

MASHANTUCKET PEQUOT TRIBAL NATION

**STANDARD PROCEDURES FOR THE PREPARATION OF
PRELIMINARY & DESIGN DRAWINGS
AND
SUBMISSION OF RECORD DRAWINGS**

Mashantucket Pequot Tribal Nation

STANDARD DRAWING PROCEDURES

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Mashantucket Pequot Tribal Nation

STANDARD DRAWING PROCEDURES

I. Introduction

The Mashantucket Pequot Tribe has prepared the following procedures for Vendors when performing Field Surveys and submitting Preliminary, Design, Record and As-built Drawings. Questions regarding these procedures shall be directed to the Mashantucket Pequot Tribe Property Department, telephone number 312-2512, please reference Standard Drawing Procedures.

II. Field Survey Requirements

- 1) Horizontal surveys shall comply with the minimum standards for an A-2 survey as stated in the MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT adopted 9/26/96, unless otherwise directed by the Mashantucket Pequot Tribal Nation.
- 2) Vertical surveys shall comply with the minimum standards for a V-2 survey as stated in the MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT adopted 9/26/96, unless otherwise directed by the Mashantucket Pequot Tribal Nation. Vertical Surveys shall be based upon NGVD 29, unless otherwise directed by the Mashantucket Tribal Nation.
- 3) Topographic surveys shall comply with the minimum standards for a T-2 survey as stated in the MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT, adopted 9/26/96, unless otherwise directed but the Mashantucket Pequot Tribal Nation.

III. Field Survey Classes of Accuracy Sec. 20-300b-11

(a) All surveys prepared in metric format shall use: 1 meter = 3.28083333 U.S. Survey feet.

(b) Horizontal Accuracy

Each survey depicting horizontal locations shall conform to a Horizontal Accuracy Class the tolerance of which is defined as follows:

Class	Positional	Linear	Meters	(Use ratio for D>...)	Angular
		Feet			
AA	1: 15,000	± 001'	± .003m	[1:22,500@D>225'(69m)]	± 8"
A-1	1: 10,000	± 0.01'	± .003m	[1:15,000@D>150'(46m)]	± 10"
A-2	1: 5,000	± 0.02'	± .006m	[1:7,500@D>150'(46m)]	± 20"
B	1: 1,000	± 0.5'	± .15m	[1:1,500@D>750'(229m)]	± 2'
C	± 2'	± 2'	± .6m		± 30'
D	compilation of existing data-NOT A FIELD SURVEY				

Linear accuracy's expressed as "±" apply to distances less than (<) those prescribed as a ratio.

(c) Vertical Accuracy

Each survey depicting vertical location shall conform to a Vertical Accuracy Class the tolerance of which is defined as follows:

Class	Level Loop Closure Greater Than One Mile	Meters	Level Loop Closure Less Than Mile	Meters
	Feet		Feet	
V-1	± .02√M	± .005√K	± .006√N	± .002√N
V-2	± .035√M	± .008√K	± .010√N	± .003√N

$$V-3 \quad \pm .05\sqrt{M} \quad \pm .012\sqrt{K} \quad \pm .020\sqrt{N} \quad \pm .006\sqrt{N}$$

M or K = The length of the level loop in miles/kilometers

N = The number of instrument setups in the level loop

Each Topographic Survey shall conform to a Topographic Accuracy Class the tolerance of which is defined as follows:

Class	Horizontal Position		Contour Interval Test
	Feet	Meters	
T-1	1/40 of map scale	1/1500 of map scale	90% within ½ contour interval
T-2	1/40 of map scale	1/1500 of map scale	80% within ½ contour interval

Classes T-1 and T-2 are to be used for ground survey procedures.

T-3 This class of topographic map applies to photogrammetric maps for which the surveyor provides the horizontal and vertical control. Refer to the “National Map Standards for Photogrammetric Mapping” for requirements.

T-D This class of map standard applies to a topographic map compiled from various sources of information not necessarily verified by the surveyor.

In using Topographic Accuracy Class T-1 or T-2, the surveyor is expressing confidence that should a test profile be run in the field, a plotted comparison with a profile scaled from the map shall be in agreement within the above criteria and the remainder shall be within the contour interval.

IV. Data Processing

1) Information on maps and plans shall include, but not be limited to:

A. Site Work:

- a) Utility locations - water with pipe size & material, sewer with pipe size & material, light poles, utility poles, manholes, handholes, valves, vaults, hydrants, and catch basins with type.
- b) Drainage including pipe sizes, invert elevations, top of frame elevations, flow arrows, flared ends with inverts, headwalls with inverts, culverts with inverts, pipe size and type.
- c) Site related building locations shall include, top of foundation, column lines, and stairs/ entrances, and other features as directed by the Mashantucket Pequot Tribal Nation.
- d) Gutterline, top of curb, type of curb, centerline, sidewalks, parking lots (with striping), islands, signs, guard rails, and significant trees/shrubs (12” Dia.).
- e) Traverse points with coordinates and descriptions, and bench marks with elevations and descriptions.
- f) 2 foot contours (minimum)
- g) Elevations for underground utilities shall be shown for all valves, hydrants, vaults, manholes, laterals and grade changes. For long segments of constant grade, elevations should be shown a minimum of every 100 feet.
- h) All ASCII points or hard shots shall be included in the drawing.
- i) Coordinates and datum elevations shall be based on NAD 83.

