MILITARY

Work Breakdown Structure

24 April 1992

INTRODUCTION

This document provides a description and numbering structure for the Tri-Service Automated Cost Engineering System (TRACES) work breakdown structure (WBS). The TRACES WBS provides a common Tri-Service framework for preparing cost estimates, modeling development, and collecting historical data for all conventional Military Construction Program (MCP) projects. The WBS will be incorporated into all future versions of the TRACES software, data, and documentation.

This WBS is only intended for building projects and associated supporting facilities. Other WBS structures have been, or will be, developed for other project types such as civil works; hazardous, toxic, radiological waste (HTRW); and runways/taxiways projects.

This TRACES WBS is a hierarchical structure comprised of five levels: 1) system, 2) subsystem, 3) assembly category, 4) assembly, and 5) line item. This document defines and describes the top three levels. There are 15 primary facility systems; one system for selective demolition, and four building supporting facility systems. Each system is divided into one or more subsystems, which are further divided into assembly categories and assemblies. Assemblies are made up of construction line items. Line items within assemblies are not defined in this document, but are generally defined in the TRACES Unit Price Book.

A unit of measure is associated with each level of the WBS. The unit of measure, and a brief description of how it is measured, is included in this document. It is important that these units of measure and descriptions are followed as closely as possible for all future estimates. This will facilitate the estimating review process, and allow estimates to

be compared to other similar estimates. This WBS will be used to develop a useful DoD historical data reporting system.

While this listing is fairly comprehensive, not all possible construction subsystems, or assembly categories, are listed. For these items, an "Other" category has been included. The assigned number of "9X" indicates the user is to replace the "X" with any appropriate digit of user choice. Unit of measure for this assigned cost group is also user defined.

MILITARY WORK BREAKDOWN STRUCTURE

SYSTEM		TITLE
(BUILDING)		
01	-	Substructure
02	-	Superstructure
03	-	Exterior Closure
04	-	Roofing
05	-	Interior Construction
06	-	Interior Finishes
07	-	Conveying Systems
08	-	Plumbing
09	-	HVAC
10	-	Fire Protection System
11	-	Electric Power & Lighting
12	-	Electrical Systems
13	-	Equipment
14	-	Furnishings
15	-	Special Construction
16	-	Selective Building Demolition
(SITE)		
17	-	Site Preparation
18	-	Site Improvements
19	-	Site Civil/Mechanical Utilities
20	-	Site Electrical Utilities

4/24/92 SYSTEM - SUBSYSTEM WORK BREAKDOWN STRUCTURE

SYSTEM	SUBSYSTEM	TITLE	UOM
01		SUBSTRUCTURE	SF
01	01	STANDARD FOUNDATIONS	SF
01	02	SPECIAL FOUNDATION CONDITIONS	SF
01	03	SLAB ON GRADE	SF
01	04	BASEMENT EXCAVATION	CY
01	05	BASEMENT WALLS	SF
02		SUPERSTRUCTURE	SF
02	01	FLOOR CONSTRUCTION	SF
02	02	ROOF CONSTRUCTION	SF
02	03	STAIR CONSTRUCTION	FLT
03		EXTERIOR CLOSURE	SF
03	01	EXTERIOR WALLS	SF
03	02	EXTERIOR WINDOWS	SF
03	03	EXTERIOR PERSONNEL DOORS	EA
03	04	EXTERIOR SPECIALTY DOORS	SF
04		ROOFING	SF
04	01	ROOFING	SF
05		INTERIOR CONSTRUCTION	SF
05	01	PARTITIONS	SF
05	02	INTERIOR PERSONNEL DOORS	LEF
05	03	INTERIOR SPECIALTY DOORS	SF
05	04	INTERIOR SPECIALTIES	SF
05	05	CASEWORK	SF
06		INTERIOR FINISHES	SF
06	01	WALL FINISHES	SF
06	02	FLOORING AND FLOOR FINISHES	SF
06	03	CEILING AND CEILING FINISHES	SF
07		CONVEYING SYSTEMS	STY
07	01	ELEVATORS	STP
07	02	MOVING STAIRS AND WALKS	LF
07	03	MATERIAL HANDLING SYSTEMS	EA
08		PLUMBING	EA
08	01	PLUMBING FIXTURES	EA
08	02	DOMESTIC WATER SUPPLY	EA
08	03	SANITARY WASTE AND VENT SYSTEM	EA
08	04	RAINWATER DRAINAGE SYSTEM	SF
08	05	PLUMBING EQUIPMENT	EA
08	06	SPECIAL PLUMBING SYSTEMS	EA

