City of Waukesha
Department of Public Works
201 Delafield Street
Waukesha, WI 53188
Waukesha-wi.gov

Engineering Plan Checklist

Attachment B
(Rev 12/21)

Project Name: METALTEK INTERNATIONAL

Engineering & Design Firm: PINNACLE ENGINEERING GROUP

General Information

Plans shall include the seal and signature of the Wisconsin licensed professional engineer responsible for the preparation of the construction plans on the cover sheet or on each sheet

YES	NO	N/A	
☐	☐	☑	Provide a copy of the WisDOT permit for any work in the State of Wisconsin right of way.
☐	☑*	☐	Provide a copy of the Waukesha County Department of Public Works permit for any work in right of way of Waukesha County.
☐	☐	☑	Provide a copy of Wisconsin Department of Natural Resources Water Resources Application for Project Permits (WRAPP) for all sites greater than one acre.
☐	☐	☑	Provide a copy of US Army Corps of Engineers 404 permit.
☐	☐	☑	Provide cross access agreements for use of entrances.
☐	☐	☑	Provide off-site utility easements.
☑	☐	☐	Provide hydraulic gradeline calculations for all storm sewer pipes signed and sealed by a professional engineer licensed in the State of Wisconsin.
☐	☐	☑	Provide a storm water management plan and calculations signed and sealed by a professional engineer licensed in the State of Wisconsin.

All Plan Sheets

YES	NO	N/A	
☑	☐	☐	Plans prepared on sheets measuring 11” high by 17” wide or no larger than 24" high by 36" wide.
☑	☐	☐	Sanitary Sewer, watermain and storm sewer system plans for the entire development are included.
☐	☐	☑	A profile view is located below a plan view on plan and profile sheets and both views are aligned by stationing whenever possible. In general, stationing is from left to right.
☐	☐	☑	Plan and profile sheets start and terminate at match lines.
☑	☐	☐	The assumed bearing base, control monuments and stationing reference line(s)
☑	☐	☐	Right-of-way limits and easement limits
☑	☐	☐	Edge of pavement or flange, face and back of curb
☑	☐	☐	Name of each existing, proposed, and future roadway and any intersecting roadways
☑	☐	☐	Lot lines, lot and block numbers
☑	☐	☐	Addresses and names of Owners for existing parcels

*REQUIRED PERMITS WILL BE PROVIDED ONCE RECIEVED

☑	☐	☐	All obstructions located within the project limits including, but not limited to: trees, signs, utilities, fences, light poles, structures, etc.
☑	☐	☐	A note warning that underground utilities must be located by “Diggers Hotline” prior to start of construction
☑	☐	☐	Legend (relevant to each sheet) showing all special symbols, line types and hatch used
☑	☐	☐	Title block includes at a minimum, the following information: Name and address of engineering (design) firm and owner/developer Date of the drawing and last revision Scale Plan sheet number (# of #) Name and location description of development
☑	☐	☐	North to the top or right of the sheet and shown by a north arrow, clearly shown without intrusion.
☑	☐	☐	Scale of the plans 1" = 40' horizontally and 1" = 8' vertically for 11” by 17” plan sheets and 1" = 20' horizontally and 1" = 4' vertically for 22” by 34” sheets. Partial site plans have a scale of 1" = 20' or larger. The scale of details is such that the detail is clearly shown. The scale is shown with a line scale and text.
☑	☐	☐	Existing surface objects indicated with screened lines and clearly labeled.

Cover Sheet

YES	NO	N/A	
☑	☐	☐	Project title.
☑	☐	☐	Location Map (Proximity to two main streets minimum).
☑	☐	☐	Index of all plan sheets
☐	☐	☑	For large or phased subdivisions, a key map of layout and phases.
☑	☐	☐	Reference to a minimum of two (2) current SEWRPC reference benchmarks shall be required. Survey documentation references- Horizontal: North American Datum of 1983/2011; Vertical: North American Vertical Datum of 1988 (12)
☑	☐	☐	All permanent or temporary benchmarks and elevations.
☑	☐	☐	A description of the locations of the benchmarks; and the basis or origin of the vertical control network.
☑	☐	☐	Date of plan preparation and applicable revision date(s)
☑	☐	☐	The following statement: “*All site improvements and construction shown on the plans shall conform to the City of Waukesha Development Handbook & Infrastructure Specifications. Where the plans do not comply, it shall be the sole responsibility and expense of the Developer to make revisions to the plans and/or constructed infrastructure to comply.*”

Roadway

YES	NO	N/A	
☐	☐	☑	For all new streets, a site specific geotechnical evaluation and pavement design submitted with the plans.
☐	☐	☑	A separate detail sheet showing typical cross-sections for each roadway standard width and cul-de-sac if applicable.