All information to conform to the standards contained in this document.

B. Construction:

- a) Utility locations – all mechanical and electrical including fire protection, security and surveillance.
- b) Architectural components.
- c) Structural components.
- d) Footings and foundations.
- e) Furniture, furnishings and equipment.

All information to conform to the standards contained in this document.

V. Record Drawing Digital Format Procedures

Record drawings received in digital format shall adhere to the following standards.

- 1) All layering shall conform to section VI.
- 2) The drawing scale for site work drawings should be 1"=40', unless otherwise directed by the Mashantucket Pequot Tribal Nation. The drawing scale for architectural drawings should be as required by the architect.

3) Text sizes shall be as follows:	Leroy	Point System
Style=Standard Font=Romans		
Labels and call outs	L100	10 pt
Road names	L120	12 pt
Text in utility lines	L80	8 pt
Dimension Text	L100	10 pt
Contour Labels	L80	8 pt
Gas/Water/ valve, hydrant text	L60	5 pt
All other symbol text	L80	8 pt
Text for existing site data shall be in lower case.		

- 4) Drawing files shall not be rotated or translated so that the drawing coordinates differ from the field coordinates.
- 5) When practical all lines shall be drafted as continuous polylines.
- 6) When Hatching is used, complete hatch boundaries shall be included in submission of electronic files.

VI. Xreferenced Drawings

Any xreferences shall stay in original drawings, but a copy of each one shall be on submitted on the CD in a directory called "Xrefs". This is to insure no information is lost during merging of files. Contractor shall also provide list of xrefs for drawings with descriptions of xreferences.

VII. Standard Layers and File Names Required for AutoCAD Drawings

1. The following pages are the standard layers required when submitting CAD drawings of site work, asbuilt surveys and any work or design for buildings. If needed, the Vendor may create a custom layer if there is not one already created for the item. When creating custom layers, the Vendor shall follow the format of standard layers.
2. If the vendor has added information to a base drawing received from the Tribe, the process for standard layers shall be to add the initials of the vendor/company name to the end of the layers. The addition of the vendor's initials will assist in determining what work was done by the vendor for the CAD files.

3. Vendors shall comply with the naming guidelines recommended in the “CAD Layer Guidelines”, Second Edition, published by The American Institute of Architects.
4. Upon request, the Property Department shall give the vendor a diskette with CAD script files. These script files contain all the layers listed below, and can be dragged or dropped into a CAD drawing which will load the required layers instantly. Requests for this information should be directed to the Project Manager.

A. Standard layers for exterior of building, site work etc.

LAYER NAME	COLOR	DESCRIPTION
0	7	AutoCAD standard layer
Defpoints		Non plotting layer
BOUNDARIES		
Asc_boundary	130	Field shots
Boundary	130	Boundary Lines
Boundary_easement	130	Easements
Boundary_misc	2	Pins, Drill Holes, Monuments, etc
Boundary_project	130	Project Boundaries
Boundary_settlement	192	Settlement Boundary
Boundary_text	2	Boundary Text
Boundary_townlines	210	Town lines
Boundary_row	130	Right of Ways
BUILDINGS		
Asc_bldg	6	Field shots
Bldg	6	Buildings
Bldg_asbuilted	6	Asbuilt Buildings
Bldg_column	253	Column Lines
Bldg_h2otank	6	Water tank
Bldg_misc	2	Misc. items
Bldg_text	2	Text
Bldg_trailer	6	Trailers
DETAILS		
Detail	7	Detail lines
Detail_hatch	254	Hatching for details
Detail_text	20	Text for details
DIMENSIONING		
Dim_lines	20	Arrows, lines, etc.(no leaders)
Dim_text	20	Dimension text
LANDSCAPING		
Plani_brushl	110	Brush
Plani_groundcover	2	Ground covers
Plani_landscaping	2	Landscaping beds
Plani_tree	110	Single trees
Plani_treel	110	Treeline
Plani_Turf	110	Turf