4/24/92 SYSTEM - SUBSYSTEM WORK BREAKDOWN STRUCTURE

SYSTEM	SUBSYSTEM	TITLE	UOM
09		HVAC	MBH
09	01	ENERGY SUPPLY	MBH
09	02	HEAT GENERATING SYSTEMS	MBH
09	03	COOLING GENERATING SYSTEMS	TON
09	04	DISTRIBUTION SYSTEMS	MBH
09	05	TERMINAL AND PACKAGE UNITS	MBH
09	06	CONTROLS AND INSTRUMENTATION	MBH
09	07	SYSTEMS TESTING AND BALANCING	MBH
09	08	SPECIAL MECHANICAL SYSTEMS	EA
10		FIRE PROTECTION SYSTEMS	SF
10	01	WATER SUPPLY (FIRE PROTECTION)	EA
10	02	SPRINKLERS	EA
10	03	STANDPIPE SYSTEMS	EA
10	04	FIRE EXTINGUISHERS	EA
10	05	SPECIAL FIRE PROTECTION SYSTEMS	EA
11		ELECTRIC POWER AND LIGHTING	AMP
11	01	SERVICE AND DISTRIBUTION	AMP
11	02	LIGHTING AND BRANCH WIRING	SF
12		ELECTRICAL SYSTEMS	SF
12	01	COMMUNICATION, SECURITY AND ALARM SYSTEMS	SF
12	02	SPECIAL ELECTRICAL SYSTEMS	SF
13		EQUIPMENT	SF
13	01	FIXED AND MOVEABLE EQUIPMENT	SF
14		FURNISHINGS	SF
14	01	FURNISHINGS	SF
15		SPECIAL CONSTRUCTION	SF
15	01	VAULTS	SF
15	02	INTERIOR SWIMMING POOLS	SF
15	03	SPECIAL PURPOSE ROOMS	SF
15	04	PRE-ENGINEERED BUILDINGS	SF
15	05	WASHRACKS	SF
15	06	EXTERIOR UTILITY BUILDINGS	SF
15	9X	OTHER SPECIAL CONSTRUCTION	XX
16		SELECTIVE BUILDING DEMOLITION	LS
16	01	NON-HAZARDOUS SELECTIVE BUILDING DEMOLITION	LS

4/24/92 SYSTEM - SUBSYSTEM WORK BREAKDOWN STRUCTURE

SYSTEM	SUBSYSTEM	TITLE	UOM
16	02	HAZARDOUS SELECTIVE BUILDING DEMOLITION	LS
16	9X	OTHER SELECTIVE BUILDING DEMOLITION	XX
17		SITE PREPARATION	AC
17	01	SITE CLEARING	AC
17	02	SITE DEMOLITION & RELOCATION	SY
17	03	SITE EARTHWORK	CY
17	04	SITE CLEANUP	SY
17	9X	OTHER SITE PREPARATION	XX
18		SITE IMPROVEMENTS	SY
18	01	ROADWAYS	SY
18	02	PARKING LOTS	SPA
18	03	WALKS, STEPS, RAMPS, & TERRACES	SF
18	04	SITE DEVELOPMENT	EA
18	05	LANDSCAPING	SY
18	06	SPECIAL CONSTRUCTION	EA
18	9X	OTHER SITE IMPROVEMENTS	XX
19		SITE CIVIL/MECHANICAL UTILITIES	EA
19	01	WATER SUPPLY & DISTRIBUTION SYSTEMS	LF
19	02	SANITARY SEWER SYSTEMS	LF
19	03	STORM SEWER SYSTEMS	LF
19	04	INDUSTRIAL WASTE SYSTEMS	LF
19	05	HEATING DISTRIBUTION SYSTEMS	LF
19	06	COOLING DISTRIBUTION SYSTEMS	LF
19	07	NATURAL & PROPANE GAS DISTRIBUTION SYSTEMS	LF
19	08	BUILDING FUEL DISTRIBUTION SYSTEMS	GAL
19	9X	OTHER CIVIL/MECHANICAL UTILITIES	XX
20		SITE ELECTRICAL UTILITIES	EA
20	01	SUBSTATIONS	KVA
20	02	EXTERIOR ELECTRICAL DISTRIBUTION	LF
20	03	EXTERIOR LIGHTING	SY
20	04	EXTERIOR COMMUNICATIONS & ALARM SYSTEMS	LF
20	05	EXTERIOR SECURITY SENSORS & TV MONITORING SYSTEMS	STA
20	06	CATHODIC PROTECTION	LF
20	9X	OTHER ELECTRICAL UTILITIES	XX

