way

5. Curb and Gutter

- a. Removals required for driveway require sawcutting and removal at joints or locations approved by District.
- 6. The type of driveway surface is subject to review and consideration of the District's and Town's sidewalk master plan. All driveway aprons (within right of way) shall be concrete in areas currently served, or to be served with concrete sidewalk.
- 7. Driveways surfaces shall be replaced in kind or improved (at the Owner's expense).
- 8. Concrete driveway aprons will be installed in the public road right of way to existing residences within

	new developments when concrete curb and gutter is installed. All associated costs shall be paid for by the respective property owners through special assessments.
Sidewalk and Walking Paths	1. not applicable
Erosion Control and Site Stabilization	 Completely install before commencing construction activities Maintain throughout construction and until disturbed lands are stabilized with natural vegetation. Methods and materials: a. Residential b. Commercial c. Notice of Intent (Wisconsin Department of Natural Resources)

ASSESSMENT PROCEDURE / POLICY

General	1. The District recognizes their right to enforce their Statutory Police Powers regarding allocating costs for public improvements based on benefit through Special Assessments.
	2. The District policy is to allocate costs to benefiting parties based on any or a combination of the following:a. Number of lots or equivalent residential units
	b. Acreagec. Front footage distance along public road rights of way
	 3. The District may consider deferred assessments to benefiting parties subject to the following: a. The property owner is responsible for the initial payment and simple interest (standard rate + ½ percent). b. Payment in full is due upon the earlier of 1) the property being sold or transfer of ownership 2) development.
	4. The District recognizes their right to levy special assessments to benefiting properties that are not presently within the District - but that may benefit from District sewer improvements.