LAYER NAME	COLOR	DESCRIPTION
PLANIMETRICS		
Asc_plani	2	Various shots
Asc_tree	2	Field shots of trees
Plani_arch_limit	200	Archaeological limits
Plani_Ballfield	2	Ballfield
Plani_benches	2	Benches
Plani_borings	2	Test pits, borings
Plani_bridge	4	Bridges
Plani_bulkhead	2	Bulkheads for buildings
Plani_cl	95	Centerline of road
Plani_cl_station	2	Centerline of road stationing
Plani_conc	253	Concrete slabs, footings etc.
Plani_conc_ab	253	Concrete slabs, footings etc. ,asbuilts
Plani_courts	2	Tennis, basketball courts
Plani_curb	11	Curbing
Plani_deck	2	Decks
Plani_digi_roads	11	Digitized Roads
Plani_dpark	34	Gravel Parking
Plani_drive	21	Driveways
Plani_droad	34	Gravel Roads
Plani_erosion	2	Erosion control
Plani_fence	2	Fences
Plani_fpole	2	Flagpoles
Plani_grail	12	Guard Rails
Plani_hatch	2	Hatching
Plani_misc	2	Misc. signs, benches, etc.
Plani_mbox	2	mail boxes
Plani_monorail_footing	2	Monorail Footings
Plani_paintmark	211	Pavement markings
Plani_parking	11	Paved parking
Plani_Playground	2	Playgrounds
Plani_pool	2	Pools & spas
Plani_post	2	Posts
Plani_ramp	2	Ramps
Plani_retwall	4	Retaining walls
Plani_retwall_footing	2	Retaining wall footings
Plani_road	11	Roads
Plani_roads_asbuilts	11	Road asbuilts
Plani_rocks	2	Rocks
Plani_sidewalk	31	Sidewalks
Plani_steps	2	Steps
Plani_stwall	65	Stone walls
Plani_text	2	Text
Plani_trail	51	Trails
PROPOSED		
Proposed	1	Proposed features/objects
Proposed_grading	1	Proposed Grading
Proposed_notes	1	Proposed Notes
Proposed_text	1	Proposed Text (leaders)
Proposed_utilities	1	Proposed utilities
SURVEY		
Asc_survey	230	Boundary, etc
Asc_survey_ctrl	230	Control
Asc_survey_stakeout	230	Stakeout

LAYER NAME	COLOR	DESCRIPTION
Survey_control	230	Control
Survey_info	2	Survey info, bearings, distances
Survey_notes	40	Notes for map
TITLE		
Title	153	Title and text
Title_misc	153	Legends, notes, etc.
Title_nscale	152	North arrow and scale
TOPOGRAPHY		
Topo_Cont_high	22	Index Contours
Topo_Cont_high_field	22	Field generated Contours
Topo_Cont_nml	252	Intermediate Contours
Topo_Cont_nml_field	252	Field generated Contours
Topo_Cont_text	2	Contour Text
Topo_spot_elev	2	<i>Spot elevations</i>
UTILITIES		
Communications		
Asc_com	30	Field shots of com.
asc_com_spare	30	Spare conduit
asc_conduit_rte2	30	Rte 2 Conduit
U_com_cable	30	Cable
U_com_camera_ab	30	Surveillance cameras
U_com_hh	30	Communication hand hole
U_com_line	30	Communication line
U_com_mh	30	Communication manhole
U_com_structure	30	structures
U_com_telephone	30	Telephone lines, etc
U_com_text	30	Communication text
Electric		
asc_conduit_rte2	10	Rte 2 conduit shots
asc_elec	10	Field shots of electric
U_elec_box	10	Electric box
U_elec_gen_ducts	10	Ducts for generator
U_elec_gen_pads	10	Pads for generator
U_elec_hh	10	Electric hand hole
U_elec_line	10	Electric lines
U_elec_line_approx	10	Approximate location of electric lines
U_elec_loop_ab	10	Loops for guard shacks
U_elec_lp	10	Light poles
U_elec_meter	10	Electric meter
U_elec_mh	10	Electric manhole
U_elec_misc	10	Misc. lighting
U_elec_pole	10	Electric poles
U_elec_structure	10	structures
U_elec_text	10	Electric text
U_elec_vault	10	Electric Vault
Gas		
asc_gas	50	Field shots of gas
U_gas_line	50	Gas line
U_gas_off	50	Gas lines abandoned
U_gas_structure	50	structures
U_gas_text	50	Gas text
U_gas_valve	50	Gas valves
Sanitary		
asc_sanit	80	Field shots of sanitary

LAYER NAME	COLOR	DESCRIPTION
asc_sanit_approx	80	Field shots of sanitary (approx)
U_sanitary	80	Sanitary
U_sanitary_approx	80	Sanitary approximate
U_sanitary_grease	80	Sanitary grease traps
U_sanitary_mh	80	Sanitary manholes
U_sanitary_pumps	80	Pump stations, grinders
U_sanitary_septic_field	80	Septic fields
U_sanitary_structure	80	structures
U_sanitary_text	80	Sanitary text
Storm		
asc_storm	80	Field shots of storm
U_storm	80	Stormwater
U_storm_cb	80	Catch basins
U_storm_culvert	80	Culverts
U_storm_footdrains	81	Footing drains
U_storm_mh	80	Drainage manholes
U_storm_oil_h2o_sedchamber	80	Sedchambers
U_storm_riprap	80	Rip rap
U_storm_structure	80	structures
U_storm_text	80	Storm water text
Water		
asc_water	160	Field shots of water
U_water_firehyd	160	Fire hydrant
U_water_h2otank	160	Water tank
U_water_irrigation	160	Irrigation
U_water_line	160	Water lines
U_water_structure	160	structures
U_water_text	160	Water text
U_water_valve	160	Water valves
U_water_wells	160	Water wells
Wetlands		
Asc_wet	140	Field shots of wetlands
Wetland_buffer	200	Wetland buffer
Wetland_field	140	Field located wetlands
Wetland_fill	143	Filled wetland
Wetland_statebd	140	State boundary
Wetland_streams	142	Streams
Wetland_sym	2	Hatching
Wetland_text	2	Flags, text, etc.
Wetland_waterbodies	5	Lakes, ponds, etc