Plan View

YES	NO	N/A	
☐	☐	☑	The assumed bearing base, control monuments and stationing reference line along the centerline of the roadway, including cul-de-sacs.
☑	☐	☐	At least one clearly labeled benchmark or control point per sheet.
☑	☐	☐	Pavement and median dimensions.
☐	☐	☑	Final grade elevations at 25’ intervals at the right-of-way including at the edge of pavement for rural sections or at the flange of curb for urban sections.
☐	☐	☑	Final grade elevations for cul-de-sacs at 25’ intervals at the right-of-way including at the edge of pavement for rural sections or at the flange of curb for urban sections.
☐	☐	☑	Label all PVC’s, PVT’s, and PC’s, PT’s for vertical and horizontal curves. Radii of all intersections (edge of pavement or flange of curb, with note indicating which is referenced).
☐	☐	☑	Driveways for all lots adjacent to storm inlets and intersections.
☑	☐	☐	Sidewalks labeled and dimensioned.
☑	☐	☐	Existing, proposed, future streets and drives labeled and dimensioned.
☐	☐	☑	All roadside ditch locations, flowline elevations at 50’ intervals of the ditches.
☐	☐	☑	Slope intercepts.
☐	☐	☑	Invert profile for 200’ downstream for any existing ditches receiving flow from a proposed road or street.
☐	☐	☑	Limits of any areas which need special stabilization techniques.
☐	☐	☑	Specific details of all existing connected roadways. Pavement, shoulders, ditches, curb alignment, and grades shall be shown as needed to adequately make the transition.

Intersection Details

YES	NO	N/A	
☐	☐	☑	Radii of all intersections (edge of pavement or flange of curb, with note indicating which is referenced).
☑	☐	☐	Sidewalks and accessible ramps labeled and dimensioned.
☐	☐	☑	Right of way corner clips and sight visibility easements.
☑	☐	☐	Spot grades as necessary to ensure proper drainage and compliant ADA slopes.
☐	☐	☑	Spot grades shall be shown at end of radius for all curb and gutter and the end radius for all back of sidewalk.
☐	☐	☑	Drainage clarified by flow arrows, high points, sags, ridges, etc. Slope intercepts shall be clearly labeled by station, elevation to the nearest 0.1’, and offset distance (left or right) from the reference line.
☐	☐	☑	Invert elevation of ditches (for rural roadway).
☐	☐	☑	Final subgrade elevation at the centerline of the street or roadway.

Cross Sections

YES	NO	N/A	
☐	☐	☑	Right of way limits.
☐	☐	☑	Slope intercepts clearly labeled.
☐	☐	☑	Elevations to the nearest 0.01'.
☐	☐	☑	Offset distance (left or right) from the reference line.
☐	☐	☑	Final grade elevations at back of walk, face of walk, top of curb, flange elevation (edge of pavement for rural section), and the centerline of the street or roadway.
☐	☐	☑	Cross slope of sidewalk, terrace area, and roadway.
☐	☐	☑	Invert elevation of ditches (for rural section)

City of Waukesha

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Site, Grading and Drainage Plan Conditional Use Permit Checklist

Attachment C
(Rev 1/22)

Project Name: METALTEK INTERNATIONAL

Engineering & Design Firm: PINNACLE ENGINEERING GROUP

General Requirements

YES	NO	N/A	
☑	☐	☐	Applicant's name
☑	☐	☐	Name and location of development
☑	☐	☐	Scale and north arrow
☑	☐	☐	Date of original and revisions noted
☑	☐	☐	License number and professional seal
☑	☐	☐	Digital Drawings in AutoCAD format of the site layout & building plan layout
☐	☐	☑	Pay impact fees

Building Plans

YES	NO	N/A	
☐	☐	☐	Contact Community Development Department

Site Plans

YES	NO	N/A	
☑	☐	☐	Dimensions of development site
☑	☐	☐	Location, footprint, and outside dimensions
☑	☐	☐	Existing and proposed pedestrian access points
☑	☐	☐	Existing and proposed vehicular access points
☑	☐	☐	Parking lots, driveways shown
☑	☐	☐	Front, side and rear yard setbacks shown and labeled
☑	☐	☐	Location, identification and dimensions of all existing or planned easements
☐	☐	☑	Identification of all land to be dedicated
☑	☐	☐	Location, elevation, and dimensions of walls and fences
☑	☐	☐	Location of outdoor lighting with lighting design plan and calculations
☑	☐	☐	Sign complies with City Code Book
☑	☐	☐	Location of existing and proposed signs

Site Access

YES	NO	N/A	
☑	☐	☐	Legal description or certified survey of property
☑	☐	☐	Development compatible with its zoning district
☑	☐	☐	Sidewalks to be shown
☑	☐	☐	Site entrance drive dimensions
☐	☐	☑	Individual development vehicular entrances at least 125 feet apart
☐	☐	☑	Adjacent development share driveway where possible
☐	☐	☑	At least one vehicular and pedestrian access point to each adjoining site granted by cross easements
☐	☐	☑	Cross access to be provided with minimum paved width of 24 feet
☐	☐	☑	Design detail for all new public streets

Parking/Traffic

YES	NO	N/A	
☑	☐	☐	5-foot wide (min) paved walkway to building entrance
☑	☐	☐	7-foot parking separation from front of building
☑	☐	☐	Minimum parking spaces provided
☐	☐	☑	Service truck parking in designated service areas
☑	☐	☐	Parking spaces and layout dimensioned
☑	☐	☐	Lot paved with HMA or concrete
☑	☐	☐	Handicap parking provided
☐	☐	☑	Minimum required stacking distance
☑	☐	☐	Concrete curb and gutter around parking lot