OFF-SITE UTILITIES ?

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
01			Footprint area at grade	SF	**SUBSTRUCTURE** This system includes all work below the lowest floor construction (usually slab on grade) and the enclosing horizontal and vertical elements required to form a basement, together with the necessary mass excavation and backfill.
01	01		Footprint area at grade	SF	STANDARD FOUNDATIONS Continuous footings, spread footings, grade beams, foundations walls, pile caps, and column piers.
01	01	01	Lineal feet of footings and/or wall foundations	LF	WALL FOUNDATIONS A. Continuous Footings - Assemblies include excavation, hand shape bottom, compacted backfill, formwork and keyway, reinforcing steel, concrete, and screed finish. B. Foundation Walls - Include work items associated with CIP foundation walls, grade beams, or CMU walls. Assemblies include excavation, compacted backfill, formwork, reinforcing steel, concrete or CMU, and wall finish.
01	01	02	Number of footings, pile caps and/or piers	EA	COLUMN FOUNDATIONS AND PILE CAPS A. Spread Footings - Individual or part of continuous footing. Assemblies include excavation, backfill and compaction, formwork, reinforcing steel, and concrete and screed finish. If structural steel columns sit directly on spread footing, anchor bolts are included in this assembly. B. Pile Caps - Assemblies include excavation if required (normally due to installation of piles, the subgrade is at desired level for pile cap), hand shaped bottom, compacted backfill, formwork, reinforcing steel, and concrete and screed finish. If structural steel columns sit directly on pile cap, anchor bolts are included in this assembly. C. Column Piers - Assemblies include formwork, reinforcing steel, concrete or CMU, finish, breakties and patch, and set anchor bolts.
01	01	9X		XX	OTHER STANDARD FOUNDATIONS Standard foundations not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
01	02		Footprint area at grade	SF	SPECIAL FOUNDATION CONDITIONS All work associated with special foundations including piles, caissons, and any other special foundation situation.
01	02	01	Footprint area at grade	SF	PILE FOUNDATIONS CIP concrete piles, pre-cast concrete piles, steel pipe piles, steel H piles, step-tapered steel pile, and treated wood piles. Applicable assemblies would include the material for piles, pile driving, and pile cut off if required. The unit of measurement at the assembly level is VLF.
01	02	02	Footprint area at grade	SF	CAISSONS Drilled Caissons - Assemblies include drilling caissons, steel casing if required, reinforcing steel, bell bottom excavation, concrete, and loading and hauling of excavated material. The unit of measurement at the assembly level is VLF.
01	02	03	Lineal feet of underpinning	LF	UNDERPINNING Underpinning is the provision of permanent support for existing buildings by extending their foundations to a new, lower level containing the desired bearing stratum. Assemblies include excavation, backfill, and underpinning materials.
01	02	04	Dewatered area	SF	DEWATERING Dewatering is the removal of water from excavations. The two principle methods of dewatering are by pump or by a system involving the sinking of a series of well points around the area and extracting the water by suction pump. Assemblies would include pumps or well points and all associated dewatering materials and equipment.
01	02	05	Area of raft foundation	SF	RAFT FOUNDATIONS Raft foundations or spread foundations consist of a solid slab of heavily reinforced concrete covering the entire building footprint area.
01	02	06	Footprint area at grade	SF	PRESSURE INJECTION GROUTING Assemblies provided for injecting cement grout for foundation stabilization.
01	02	9X		XX	OTHER SPECIAL FOUNDATION CONDITIONS These could include cofferdams, soil compaction foundations, and other special foundations. Assemblies would include all material and labor necessary to perform the work for the special foundation condition.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
01	03		Footprint area at grade	SF	SLAB ON GRADE A slab poured on earth, whether on undisturbed or filled soil.
01	03	01	Area of slabs	SF	STANDARD SLAB ON GRADE Standard slab on grade is supported by compacted earth or gravel fill. The soil bearing capacity is sufficient to support the slab. Assemblies include fine grade, gravel fill, edge forms, termite treatment (interior slabs only), vapor barrier, reinforcing, expansion joints, control joints, and finish and curing. Assemblies are based on thickness of slab.
01	03	02	Area of slabs	SF	STRUCTURAL SLAB ON GRADE A structural slab on grade is not supported by compacted earth or gravel fill. The soil bearing capacity is insufficient to support the slab. A structural slab is generally a minimum of 8 inches thick and will be reinforced with reinforcing bars rather than welded wire fabric. Assemblies include fine grade, gravel fill, edge forms, termite treatment (interior slabs only), vapor barrier, reinforcing, expansion joints, control joints, and finish and curing. Assemblies are based on thickness of slab.