B. Standard layers for buildings and interiors.

The use of an asterisk (*) indicates a placeholder for the discipline code, major group, or minor group.

LAYER NAME	DESCRIPTION
ANNOTATION LAYERS	
*-ANNO-TEST	Text
*-ANNO-REDL	Redline
*-ANNO-SYMB	Symbols

*-ANNO-LEGN	Legends and schedules
*-ANNO-DIMS	Dimensions
*-ANNO-TTLB	Border and title block
*-ANNO-NOTE	Notes
*-ANNO-NPLT	Construction lines, non-plotting information
*-ANNO-KEYN	Key notes
*-ANNO-REVS	Revisions

Note: Annotation layer names may be appended with a four-character sheet name designer when needed.

COMMON MODIFIERS

*_****-PATT	Cross-hatching, poche
*_****-IDEN	Identification tags
*_****-ELEV	Elevation (vertical surfaces in 3D)
X-RDME	Read-me layer, not to be plotted

STATUS FIELD MODIFIERS

*_****-NEWW	New work
*_****-EXST	Existing to remain
*_****-DEMO	Demolition
*_****-FUTR	Future work
*_****-TEMP	Temporary work
*_****-MOVE	Items to be moved
*_****-RELO	Relocated items
*_****-NICN	Not in contract
*_****-PHS1-9	Phase numbers (1-9)

Note: The status field may also occur as the fourth field, following a minor group.

ARCHITECTURAL LAYERS

A-WALL-FULL	Full-height walls, stair and shaft walls, walls to structure
A-WALL-PRHT	Partial-height walls (do not appear on reflected ceiling plans)
A-WALL-MOVE	Moveable partitions
A-WALL-HEAD	Door and window headers appear on reflected ceiling plans)
A-WALL-JAMB	Door and window jambs (do not appear on reflected ceiling plans)
A-WALL-PATT	Wall insulation, hatching and fill
A-WALL-ELEV	Wall surfaces: 3D views
A-WALL-FIRE	Fire wall patterning
A-DOOR	Doors
A-DOOR-FULL	Full-height (to ceiling) door: swing and leaf
A-DOOR-PRHT	Partial-height door: swing and leaf
A-DOOR-IDEN	Door number, hardware group, etc.
A-DOOR-ELEV	Doors: 3D views
A-GLAZ	Windows, window walls, curtain walls, glazed partitions
A-GLAZ-FULL	Full-height glazed walls and partitions
A-GLAZ-PRHT	Windows and partial-height glazed partitions
A-GLAZ-SILL	Windowsills
A-GLAZ-IDEN	Window number
A-GLAZ-ELEV	Glazing and mullions—elevation views
A-FLOR	Floor information
A-FLOR-OTLN	Floor or building outline
A-FLOR-LEVL	Level changes, ramps, pits, depressions

A-FLOR-STRS	Stair treads, escalators, ladders
A-FLOR-RISR	Stair risers
A-FLOR-HRAL	Stair and balcony handrails, guard rails
A-FLOR-EVTR	Elevator cars and equipment
A-FLOR-TPTN	Toilet partitions
A-FLOR-SPCL	Architectural specialties (toilet room accessories, display cases)
A-FLOR-WDVK	Architectural woodwork (field-built cabinets and counters)
A-FLOR-CASE	Casework (manufactured cabinets)
A-FLOR-OVHD	Overhead items, skylights, overhangs—usually dashed line)
A-FLOR-RAIS	Raised floors
A-FLOR-IDEN	Room numbers, names, targets, etc.
A-FLOR-PATT	Paving, tile, carpet patterns
A-FLOR-PFIX	Plumbing fixtures
A-FLOR-FIXT	Miscellaneous fixtures
A-FLOR-SIGN	Signage
A-EQPM	Equipment
A-EQPM-FIXD	Fixed equipment
A-EQPM-MOVE	Moveable equipment
A-EQPM-NICN	Equipment not in contract
A-EQPM-ACCS	Equipment access
A-EQPM-IDEN	Equipment identification numbers
A-EQPM-ELEV	Equipment surfaces: 3D views
A-EQPM-CLNG	Ceiling-mounted or suspended equipment
A-EQPM-GAME	Gaming equipment [User defined]
A-EQPM-FOOD	Food service equipment [User defined]
A-FURN-	Furniture
A-FURN-FREE	Furniture: freestanding (desks, credenzas, etc.)
A-FURN-CHAR	Chairs and other seating
A-FURN-FILE	Filing cabinets
A-FURN-PNLS	Furniture system panels
A-FURN-WKSF	Furniture system work surface components
A-FURN-STOR	Furniture system storage components
A-FURN-POWR	Furniture system—power designations
A-FURN-IDEN	Furniture numbers
A-FURN-PLNT	Plants
A-FURN-PATT	Finish patterns
A-FURN-ELEV	Furniture: 3D views
A-CLNG	Ceiling information
A-CLNG-GRID	Ceiling grid
A-CLNG-OPEN	Ceiling/roof penetrations
A-CLNG-TEES	Main tees
A-CLNG-SUSP	Suspended elements
A-CLNG-PATT	Ceiling patterns
A-CLNG-ACCS	Ceiling access
A-LITE	Light fixtures
A-COLS	Columns
A-HVAC-SDFF	Supply diffusers
A-HVAC-RDFF	Return air diffusers
A-GRID	Planning grid or column grid
A-ROOF	Roof
A-ROOF-OTLN	Roof outline
A-ROOF-LEVL	Level changes
A-ROOF-STRS	Stair treads, ladders