Grading and Drainage Plans

YES	NO	N/A	
☑	☐	☐	Show existing tree lines and any obstructions (fences, structures, power poles, etc.) within the project limits.
☑	☐	☐	All proposed lot lines and lot numbers or addresses
☐	☐	☑	Lot line dimensions
☐	☐	☑	Outline of buildable areas for each lot
☑	☐	☐	Typical setbacks of buildable area to front, side and back lot lines
☑	☐	☐	All existing buildings, structures and foundations
☑	☐	☐	All existing drainage channels and watercourses
☐	☐	☑	Emergency overflow routes
☑	☐	☐	Drainage clarified by flow arrows, high points, sags, ridges, and valley gutters
☑	☐	☐	Proposed retaining wall locations with top and bottom of wall elevations at key locations
☐	☐	☑	100-year flood plain limit (both pre-and post-project)
☐	☐	☑	100-year storm water surface elevation
☐	☐	☑	Wetlands. Wetland limits labeled with bearings and distances and dimensioned to lot lines. Bearings and distances may be shown in tabulated format.

☐	☐	☑	All environmental corridors, & or environmentally sensitive areas as required by DNR
☑	☐	☐	All existing and proposed easements.
☑	☐	☐	Existing topography of the site and all areas within 50 feet of the site shown at a one-foot contour interval using Survey documentation references- Horizontal: North American Datum of 1983/2011; Vertical: North American Vertical Datum of 1988 (12). Existing contours shown as thin, dashed screened or grey lines with a readily discernable heavier line used for the 5-foot contour intervals.
☑	☐	☐	Proposed grading shown at a contour interval of 1 foot using Survey documentation references- Horizontal: North American Datum of 1983/2011; Vertical: North American Vertical Datum of 1988 (12). Proposed contour lines shown as solid medium lines, with a discernible heavier line use for the 5-foot contour intervals.
☑	☐	☐	The yard grade and first floor elevation of proposed building and any existing buildings located within 150 feet of the parcel boundary.
☑	☐	☐	Proposed road(s), curb and gutter, all storm sewer grates and storm sewer manholes (or cross-culverts for open ditches). Show any off-road storm inlets and discharge locations with surface entry elevations.
☑	☐	☐	Spot grades as necessary to ensure proper drainage and compliant ADA slopes and routing where applicable.
☑	☐	☐	At front setback line show a typical house shell on each lot and the proposed yard grade to the nearest tenth of a foot (assumed to be 0.7' below the top of block) for each building. Show proposed finished elevations to the nearest tenth of a foot at all lot corners and alongside lot lines adjacent to the front and back corners of the typical house. Show proposed finished elevations to the nearest tenth of a foot at high and low points along any side or back lot lines, and at high and low points if roads to demonstrate proposed drainage.
☐	☐	☑	The grading plan for any house that will require special design due to topography, clearly show separate grades for the garage and yard grade if extra steps are needed. Separate spot finish elevations shown for rear or side exposure or walkout.
☐	☐	☑	Indicate minimum finished floor elevations adjacent to floodplains, ponds, creeks/channels, etc.
☑	☐	☐	Proposed storm inlets shown on each grading plan. Each plan also includes specific details on all applicable retention/detention basins, ponds, overflows, etc. Separate sheets or notes as required.
☑	☐	☐	Locations of existing and proposed streets, drives, alleys, easements, right-of-way, parking as required, vehicular and pedestrian access points, and sidewalks
☑	☐	☐	Outline of any development stages
☐	☐	☑	Location and details on any required emergency access roads
☐	☐	☑	Soil characteristics
☑	☐	☐	Existing and proposed topography shown for the site and or adjacent properties
☐	☐	☑	Floodplain, shore land, environmental and wetlands shown
☐	☐	☑	Location and dimensions of on-site storm water drainage facilities
☑	☐	☐	Location and footprint of all existing buildings
☐	☐	☑	Locations and species of existing trees
☐	☐	☑	Berm detail
☐	☐	☑	Lot grades and swales shown
☐	☐	☑	Drainage calculations provided

Erosion Control

YES	NO	N/A	
☐	☐	☑	Location Map
☐	☐	☑	Soils Survey Map
☐	☐	☑	Existing Land Use Mapping
☑	☐	☐	Predeveloped Site Conditions
☑	☐	☐	• Existing contours
☑	☐	☐	• Property lines
☐	☐	☑	• Existing flow paths and direction
☑	☐	☐	• Outlet locations
☐	☐	☑	• Drainage basin divides and subdivides
☑	☐	☐	• Existing drainage structures on and adjacent to the site
☐	☐	☑	• Nearby watercourses
☐	☐	☑	• Lakes, streams, wetlands, channels, ditches, etc.
☐	☐	☑	• Limits of the 100-year floodplain
☐	☐	☑	Practice location/layout/cross sections
☑	☐	☐	Construction Details
☐	☐	☑	Name of receiving waters
☑	☐	☐	Site description/Nature of construction activity
☑	☐	☐	Sequence of construction
☑	☐	☐	Estimate of site area and disturbance area
☐	☐	☑	Pre- and post-developed runoff coefficients
☑	☐	☐	Description of proposed controls, including
☑	☐	☐	• Interim and permanent stabilization practices
☑	☐	☐	• Practices to divert flow from exposed soils
☑	☐	☐	• Practices to store flows or trap sediment
☐	☐	☐	• Any other practices proposed to meet ordinance
☑	☐	☐	Existing topography of the site and all areas within 50 feet of the site shown at a one foot contour interval Survey documentation references- Horizontal: North American Datum of 1983/2011; Vertical: North American Vertical Datum of 1988 (12). Existing contours shown as thin, dashed screened or grey lines with a readily discernable heavier line used for the 5-foot contour intervals.
☑	☐	☐	Proposed grading shown at a contour interval of 1 foot using City of Waukesha datum using Survey documentation references- Horizontal: North American Datum of 1983/2011; Vertical: North American Vertical Datum of 1988 (12). Proposed contour lines shown as solid medium lines, with a discernible heavier line use for the 5-foot contour intervals.
☑	☐	☐	List the total disturbed acreage including offsite areas.
☐	☐	☑	Provide tree survey in accordance with City Erosion Control Ordinance
☑	☐	☐	Proposed limits of disturbance including proposed tree cutting areas.
☐	☐	☑	Location and dimensions of all temporary topsoil and dirt stockpiles.
☑	☐	☐	Location and dimensions of all appropriate best management practices (BMP).
☑	☐	☐	Phasing of BMP's with the construction activities listed / described.