01	03	03	Area of slabs	SF	INCLINED SLAB ON GRADE An inclined slab on grade is a slab that is poured on an incline. An example would be an inclined loading dock slab and associated ramps. Assemblies include fine grade, gravel fill, edge forms, termite treatment (interior slabs only), vapor barrier, reinforcing, expansion joints, control joints, and finish and curing. Assemblies are based on thickness of slab.
01	03	04	Lineal feet of trench	LF	TRENCHES Cast in place trenches. Assemblies include excavation, hand shape bottoms, compacted backfill, formwork, reinforcing steel, concrete, and concrete finish. Examples include trench drains and duct benches.
01	03	05	Number of pits and bases	EA	PITS AND BASES Cast in place pits and bases. Assemblies include excavation, hand shape bottoms, compacted backfill, formwork, reinforcing steel, concrete, and concrete finish. Examples include elevator pits, dock leveler pits, oil change pits, and bases for equipment.
01	03	06	Lineal feet of foundation drainage	LF	FOUNDATION DRAINAGE Foundation drainage directly associated with draining the foundation. This category does not include storm drainage pipe for site. It would include drain pipe or drain tile at foundation or basement for specific purpose of draining foundation or basement. Assemblies would include excavation, hand shape, gravel, compacted backfill, and drain pipe, including accessories.
01	03	XX		XX	OTHER SLAB ON GRADE Slab on grade not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
01	04		Volume of excavation	CY	BASEMENT EXCAVATION Excavation work associated with constructing a basement.
01	04	01	Volume of excavation	CY	EXCAVATION FOR BASEMENTS All excavation, stockpiling, and hauling associated with basement excavations are included in this assembly.
01	0	02	Volume of backfill	CY	STRUCTURE BACKFILL AND COMPACTION All backfill including hauling in of suitable soils and all necessary compaction is included in this assembly.
01	04	03	Contact area of that which is shored	SF	SHORING This type of shoring is to resist horizontal pressure and not intended to carry vertical loads. Assemblies would include sheet piling or other material and labor used to hold back earth around the perimeter of an excavation.
01	04	9X		XX	OTHER BASEMENT EXCAVATION Basement excavation not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
01	05		Area of wall	SF	BASEMENT WALLS
01	05	01	Area of wall	SF	BASEMENT WALL CONSTRUCTION This includes work items associated with CIP foundation walls or CMU walls and penetrations. Assemblies include formwork, reinforcing steel, concrete or CMU, and wall finish and curing.
01	05	02	Area of wall moisture protection	SF	MOISTURE PROTECTION This assembly would be based on the type and square footage of waterproofing used on the foundation wall.
01	05	03	Area of wall insulation	SF	BASEMENT WALL INSULATION This assembly would be based on the type and square footage of insulation used on the foundation wall.
01	05	04	Area of Skin	SF	INTERIOR SKIN Assemblies include materials used to cover the interior side of exterior walls, i.e., paint, sheetrock, wood, or metal panelling, etc.
01	05	9X		XX	OTHER BASEMENT WALLS Basement walls not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
02			Area of supported floors	SF	**SUPERSTRUCTURE** This system includes all structural slabs, and decks and supports within basements and above grade. Note that the structural work will include both horizontal items (slabs, decks, etc.) and vertical structure components (columns and interior structural walls). Exterior load bearing walls are not included in this system but in System 03, Exterior Walls.
02	01		Area of supported floors	SF	FLOOR CONSTRUCTION This construction can be wood, concrete, CMU, steel frame, etc.
02	01	01	Area of supported floors	SF	STRUCTURAL FRAME The structural frame could consist of structural steel including columns, beams, joists, and all associated items. It could be a concrete frame utilizing concrete or masonry columns and concrete girders and beams. The structural frame could be wood columns with wood beams or wood trusses. The structural frame could be a combination of the above. For example, concrete or masonry columns with structural steel beams and joists. All associated work items should be included in each assembly. Separate assemblies would be used for different types of construction. The unit of measure at the assembly level is the square footage of the supported area. Decks and slabs are not included in this assembly.
02	01	02	Area of walls	SF	STRUCTURAL INTERIOR WALLS Assemblies would be CIP or CMU walls or other structural interior walls. The assemblies would include the labor and material required to perform the construction tasks associated with the type of wall.
02	01	03	Area of supported floors	SF	FLOOR DECKS AND SLABS Slabs above grade should be broken into assemblies according to their particular type of construction (i.e., flat slab, pan slab, pre-cast or prestressed slab, four-way slab, slabs on metal or wood decking with concrete fill, etc.). All associated work items should be included in each assembly.