A-ROOF-RISR
A-ROOF-HRAL
AA-ROOF-PATT
A-ROOF-ELEV
A-AREA
A-AREA-PATT
A-AREA-IDEN

A-AREA-OCCP
A-AREA-EGRS
A-ELEV
A-ELEV-OTLN
A-ELEV-FNSH
A-ELEV-CASE
A-ELEV-FIXT
A-ELEV-SIGN
A-ELEV-PATT
A-ELEV-IDEN
A-SECT
A-SECT-MCUT
A-SECT-MBND
A-SECT-PATT
A-SECT-IDEN
A-DETL
A-DETL-MCUT
A-DETL-MBND
A-DETL-PATT
A-DETL-IDEN

ELECTRICAL LAYERS

E-AV-SPEC
E-LITE
E-LITE-SPCL
E-LITE-EMER
E-LITE-EXIT
E-LITE-CLNG
E-LITE-WALL
E-LITE-FLOR
E-LITE-OTLN
E-LITE-NUMB
E-LITE ROOF
E-LITE-SITE
E-LITE SWCH
E-LITE-CIRC
E-LITE-IDEN
E-LITE-JBOX
E-POWR
E-POWR-WALL
E-POWR-CLNG
E-POWR-PANL
E-POWR-EQPM
E-POWR-SWBD
E-POWR-CIRC
E-POWR-URAC
E-POWR-UCPT
E-POWR-CABL

Stair risers
Stair handrails, nosing, guardrails
Roof surface patters, hatching
Roof surfaces; 3D views
Area calculation boundary lines
Area cross hatching
Room numbers, tenant identifications, area calculations
Occupant or employee names
Emergency egress (User defined)
Interior and exterior elevations
Building outlines
Finishes, woodwork, trim
Wall-mounted casework
Miscellaneous fixtures
Signage
Textures and hatch patters
Component identification numbers
Sections
Material cut by section
Material beyond section cut
Textures and hatch patters
Component identification numbers
Details
Material cut by section
Material beyond section cut
Textures and hatch patters
Component identification numbers

Audio visual equipment and systems (User defined)
Lighting
Special lighting
Emergency lighting
Exit lighting
Ceiling-mounted lighting
Wall-mounted lighting
Floor-mounted lighting
Lighting outline for background (optional)
Lighting circuit numbers
Roof lighting
Site lighting (see also civil group)
Lighting-switches
Lighting circuits
Luminary identification and text
Junction box
Power
Power wall outlets and receptacles
Power-ceiling receptacles and devices
Power panels
Power equipment
Power switchboards
Power circuits
Under floor raceways
Under-carpet wiring
Cable trays

E-POWR-FEED
 E-POWER-BUSW
 E-POWR-NUMB
 E-POWR-IDEN
 E-POWR-SITE
 E-POWR-ROOF
 E-POWR-OTLN
 E-POWR-JBOX
 E-POWR-GAME
 E-CTRL
 E-CTRL-DEVC
 E-CTRL-WIRE
 E-GRND
 E-GRND-CIRC
 E-GRND-REFR
 E-GRND-EQUI
 E-GRND-DIAG
 E-AUXL
 E-LTNG
 E-FIRE
 E-COMM
 E-DATA
 E-SOUN
 E-TVAN
 E-CCTV
 E-NURS
 E-SERT
 E-PGNG
 E-DICT
 E-BELL
 E-CLOCK
 E-ALRM
 E-INTC
 E-LEGN
 E-1LIN
 E-RISR
 E-SITE
 E-SITE-LITE
 E-SITE-UNDR
 E-SITE-POLE
 E-SITE-OVHD
 E-SURV