☑	☐	☐	Schedule of anticipated starting and completion date of each land disturbing and land developing activity, including the installation of the BMP measures that are needed.
☑	☐	☐	Location of all channels, pipes, basins or other conveyances proposed to carry runoff to the nearest adequate outlet, including applicable design assumptions and computations.
☑	☐	☐	Areas to be sodded or seeded and mulched or otherwise stabilized with vegetation, describing the type of final vegetative cover.
☑	☐	☐	Areas of permanent erosion control (other than vegetation).
☑	☐	☐	Boundaries of the construction site
☑	☐	☐	Drainage patterns/slopes after grading activities
☑	☐	☐	Areas of land disturbance
☐	☐	☑	Locations of structural and nonstructural controls
☐	☐	☑	Drainage basin delineations and outfall locations

Optional Submittals as Determined by Review Authority

YES	NO	N/A	
☐	☐	☑	Traffic impact analysis
☐	☐	☑	Environmental impact statement
☐	☐	☑	Soil and Site Evaluation Report per DNR Technical Standard 1002
☐	☐	☑	Plot of effect of exterior illumination on site and adjacent properties
☐	☐	☑	Description of any unusual characteristics
☐	☐	☑	Street perspectives showing view corridors
☐	☐	☑	Historic site
☐	☐	☑	Economic feasibility study
☐	☐	☑	Contaminated Waste Site

I hereby certify that I have reviewed the City ordinances and provided one (1) full-sized set of all required information along with all the required reduced copies of plans.

Applicant's Signature: _____

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Department of Public Works
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Stormwater Management Plan

Attachment D
(Rev 1/22)

Project Name: METALTEK INTERNATIONAL

Engineer & Design Firm: PINNACLE ENGINEERING GROUP

STORM WATER MANAGEMENT PLAN WORKSHEET			
The City of Waukesha requires a Stormwater Management Plan to be submitted with the proposed development plans for site plan review. A Stormwater Management Plan is a document describing the storm water management practices constructed and implemented within the proposed development to ensure compliance with the storm water management criteria, as set forth by the City of Waukesha. The purpose of a Stormwater Management Plan is to protect the safety and health of the public, property and aquatic environment from the threats due to storm water from land development activity. The worksheet will provide a basis to the information that shall be provided when preparing a Stormwater Management Plan for a proposed development. This Plan shall include a set of complete plans and calculations, stamped by a registered professional engineer. Stormwater Management Plans are required as listed in City Code Book Chapter 32.06(b)			
Exemptions for Design and Plan Requirements			
YES	**NO**	**N/A**	
☐	☐	☑	Site is associated with agricultural or sylvicultural activities
Design Requirements: Total Suspended Solids			
YES	**NO**	**N/A**	
☐	☐	☑	Site is a New Development – 80% Reduction must be met
☐	☐	☑	Site is an Infill Development – 80% Reduction must be met
☐	☐	☑	Site is a Redevelopment – 40% Reduction must be met
☐	☐	☑	Site has areas of New Development and Redevelopment
☐	☐	☑	Calculations for % Reduction are included in the plan (WinSLAMM input and output)
☐	☐	☑	Storm water Management Facilities to address TSS removal are designed according to Chapter 32 of the City Code Book and DNR Technical Standards – Check all that apply: ☐ Wet Detention Basin ☐ Bio Retention Basin ☐ Swales ☐ Proprietary Devices ☐ Other (specify): _____
Design Requirements: Peak Discharge			
YES	**NO**	**N/A**	
☐	☐	☑	Storm water Management Facilities to address Peak Discharge are designed according to Chapter 32 of City Code Book and DNR Technical Standards – Check all that apply: ☐ Wet Detention Basin ☐ Bio Retention Basin ☐ Swales ☐ Other (specify): _____
☐	☐	☑	Downstream Capacity for 2-year, 10-year and 100-year, 24-hour design storms are met
☐	☐	☑	Calculations of available capacity, proportional share, and proposed utilized capacity under all design storms are included in plan
☐	☐	☑	Calculations of Peak Discharge are included in the plan