02	01	04	Area of supported balconies	SF	BALCONY CONSTRUCTION Balconies above grade should be broken into assemblies according to their particular type of construction. All associated items including handrails should be included in the assembly.
02	01	05	Area of supported ramps	SF	RAMPS Ramps above grade should be broken into assemblies according to their particular type of construction. All associated items including handrails should be included in the assembly.
02	01	06	Gross floor area	SF	FLOOR RACEWAY SYSTEMS Under floor or in-slab conduit including conduit and all associated devices.
02	01	9X		XX	OTHER FLOOR CONSTRUCTION Any type of special floor construction not included above would fall in this category. All associated work items would be included in the assembly.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
02	02		Area of supported roof	SF	ROOF CONSTRUCTION This construction is similar to floor construction except that it applies to the framework supporting the roof and roof decks (See also System 04 Roofing).
02	02	01	Area of supported roof	SF	STRUCTURAL FRAME The structural frame could consist of structural steel including columns, beams, joists, and all associated items. It could be a concrete frame utilizing concrete or masonry columns and concrete girders and beams. The structural frame could be wood columns with wood beams or wood trusses. The structural frame could be a combination of the above. For example, concrete or masonry columns with structural steel beams and joists. All associated work items should be included in each assembly. Separate assemblies would be used for different types of construction. The unit of measure at the assembly level is the square footage of the supported area. Decks and slabs are not included in this assembly.
02	02	02	Area of walls	SF	STRUCTURAL INTERIOR WALLS Assemblies would be CIP or CMU walls or other structural interior walls. The assemblies would include the labor and material required to perform the construction tasks associated with the type of wall.
02	02	03	Area of supported roof	SF	ROOF DECKS AND SLABS Roof decks and slabs should be broken into assemblies according to their particular type of construction (i.e., flat slab, pan slab, pre-cast or prestressed slab, four-way slab, slabs on metal or wood decking with concrete fill, etc.). All associated work items should be included in each assembly.
02	02	04	Area of supported canopies	SF	CANOPIES Canopies should be broken into assemblies according to their particular type of construction (i.e., flat slab, pan slab, pre-cast or prestressed slab, four-way slab, slabs on metal or wood decking with concrete fill, etc.). All associated work items should be included in each assembly.
02	02	9X	Area of supported roof	SF	OTHER ROOF SYSTEMS Any type of special roof construction not included above would fall in this category. All associated work items would be included in the assembly.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
02	03		Number of flights	FLT	STAIR CONSTRUCTION All work items associated with interior and exterior stairs. A flight of stairs is considered to be all the treads and risers with landings required to travel from one floor to the next.
02	03	01	Total Vertical Linear Feet	VLF	INTERIOR STAIR STRUCTURE Assemblies include interior stairs. Handrails, finishes, and all associated work items are included in the assembly.
02	03	02	Total Vertical Linear Feet	VLF	EXTERIOR STAIR STRUCTURE Assemblies include exterior stairs which are in unheated spaces and exposed to the weather. Handrails, finishes, and all associated work items are included in the assembly.
02	03	9X		XX	OTHER STAIR CONSTRUCTION Stair construction not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
03			Area of exterior walls	SF	**EXTERIOR CLOSURE** This system consists of the exterior facing of the facility which includes all vertical and horizontal exterior closure features excluding roof (See System 04, Roof). Load bearing exterior walls will be included here and not in System 02, Superstructure. Structural frame elements at exterior such as columns, beams, spandrels, etc., would be included in Superstructure with only the applied exterior finishes (i.e., paint, stucco, etc.) being included here. Finishes to the inside face of walls which are not an integral part of the wall construction will be included in System 06, Interior Finishes.
03	01		Area of exterior walls	SF	EXTERIOR WALLS All material associated with exterior wall construction.
03	01	01	Area of exterior walls	SF	EXTERIOR SKIN Assemblies would include material contained in exterior closure wall. Materials used for interior finishes on exterior walls are not included in this assembly. For example, if the exterior skin is masonry with brick veneer and the interior side of this masonry wall is sheetrock applied on metal furring strips, the masonry wall is included in this assembly and the furring strips and sheetrock are categorized as Interior Skin 04 01 03.