FIRE PROTECTION LAYERS

F-CO2S
 F-CO2S-PIPE
 F-CO2S-EQPM
 F-HALN
 F-HALN-EQPM
 F-HALN-PIPE
 F-IGAS
 F-IGAS-EQPM
 F-SPRN
 F-SPRN-DRY-PIPE
 F-SPRN-CLHD
 F-SPRN-OTHD

Feeders
 Busways
 Power circuit numbers
 Power identification, text
 Site power (see also civil group)
 Roof power
 Power outline for backgrounds
 Junction box
 Gaming power (User defined)
 Electric control systems
 Control system devices
 Control system wiring
 Ground system
 Ground system circuits
 Reference ground system
 Equipotential ground system
 Ground system diagram
 Auxiliary systems
 Lighting protection system
 Fire alarm, fire extinguishers
 Telephone, communication outlets
 Data outlets
 Sound/PA system
 TV antenna system
 Closed-circuit TV
 Nurse call system
 Security
 Paging system
 Central dictation system
 Bell system
 Clock system
 Miscellaneous alarm system
 Intercom system
 Legend of symbols
 One-line diagrams
 Riser diagram
 Site electrical substations, poles
 Site lighting
 Underground electrical lines
 Electric poles
 Overhead lines
 Surveillance (User defined)

Co₂ system
 Co₂ sprinkler piping
 Co₂ equipment
 Halon
 Halon equipment
 Halon piping
 Inert gas
 Inert gas equipment
 Fire protection sprinkler system
 Sprinkler system, dry pipes
 Sprinkler head—ceiling
 Sprinkler head—other

F-SPRN-PIPE
F-SPRN-STAN
F-SPRN-WET-PIPE
F-STAN
F-PROT
F-PROT-EQPM

F-PROT-ALRM
F-PROT-SMOK

Sprinkler piping
Sprinkler system standpipe
Sprinkler system, wet pipes
Fire protection standpipe system
Fire protection systems
Fire system equipment (fire hose cabinet
extinguishers)
Fire alarm
Smoke detectors/heat sensors

GENERAL LAYERS

G-PLAN
G-SITE
G-ACCS
G-FIRE
G-EVAC
G-CODE

Floor plan—key plan
Site plan—key map
Access plan
Fire protection plan
Evacuation plan
Code compliance plan

HAZARDOUS LAYERS

H-PLAN
H-SITE

Floor plan
Site plan

INTERIOR LAYERS

I-WALL-FULL

I-WALL-PRHT

I-WALL-MOVE
I-WALL-HEAD

I-WALL-JAMB

I-WALL-PATT
I-WALL-ELEV
I-DOOR
I-DOOR-FULL
I-DOOR-PRHT
I-DOOR-IDEN
I-DOOR-ELEV
I-GLAZ
I-GLAZ-FULL
I-GLAZ-PRHT
I-GLAZ-SILL
I-GLAZ-IDEN
I-GLAZ-ELEV
I-FLOR
I-FLOR-OTLN
I-FLOR-LEVL
I-FLOR-STRS
I-FLOR-RISR
I-FLOR-HRAL
I-FLOR-EVTR
I-FLOR-TPTN
I-FLOR-SPCL

I-FLOR-WDWK

Full-height wall, stair and shaft walls, walls to
structure
Partial-height walls (do not appear on reflected
ceiling plans)
Moveable partitions
Door and window headers (appear on reflected
ceiling plans)
Door and window jambs (do not appear on reflected
ceiling plans)
Wall insulation, hatching and fill
Wall surfaces: 3D views
Doors
Full-height (to ceiling) door: swing and leaf
Partial height door: swing and leaf
Door number, hardware group, etc.
Doors: 3D views
Glazing
Full-height glazed walls and partitions
Windows and partial-height glazed partitions
Windowsills
Window number
Glazing and mullions—elevation views
Floor information
Floor or building outline
Level changes, ramps, pits, depressions
Stair treads, escalators, ladders
Stair risers
Stair and balcony handrails, guard rails
Elevator cars and equipment
Toilet partitions
Architectural specialties (toilet room accessories,
display cases)
Architectural woodwork(field-built cabinets and

I-FLOR-CASE
I-FLOR-OVHD

I-FLOR-RAIS
I-FLOR-IDEN
I-FLOR-PATT
I-FLOR-PFIX
I-FLOR-FIXT
I-FLOR-SIGN
I-EQPM
I-EQPM-FIXD
I-EQPM-MOVE
I-EQPM-NICN
I-EQPM-ACCS
I-EQPM-IDEN
I-EQPM-ELEV
I-EQPM-CLNG
I-FURN
I-FURN-FREE
I-FURN-CHAR
I-FURN-FILE
I-FURN-PNLS
I-FURN-WKSF
I-FURN-STOR
I-FURN-POWR
I-FURN-IDEN
I-FURN-PLNT
I-FURN-PATT
I-FURN-ELEV
I-CNG
I-CLNG-GRID
I-CLNG-OPEN
I-CLNG-TEES
I-CLNG-SUSP
I-CLNG-PATT
I-CLNG-ACCS
I-LITE
I-COLS
I-HVAC-SDFD
I-HVAC-RDFD
I-GRID
I-AREA
I-AREA-PATT
I-AREA-IDEN