Design Requirements: Infiltration			
YES	**NO**	**N/A**	
☐	☐	☑	Hydraulic Soil Type: ☐ Soil Type A – Proceed ☐ Soil Type B – Proceed ☐ Exemption or Exclusion – Provide documentation
☐	☐	☑	Site and Soil Evaluation Report per DNR Technical Standard 1002
☐	☐	☑	Certification by a Wisconsin registered Professional Soil Scientist.
☐	☐	☑	Low Imperviousness. Ex: low density residential parks, cemeteries Post-Development Infiltration Performance Standards: ☐ Up to 40% Connected Impervious Surface ☐ 90% of Pre-Development Infiltration volume met ☐ 1% of site – Maximum Effective Infiltration Area
☐	☐	☑	Medium Imperviousness. Ex: Medium and high density residential, multi-family, industrial, institutional, office park. Post-Development Infiltration Performance Standards: ☐ 40%-80% Connected Impervious Surface ☐ 75% of Pre-Development Infiltration volume met ☐ 2% of site – Maximum Effective Infiltration Area
☐	☐	☑	High Imperviousness. Ex: commercial strip malls, shopping centers, commercial downtowns Post-Development Infiltration Performance Standards: ☐ Greater than 80% Connected Impervious Surface ☐ 60% of Pre-Development Infiltration volume met ☐ 2% of site – Maximum Effective Infiltration Area
☐	☐	☑	Site has parking lots and new road construction: ☐ Pretreatment included ☐ 10% Infiltration of the runoff from the tow-year, 24-hour design storm with Type II Distribution
☐	☐	☑	Calculations of Infiltration Volumes are included in the plan and model input and output (WinSLAMM)
☐	☐	☑	Exclusions for Infiltration: ☐ Tier 1 Industrial Facility ☐ Storage and Loading Areas of Tier 2 Industrial Facility ☐ Fueling and Vehicle Maintenance Facility ☐ Areas within 1,000 feet up gradient of Karst Features ☐ Areas within 100 feet downgradient of Karst Features ☐ Areas with < 3 feet of separation from bottom of Infiltration System to seasonal high groundwater or top of bedrock (does not prohibit roof runoff) ☐ Areas with runoff from industrial, commercial and institutional parking lots and roads with < 5 feet separation from bottom of infiltration system to elevation of seasonal high groundwater or top of bedrock ☐ Areas within 400 feet of community water system well ☐ Areas within 100 feet of private well ☐ Areas where contaminants of concern (defined by NR720.03(2) are present in the soil through which infiltration will occur) ☐ Area where soil does not meet any of the following characteristics between bottom of infiltration system and seasonal high groundwater and top of bedrock: ☐ *At least 3-foot soil layer with 20% fines or greater*

			☐ *At least 5-foot soil layer with 10% fines or greater*

YES	NO	N/A	
☑	☐	☐	Exemptions for Infiltration: ☐ Areas where infiltration rate < 0.6 inches/hour ☐ Parking Areas and Access Roads less than 5,000 square feet for commercial and industrial ☑ Redevelopment Post-Construction Sites ☐ Infill Development < 5 acres ☐ Infiltration during periods when soil on the site is frozen ☐ Roads in commercial, industrial and institutional land uses ☐ Arterial Roads in Residential land uses
☐	☐	☑	Storm water Management Facilities to address Infiltration are designed according to Chapter 32 of the City Code Book and DNR Technical Standards – Check all that apply: ☐ Bioretention Basin (1004) ☐ Infiltration Basin (1003) ☐ Infiltration Trench (1007) ☐ Permeable Pavement (1008) ☐ Rain Garden (1000) ☐ Other (specify): _____
Design Requirements: Protective Areas			
YES	**NO**	**N/A**	
☑	☐	☐	Impervious areas are outside protective area. If not, provide a written explanation.
☐	☑	☐	Land disturbing activities are within a protective area. If **Yes**, check all that apply: ☐ If no impervious area is within protective area, adequate sod or self-sustaining vegetative cover of 70% or greater shall be established. ☐ Adequate sod or self-sustaining vegetative cover is sufficient for bank stability, maintenance of fish habitat and filtering of pollutants from upslope overland flow areas under sheet flow conditions. ☐ Non-Vegetative materials are employed on the bank as necessary to prevent erosion (steep slopes, high velocity areas).
☐	☐	☑	Best Management Practices are located within the protective area – Check all that apply: ☐ Filter Strips ☐ Swales ☐ Wet Detention Basins ☐ Other (specify): _____
☐	☐	☑	Non-Applicable Areas Apply: ☐ Structures that cross or access surface water (boat landing, bridge, culvert) ☐ Structures constructed in accordance with Section 59.692(1v) Wisconsin Statutes: ☐ Post-Construction Runoff does not enter surface water except to the extent that vegetative groundcover necessary for bank stability
Design Requirements: Fuel and Maintenance Facilities			
YES	**NO**	**N/A**	
☐	☑	☐	Are Fuel and Maintenance Facilities on the Site?
☐	☐	☑	Are Best Management Practices designed to reduce petroleum within runoff (no visible sheen)?