03	01	02	Area of insulation	SF	INSULATION AND VAPOR BARRIER Assemblies include all types of insulation associated with the exterior wall. Rigid, batt and poured insulation should be separated into different assemblies.
03	01	03	Area of interior skins	SF	INTERIOR SKIN Assemblies include materials used to cover the interior side of exterior walls, i.e., paint, sheetrock, wood, or metal paneling, etc.
03	01	04	Lineal feet of parapets	LF	PARAPETS Assemblies include materials used in association with parapets. Parapets are low walls or railings usually along the edge of a roof or balcony.
03	01	05	Area of louvers and screens	SF	EXTERIOR LOUVERS AND SCREENS Assemblies include louvers and screens which are located in exterior walls. The unit of measure at the assembly
03	01	06	Area of sun control devices	SF	SUN CONTROL DEVICES (EXTERIOR) Assemblies include awnings, shades, and solar panels attached to exterior of building. A separate assembly should be used for each type of sun control device.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
03	01	07	Lineal feet of walls or handrails	LF	BALCONY WALLS AND HANDRAILS Assemblies would include materials associated with balcony walls and handrails.
03	01	08	Area of soffits	SF	EXTERIOR SOFFITS Assemblies would include all associated materials which make up the soffit and supports for the soffit. Typical materials would include wood, aluminum, exterior grade gypboard, stucco, etc.
03	01	09	Lineal feet of fence	LF	EXTERIOR FENCING Exterior fences used for security purposes immediately adjacent to the building such as fences at a loading dock or used instead of an exterior wall for a covered storage shed. Assemblies would include materials associated with all types of fencing. Note that perimeter fencing that is typically more than 5' from the building exterior is included in sitework rather than in this system.
03	01	9X		XX	OTHER EXTERIOR WALLS Exterior walls not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
03	02		Area of windows	SF	EXTERIOR WINDOWS All windows located in exterior walls or exterior skin.
03	02	01	Area of windows	SF	WINDOWS Fixed or operable windows located in exterior walls or exterior skin. Assemblies would include frames, glazing, caulking, and other associated work.
03	02	02	Area of storefronts	SF	STOREFRONTS Fixed storefronts including associated doors in exterior walls or exterior skin. Assemblies would include frames, glazing, caulking, and other associated work.
03	02	03	Area of curtain walls	SF	CURTAIN WALLS This applies to glass curtain walls and spandrel glass in exterior walls or exterior skin. Assemblies would include frames, glazing, caulking, and other associated work.
03	02	0X		XX	OTHER EXTERIOR WINDOWS Exterior windows not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
03	03		Number of doors	EA	EXTERIOR PERSONNEL DOORS All doors located in exterior walls or exterior skin.
03	03	01	Number of doors	EA	GLAZED DOORS Assemblies include all glazed exterior doors with glass, frames, hardware, locking devices, and thresholds.
03	03	02	Number of doors	EA	SOLID DOORS Assemblies include all exterior solid doors, hollow metal or wood with frames, hardware, locking devices, and door finish.
03	03	03	Number of doors	EA	REVOLVING DOORS Assemblies include all revolving doors at exterior of the facility.
03	03	9X		XX	OTHER EXTERIOR PERSONNEL DOORS Exterior personnel doors not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
03	04		Square feet of doors	SF	EXTERIOR SPECIALTY DOORS This includes overhead and special doors in exterior walls or exterior skin.
03	04	01	Square feet	SF	OVERHEAD AND ROLL-UP DOORS Overhead and roll-up doors installed in exterior walls or exterior skin. Assemblies include frames, hardware, hoisting devices, and finish and other associated work. The unit of measure at the assembly level is each door.
03	04	02	Square Feet	SF	HANGAR DOORS Large aircraft doors used on medium and high bay hangars. Assemblies would include frames, hardware, hoisting devices, and finish and other associated work. Unit of measure at the assembly level is square feet of door.
03	04	03	Square Feet	SF	BLAST RESISTANT DOORS Special exterior doors used for blast resistance. Assemblies would include frames, hardware, hoisting devices, and finish and other associated work.
03	04	04	Square Feet	SF	GATES Any special type gate used in the exterior wall or exterior skin of the building. Assemblies would include frames, hardware, hoisting devices, and finish and other associated work. The unit of measure at the assembly level is each gate.
03	04	9X	Square Feet	XX	OTHER SPECIAL DOORS Any special type door used in the exterior wall or exterior skin of the building. Assemblies would include frames, hardware, hoisting devices, and finish and other associated work. The unit of measure at the assembly level is each door, or square feet of special doors (i.e., hangar doors).