I-AREA-OCCP
I-ELEV
I-ELEV-FNSH
I-ELEV-CASE
I-ELEV-FIXT
I-ELEV-PFIXT
I-ELEV-SIGN
I-ELEV-PATT
I-ELEV-IDEN
I-SECT

counters)
Casework (manufactured cabinets)
Overhead items (skylights, overhangs, usually dashed lines)
Raised floors
Room numbers, names, targets, etc.
Paving, tile, carpet patterns
Plumbing fixtures
Miscellaneous fixtures
Signage
Equipment
Fixed equipment
Moveable equipment
Equipment not in contract
Equipment access
Equipment identification numbers
Equipment surfaces: 3D views
Ceiling-mounted or suspended equipment
Furniture
Furniture: freestanding (desks, credenzas, etc.)
Chairs and other seating
File cabinets
Furniture system panels
Furniture system work surface components
Furniture system storage components
Furniture system—power designations
Furniture: 3D views
Plants
Finish patterns
Furniture: 3D views
Ceiling information
Ceiling grid
Ceiling/roof penetrations
Main tees
Suspended elements
Ceiling patterns
Ceiling access
Light fixtures
Columns
Supply diffusers
Return air diffusers
Planning grid or column grid
Area calculation lines
Area cross hatching
Room numbers, tenant identifications, area calculations
Occupant or employee names
Interior and exterior elevations
Finishes, woodwork, trim
Wall-mounted casework
Miscellaneous fixtures
Plumbing fixtures in elevation
Signage
Textures and hatch patterns
Component identification numbers
Sections

I-SECT-MCUT
I-SECT-MBND
I-SECT-PATT
I-SECT-IDEN
I-DETL
I-DETL-MCUT
I-DETL-MBND
I-DETL-PATT
I-DETL-IDEN

Material cut by sections
Material beyond section cut
Textures and hatch patterns
Component identification numbers
Details
Material cut by section
Material beyond section cut
Textures and hatch patterns
Component identification numbers

MECHANICAL LAYERS

M-BRIN
M-BRIN-EQPM
M-BRIN-PIPE
M-CHIM
M-CMPA
M-CMPA-CEQP
M-CMPA-PEQP
M-CMPA-PIIP
M-CONT
M-CONT-THER
M-CONT-WIRE
M-DUST
M-DUST-EQPM
M-DUST-DUCT
M-ELHT-EQPM
M-ENER
M-ENER-EQPM
M-ENER-WIRE
M-RCOV
M-RCOV-EQPM
M-RCOV-PIPE
M-FUM-EXHS
M-FUM-EQPM
M-EXHS
M-EXHS-EQPM
M-EXHS-DUCT
M-EXHS-RFEQ
M-FUEL
M-FUEL-GPRP
M-FUEL-GGEP
M-FUEL-OPRP
M-FUEL-OCEP
M-HVAC-CDFF
M-HVAC-ODFF
M-HVAC-DUCT
M-HVAC-EQPM
M-HVAC-SDFF
M-HVAC-RDFF
M-HOTW
M-HOTW-EQPM
M-HOTW-PIPE
M-CWTR
M-CWTR-PIPE
M-CWTR-EQPM
M-MACH

Brine systems
Brine system equipment
Brine system piping
Prefabricated chimneys
Compressed air systems
Compressed air equipment
Process air equipment
Process air piping
Controls and instrumentation
Thermostats
Low voltage wiring
Dust and fume collection system
Dust and fume collection equipment
Dust and fume ductwork
Electric heat equipment
Energy management system
Energy management equipment
Energy management wiring
Energy recovery
Energy recovery equipment
Energy recovery piping
Fume hood exhaust system
Fume hoods
Exhaust system
Exhaust system equipment
Exhaust system ductwork
Rooftop exhaust equipment
Fuel system piping
Fuel gas process piping
Fuel gas general piping
Fuel oil process piping
Fuel oil general piping
HVAC ceiling diffusers
HVAC other diffusers
HVAC ductwork
HVAC equipment
Supply diffusers
Return air diffusers
Hot water heating system
Hot water equipment
Hot water piping
Chilled water systems
Chilled water piping
Chilled water equipment
Machine shop equipment

M-MDGS
M-MDGS-EQPM
M-MDGS-PIPE
M-LGAS
M-LGAS-EQPM
M-LGAS-PIPE
M-NGAS
M-NGAS-EQPM
M-NGAS-PIPE
M-PROC
M-PROC-EQPM
M-PROC-PIPE
M-REFG
M-REFG-EQPM
M-REFG-PIPE
M-SPCL
M-SPCL-EQPM
M-SPCL-PIPE
M-STEM
M-STM-CONP
M-STEM-EQPM
M-STEM-LPIP
M-STEM-HPIP
M-STEM-MPIP
M-TEST-EQPM