Design Requirements: Swale Treatment for Transportation Facilities			
YES	**NO**	**N/A**	
☐	☑	☐	Does the site use swales for runoff conveyance and pollutant removal for transportation facilities? If **Yes**, must have the following: *Groundcover:* ☐ Vegetated ☐ Non-Vegetated where appropriate to prevent erosion or provide runoff treatment (riprap, check dams) *Swale Velocity Control:* ☐ Swale is 200 feet or more in length with a velocity no greater than 1.5 feet per second for the two-year, 24-hour design storm or two-year storm with duration equal to time of concentration ☐ Swale is 200 feet or more in length with velocity > 1.5 feet per second then velocity is reduced to maximum extent practicable. Written explanation stating why requirement of > 1.5 feet per second cannot be met
☐	☐	☑	Exemptions Apply: Average Daily Vehicles > 2,500 and initial surface water of the state that runoff directly enters is any of the following: ☐ An outstanding resource of water (ORW) ☐ An exceptional resource water (ERW) ☐ Water is listed in Section 303(d) of the Federal Clean Water Act and is identified as impaired in whole or in part due to non-point source impacts ☐ Water where targeted performance standards are developed under NR 151.004 of the Wisconsin Administrative Code to meet water quality standards
Plan Requirements			
YES	**NO**	**N/A**	
☐	☐	☑	Provide permit application form, including contact information (name, address, telephone number) for the landowner, developer, land operator, certified project engineering, responsible party for installation of storm water management practices, responsible party for long-term maintenance of the storm water management practices.
☐	☐	☑	Legal Description of proposed development.
☐	☐	☑	Narrative describing the proposed development.
☐	☐	☑	Brief summary of Design Criteria and methods used for development of Storm Water Management Practices.
☐	☐	☑	Storm Water Management Maintenance Agreement shall be included with the Storm Water Management Plan (see Storm Water Management Maintenance Agreement template for additional information required).
☐	☐	☑	Certification by a Wisconsin registered professional engineer.
☐	☐	☑	Financial Guarantee.

Description and Site Characteristics for Pre/Post Development conditions shall be delineated by one (1) or more site maps at a scale of not less than one (1") inch equals two hundred (200') feet. The map(s) shall include, at minimum, the following information:			
YES	**NO**	**N/A**	
☐	☐	☑	Site Location and Legal Description.
☐	☐	☑	Pre-developed and revised topography by contours related to Horizontal: North American Datum of 1983/2011; Vertical: North American Vertical Datum of 1988 (12) approved by City. The topographic contours of the site shall not exceed 2 feet. The topography shall extend at minimum 100 feet outside the site boundaries to show runoff patterns onto, through and from the site.
☐	☐	☑	One hundred (100) year Floodplain boundary, shore land, environmental corridors, and wetland boundaries shall be delineated if applicable
☐	☐	☑	All lakes, streams, and other water bodies illustrated on map shall be named as defined on a USGS 7.5 minute topographic map.
☐	☐	☑	Predominant Soil Types and Hydraulic Soil Group Classifications per NRCS
☐	☐	☑	Coordinates of all manhole and inlets with reference to two nearest reference point monuments which shall be Section or ¼ Section corners, related to the Horizontal: North American Datum of 1983/2011; Vertical: North American Vertical Datum of 1988 (12)
☐	☐	☑	Location, capacity, and dimensions/details of on-site Pre-developed and Post-developed storm water management facilities such as, but not limited to, the following: manholes, pipes, curbs, gutters, curb inlets, filter strips, swales, detention basins, curb cuts, and drainage gates.
☐	☐	☑	Location, extent, detailed drawings, typical cross sections and slope ratios of all pre-developed and post-developed storm water retention and detention areas and drainage ways – list inlet/outlet elevations, permanent water surface elevation, high water surface elevation, and emergency spillway elevation, if applicable.
☐	☐	☑	Location and Elevations at top and bottom of pre-developed and post-developed buildings and structures.
☐	☐	☑	Locations and names of pre-developed and post-developed streets and intersections and the location of parking lots, sidewalks, bike paths and impervious surfaces (excluding single family residences). Map(s) shall clearly differentiate pre-developed and post-developed surfaces.
☐	☐	☑	Delineation and dimensions of all pre-developed and post-developed property boundaries, easements, right-of-way, building setbacks, maintenance easements, and other restrictions.
☐	☐	☑	Pre-developed and post-developed land use boundaries, including cover type and condition.
☐	☐	☑	Post-developed land use cover totals for Impervious and Pervious areas as well as permanent water surface area of all storm water management facilities.
☐	☐	☑	Delineation of pre-developed and post-developed watershed and sub-watershed boundaries used in determination of Peak flow discharges and discharge volumes from the site. (If the watershed extends beyond the site boundaries, a separate watershed map can be supplied).
☐	☐	☑	Location of the pre-developed and post-developed discharge points.
☐	☐	☑	Pre/Post developed directional Flow Paths used to calculate existing/proposed time of concentrations.
☐	☐	☑	Location of the Emergency Overland Flow.
☐	☐	☑	Location of any Regional Treatment Options (if applicable).
☐	☐	☑	Identify all pre-developed land cover features, such as, natural swales, natural depressions, native soil infiltrating capacity and natural groundwater recharge areas.
☐	☐	☑	Location of any protective areas within the site.
☐	☐	☑	Location of wells located within 1,200 feet of pre-developed and post-developed Storm Water Detention Basins, Infiltration Basins, or Infiltration Trenches.