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
04			Gross area of roof	SF	**ROOFING**
04	01		Gross area of roof	SF	ROOFING This system includes all waterproof roof coverings and insulation, together with skylights, hatches, ventilators, and all required trim. In addition to roof coverings, the system includes all waterproof membranes and traffic toppings over below-grade enclosed areas, balconies, and the like.
04	01	01	Area of roof covering	SF	ROOF COVERINGS Assemblies for roof coverings are separate for different type coverings (i.e., shingle, wood shake, built-up, standing seam, elastomeric, etc.).
04	01	02	Area of topping or membrane	SF	TRAFFIC TOPPINGS AND PAVING MEMBRANES Assemblies could include any type of walkway or work area different from roof covering. These items are usually for the purpose of providing walkways and work areas for roof top equipment.
04	01	03	Area of insulation	SF	ROOF INSULATION AND FILL Assemblies include all types of insulation associated with the roof area.
04	01	04	Area of flashings	SF	FLASHINGS AND TRIM Assemblies include all flashings associated with the roof, i.e., eave flashing, gable flashing, expansion joint covers, parapet flashing, etc. The unit of measure at the assembly level is lineal feet.
04	01	05	Area of openings	SF	ROOFING OPENINGS & SUPPORTS All roof penetrations including roof hatches, skylights, ventilators, etc. The unit of measure at the assembly level is each.
04	01	06	Length of gutters and downspouts	LF	GUTTERS AND DOWNSPOUTS Assemblies include all gutters, downspouts, and associated work including splash blocks.
04	01	9X		XX	OTHER ROOFING Roofing not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
05			Gross floor area	SF	**INTERIOR CONSTRUCTION** Construction which takes place inside the exterior wall or exterior skin. The system does not include interior structural walls, which are included in System 02, Superstructure.
05	01		Area of partitions	SF	PARTITIONS Includes all interior partitions.
05	01	01	Area of fixed partition walls	SF	FIXED PARTITIONS Interior fixed partitions include metal or wood studs, sheetrock, masonry, and concrete walls.
05	01	02	Area of demountable partition walls	SF	DEMOUNTABLE PARTITIONS Assemblies would include all demountable partitions and associated work including tracks and anchoring systems.
05	01	03	Area of retractable partitions	SF	RETRACTABLE PARTITIONS Assemblies would include all retractable or folding partitions and associated work including tracks and anchoring systems.
05	01	04	Lineal feet of balustrades and screens	LF	INTERIOR BALUSTRADES AND SCREENS Assemblies include balustrades (handrails and the row of posts that support them) and screens and associated work including tracks and anchoring systems.
05	01	05	Area of Windows	SF	INTERIOR WINDOWS Fixed or operable windows. Assemblies include frames, glazing, caulking, and other associated work.
05	01	06	Area of partitions and storefronts	SF	GLAZED PARTITIONS AND STOREFRONTS Fixed interior glazed partitions including interior storefronts with doors. Assemblies include frames, glazing, caulking, and other associated work.
05	01	XX		XX	OTHER PARTITIONS Interior partitions not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
05	02		Number of leaves	LEF	INTERIOR PERSONNEL DOORS All interior doors.