Medical gas systems
Medical gas equipment
Medical gas piping
Laboratory gas systems
Laboratory gas equipment
Laboratory gas piping
Natural gas systems
Natural gas equipment
Natural gas piping
Process systems
Process equipment
Process piping
Refrigeration systems
Refrigeration equipment
Refrigeration piping
Special systems
Special systems equipment
Special systems piping
Steam systems
Steam systems condensate piping
Steam systems equipment
Low pressure steam piping
High pressure steam piping
Medium pressure steam piping
Test equipment

PLUMBING LAYERS

P-ACID
P-ACID-PIPE
P-DOMW
P-DOMW-EQPM
P-DOMW-HPIP
P-DOMW-CPIP
P-DOMW-RISR
P-SANR
P-SANR-PIPE
P-SANR-FIXT
P-SANR-FLDR
P-SANR-RISR
P-SANR-EQPM
P-STRM
P-STRM-PIPE
P-STRM-RISR
P-STRM-RFDR
P-EQPM
P-FIXT

Acid, alkaline, oil waste systems
Acid, alkaline, oil waste piping
Domestic hot and cold water systems
Domestic hot and cold water equipment
Domestic hot water piping
Domestic cold water piping
Domestic hot and cold water risers
Sanitary drainage
Sanitary piping
Plumbing fixtures
Floor drains
Sanitary risers
Sanitary equipment
Storm drainage system
Storm drain piping
Storm drain risers
Roof drains
Plumbing miscellaneous equipment
Plumbing fixtures

EQUIPMENT LAYERS

Q-OTLN
Q-POWR
Q-PIPE

Equipment outlines
Power information
Piping information

RESOURCE LAYERS

(information provided by product manufactures)

R-****-OTLN
R-****-DETL

Outline or profile graphics
Additional detail graphics

R-****-PATT
R-****-ANNO

Textures and hatch patterns
Annotation

STRUCTURAL LAYERS

S-GRID
S-GRID-EXTR
S-GRID-INTR
S-GRID-DIMS
S-GRID-IDEN
S-FNDN
S-FNDN-PILE
S-FNDN-RBAR
S-SLAB
S-SLAB-EDGE
S-SLAB-RBAR
S-SLAB-JOIN
S-ABLT
S-COLS
S-WALL
S-METL
S-BEAM
S-JOIS
S-DECK

Column grid
Column grid outside building
Column grid inside building
Column grid dimensions
Column grid tags
Foundation
Piles, drilled piers
Foundation reinforcing
Slab
Edge of slab
Slab reinforcing
Slab control joints
Anchor bolts
Columns
Structural bearing or shear walls
Miscellaneous metal
Beams
Joists
Structural floor deck

TELECOMMUNICATION

LAYERS

T-CABLE
T-EQPM
T-JACK
T-DIAG

Cable plan
Equipment plan
Data/telephone jacks
Diagram

C. Guidelines for Sheet File Names

Sheet file guidelines have been developed by the Uniform Drawing Systems Task team of the Construction Specifications Institute (CSI). Please refer to the Uniform Drawing System publication from CSI for more information.

Discipline Codes

A	Architectural
C	Civil
E	Electrical
F	Fire protection
G	General
H	Hazardous materials
I	Interiors
L	Landscape
M	Mechanical
P	Plumbing
Q	Equipment
R	Resource
S	Structural
T	Telecommunications

- X Other disciplines
- Z Contractor/shop drawings

Sheet Type Designators

- 0 General (symbols, legend, notes, etc.)
- 1 Plans (horizontal views)
- 2 Elevators (vertical views)
- 3 Sections (sectional views)
- 4 Large scale (plans, elevations, or sections that are not details)
- 5 Details
- 6 Schedules and diagrams
- 7 User defined
- 8 User defined
- 9 3D views (isometrics, perspectives, photographs)

Sheet Sequence Numbers

Sheet numbers should be designated sequentially starting at "01" and continuing through "99."

VIII. Submittal of Record Drawings

The procedure for submittal shall be:

- a. Hard Copies of Construction as-builts or Field Surveys completed.
- b. Electronic Files, on 3.5" diskette or CD-ROM. Files shall be AutoCAD Release 14.
- c. Electronic Files shall conform to the specifications listed herein.

Once Record Drawings are complete, the Project Manager shall review hard copies or electronic files to confirm information. When this is complete the Project Manager shall give the Vendors information to the MPTN Property Department.

IX. Refusal of Record Drawings

Drawings & Electronic Files that do not follow the standards listed herein may be refused until they conform to standards.

X. Survey Control

The Mashantucket Pequot Tribal Nation Property Dept., has its own Survey Control and will provide this information to vendor upon reward of contract.

XI. Revisions

Submitted drawings shall contain a revision date and brief description of the revision on each revised sheet. Revisions shall be clearly identified using a revision cloud and revision number. In addition, the cover sheet shall show the latest applicable revision date.

END OF DOCUMENT