☐	☐	☑	Delineation of Wellhead protection areas defined under NR 811.16
Supportive Information and Calculation summaries shall be supplied for all storm water management requirements as dictated in the checklist under Design Requirements:			
YES	**NO**	**N/A**	
☐	☐	☑	Pre-developed and post-developed watershed, sub-watersheds, and land use areas (acres, watershed shall be delineated by property lines).
☐	☐	☑	Pre-developed and post-developed impervious areas (acres).
☐	☐	☑	Pre-developed and post-developed Runoff Curve Numbers.
☐	☐	☑	Pre-developed and post-developed Time of Concentration.
☐	☐	☑	Pre-developed and post-developed peak flows for the 2-year, 10-year and 100-year, 24-hour storm events for each discharge point.
☐	☐	☑	Total suspended solids removal computations to show compliance.
☐	☐	☑	Design computations for the runoff volume of the pre-developed and post-developed conditions to show compliance with the infiltration requirements.
☐	☐	☑	Design computations for all storm water drainage facilities such as, but not limited to, inflow/outflow rates, hydrographs, water surface elevations, outlet design computations, runoff discharge volume, velocities, and stage/storage data.
☐	☐	☑	Design computations for the 10-year Rational Method flows for all proposed storm conveyance systems.
☐	☐	☑	Computation of the available downstream capacity flowing full, overflow level of ditches and the top of the upstream end of the pipe for any culverts.
☐	☐	☑	Computation of the downstream capacity using the 5-year rational storm.
☐	☐	☑	Tail water analysis included in storm water design for 2-year, 10-year and 100-year storm events.
☐	☐	☑	Design computations to illustrate compliance with pollutant loading criteria (Storm Water Quality Management practices) with pre- and post-storm water management facilities.
☐	☐	☑	Narrative describing all assumptions that were deemed appropriate for design.
☐	☐	☑	Explanation of provisions to preserve and use natural topography and land cover features.
☐	☐	☑	Explanation of restrictions on Storm Water Management practices by wellhead protection plans (if applicable).
☐	☐	☑	Results of investigations of soil and groundwater required for installation of Storm Water Management practices.
☐	☐	☑	Impact assessment results on Wetland Functional Values (if applicable).
☐	☐	☑	Storm Water Management practices installation schedule.
☐	☐	☑	Cost estimate for the construction, operation and maintenance of each Storm Water Management practice.
☐	☐	☑	Any additional information that the City, or designee, may need to evaluate the impacts of the storm water discharge quality and quantity on the existing area and existing utilities.

City of Waukesha
Department of Public Works
201 Delafield Street
Waukesha, WI 53188
Waukesha-wi.gov

Sewer Plan Review Checklist

Attachment H
(Rev 1/22)

Project Name: METALTEK INTERNATIONAL

Engineering & Design Firm: PINNACLE ENGINEERING GROUP

Sanitary System

YES	NO	N/A	
☑	☐	☐	Minimum 4" sanitary sewer lateral from the main to the property line, PVC SDR 26 or 35 conforming to ASTM standards D 3034 with rubber gasket joints
☑	☐	☐	Sanitary sewer laterals shall have a green #12 locater wire installed along the entire length. Locater wire shall be brought to the surface at the edge of the building and enclosed in a curb box with "sewer" on the cover.
☐	☐	☑	Grease interceptor required for all food service developments (or developments with the potential to become food service) and industrial/manufacturing facilities.
☐	☐	☑	Sampling manhole required for all industrial/manufacturing facilities.
☐	☐	☑	Industrial facilities must complete an industrial discharge permit application.
☐	☐	☑	Outside drop manhole connection required where drop is greater than 24 inches.
Sanitary Plan View			
YES	**NO**	**N/A**	
☑	☐	☐	Ghost existing utilities and lateral locations in screened format. Label the pipe size of existing utilities.
☑	☐	☐	Label the proposed sewer and laterals with length, size, and material type
☑	☐	☐	Material and size of the existing sanitary sewer being connected to.
☑	☐	☐	Label the stub-outs with length, size, slope, and invert elevations (if not profiled).
☐	☐	☑	Dimensions showing offset from right-of-way to the sewer and separation distance between other utilities.
☐	☐	☑	Show type and size of encasement where needed
☑	☐	☐	Show flow directions of all proposed mains.
☐	☐	☑	Length of each sewer lateral and height of any lateral risers. Label proposed invert elevations at right-of-way lines.
☐	☐	☑	Distance from downstream manhole to each upstream sewer lateral.
☐	☐	☑	Proposed manholes and cleanouts labeled with a design plan number. Existing manholes labeled with numbers obtained from City records.
☑	☐	☐	Rim and invert elevations at each manhole, based on NGVD 1929 datum (for private sewer if not profiled)
☑	☐	☐	Show and label all easements
Sanitary Profile View			
YES	**NO**	**N/A**	
☐	☐	☑	Stationing.
☐	☐	☑	Existing and proposed surface profiles and elevations over the sewer.

☐	☐	☑	All utility crossings. Label elevations if known.
☐	☐	☑	Pipe material / class, size, length, and percent grade to two (2) decimal places.
☐	☐	☑	Material and size of the existing sanitary sewer being connected to.
☐	☐	☑	Length, type, and size of encasement as needed.
☐	☐	☑	Proposed manholes. Indicate type and diameter.
☐	☐	☑	Label station, rim, and invert elevations, based on NGVD 1929 datum, and design plan number for each manhole and cleanout. Existing manholes to be labeled with numbers obtained from City records.
☐	☐	☑	Limits of gravel and/or slurry backfill.
Sanitary for Subdivisions/Large Developments			
(Complete copies of City specifications for sanitary sewer are available upon request.)			
YES	**NO**	**N/A**	
☐	☐	☑	Each parcel should have a separate sanitary sewer lateral.
☐	☐	☑	Sanitary sewer – 8 ft. horizontal separation from water main per DNR requirements. 8" diameter minimum size, PVC SDR 26 for depths up to 25 ft.
☐	☐	☑	Sanitary sewer manhole at every change of direction and a maximum distance of 400 ft.
☐	☐	☑	A chimney seal shall be required on all manholes.
☐	☐	☑	Provide copies of all approved WDNR/WDOC submittals, including sewer sizing calculation worksheet and the area served.

Storm System

Storm Plan View			
YES	**NO**	**N/A**	
☑	☐	☐	Ghost existing utilities and lateral locations in screened format. Pipe size of existing utilities labeled.
☑	☐	☐	Proposed sewer and laterals with length, size, and material type clearly labeled.
☑	☐	☐	Material and size of the existing storm sewer being connected to.
☑	☐	☐	Stub-outs labeled with length, size, slope, and invert elevations (if not profiled).
☐	☐	☑	Dimensions showing offset from right-of-way to the sewer and separation distance between other utilities.
☐	☐	☑	Type and size of encasement where needed
☐	☐	☑	Length of any sewer lateral. Label proposed invert elevations at right-of-way lines.
☑	☐	☐	Proposed inlets, manholes, and other drainage structures.
☐	☐	☑	Proposed drainage structures labeled with a design plan number. Existing drainage structures labeled with numbers obtained from City records.
☑	☐	☐	Details of outfall or ditch inlet protection requirements such as rip-rap, end sections or headwalls as needed.
☐	☐	☑	Details of detention facilities, outfall, overflow and control structures as needed.
Storm Profile View			
YES	**NO**	**N/A**	
☐	☐	☑	Stationing.
☐	☐	☑	Existing and proposed surface profiles and elevations over the sewer.
☐	☐	☑	All utility crossings. Label elevations if known.
☐	☐	☑	Pipe material / class, size, length, and percent grade to two (2) decimal places.
☐	☐	☑	Material and size of the existing storm sewer being connected to
☐	☐	☑	Length, type, and size of encasement as needed.
☐	☐	☑	Proposed inlets, manholes, and other drainage structures. Label type and size.
☐	☐	☑	Label station, rim, and invert elevations, based on NGVD 1929 datum, at each

			manhole, catch basin, inlet, and detention control structure.
☐	☐	☑	Proposed drainage structures labeled with a design plan number. Existing drainage structures to be labeled with numbers obtained from City records.
☐	☐	☑	Cross-section of open channels and detention facilities, including outfall, overflow, and control structures.
☐	☐	☑	Limits of gravel and/or slurry backfill.

General System

YES	NO	N/A	
☑	☐	☐	Show all easements, public or private.
☐	☐	☑	No structures allowed within a public easement.
☐	☐	☑	Plantings or signs within public easements, if permitted by City, shall be at least 5 feet from the utilities.
General for Subdivisions/Large Developments			
YES	**NO**	**N/A**	
☐	☐	☑	Provide plans sealed by Registered Professional Engineer
☐	☐	☑	Show benchmark, north arrow and scale.
☐	☐	☑	Show existing/proposed sewer and water utilities.
☐	☐	☑	All sewer to be installed by the developer under the terms of a Development Agreement.
Utility Plans			
YES	**NO**	**N/A**	
☑	☐	☐	Location of all utilities: storm and sanitary sewers, water mains, fire hydrants, electrical, natural gas, and communication (cable television, telephone, etc.) lines
☑	☐	☐	Exterior lighting for parking and other outdoor areas, outdoor signs, and building exteriors.
☐	☐	☑	Location of waste and trash collection and indicate plans for snow removal.
☑	☐	☐	Location and footprint of any and all buildings
☑	☐	☐	Location and names of existing and proposed streets
☑	☐	☐	Location and size of existing and proposed storm sewer, sanitary sewer, and water utility systems shown
☑	☐	☐	Electric, gas, telephone, and cable lines shown
☑	☐	☐	All new utilities are underground
☑	☐	☐	Exterior lighting detail provided
☑	☐	☐	Location of all utility and private fire hydrants
☐	☐	☑	Sampling manhole shown (if applicable)
☐	☐	☑	Grease interceptor shown (if applicable)
☐	☐	☑	Location and size of existing and proposed water meters
Include the following notes on the Utility Plan:			
YES	**NO**	**N/A**	
☑	☐	☐	All sanitary sewer to be installed in accordance with City of Waukesha standards.
☑	☐	☐	All applications and fees for sanitary sewer must be completed and paid prior to connection to sewer systems.
☑	☐	☐	Any utility work in the right-of-way and all sanitary sewer connections to be inspected by City. Notify City 72 hours in advance of connecting to sewer.
The above list contains items that are commonly missed on Utility Plans. For subdivisions or other large or complex projects, a complete plan review includes many more checks too numerous to list here. Please call (262) 524-3600 for additional information. City typical sewer details can be provided upon request.			
Note: For water main, contact Waukesha Water Utility at (262) 521-5272			