05	02	01	Number of leaves	LEF	STANDARD INTERIOR DOORS Assemblies include all standard interior doors wood or hollow metal with frames, hardware, locks, finish, etc.
05	02	02	Number of leaves	LEF	GLAZED INTERIOR DOORS Assemblies include all glazed interior doors with glass, frames, hardware, and locking devices.
05	02	03	Number of leaves	LEF	FIRE DOORS Assemblies include all interior fire doors (B label), including all necessary frames, hardware, closing devices, and alarms associated with door.
05	02	04	Area of sliding or folding door	SF	SLIDING AND FOLDING DOORS Assemblies include all sliding and folding doors with frames, hardware, locking devices, tracks, and supporting systems. The unit of measure at the assembly level is each.
05	02	9X		XX	OTHER INTERIOR PERSONNEL DOORS Interior personnel doors not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
05	03		Square feet of doors	SF	INTERIOR SPECIALTY DOORS Includes all interior overhead and special doors.
05	03	01	Square feet of doors	SF	OVERHEAD DOORS Overhead doors installed in the interior of a facility. Assemblies include frames, hardware, hoisting devices, and finish and other associated work. The unit of measure at the assembly level is each door.
05	03	02	Square feet of gates	SF	GATES Any special type gate installed in the interior of a facility. Assemblies include frames, hardware, hoisting devices, and finish and other associated work. The unit of measure at the assembly level is each gate.
05	03	9X	Square feet of door	XX	OTHER SPECIAL DOORS Any special type door installed in the interior of a facility. Assemblies include frames, hardware, hoisting devices, and finish and other associated work. The unit of measure at the assembly level is each door.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
05	04		Gross floor area	SF	INTERIOR SPECIALTIES Most commonly used specialty items.
05	04	01	Number of compartments, cubicles, or toilet partitions	EA	COMPARTMENTS, CUBICLES, AND TOILET PARTITIONS Assemblies include individual compartments, cubicles, toilet partitions, and urinal screens
05	04	02	Number of accessories	EA	TOILET AND BATH ACCESSORIES Toilet and bath accessories. For example, soap dispensers, paper holder, towel receptacles, grab bags, bathroom mirrors, etc.
05	04	03	Area of boards	SF	CHALKBOARDS AND TACK BOARDS Assemblies include all chalkboards, tack boards, and fastening devices. The unit of measurement at the assembly level is each.
05	04	04	Number of identifying devices	EA	IDENTIFYING DEVICES Assemblies would include all signs, plaques, traffic markers, etc. Items are placed in assemblies.
05	04	05	Number of lockers	EA	LOCKERS Assemblies include all types of lockers, either wood or metal, single or double tier. Special bases used for lockers would be included in this assembly.
05	04	06	Lineal feet of shelving	LF	SHELVING Assemblies include all types of shelving with brackets and all supporting materials and finish, if required.
05	04	07	Number of fire extinguisher cabinets	EA	FIRE EXTINGUISHER CABINETS The assembly would include all types and sizes of fire extinguisher cabinets. Fire extinguishers are not included in this assembly; they are included in 10 04.
05	04	9X	Number of specialty items	XX	OTHER INTERIOR SPECIALTIES Interior specialties not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
05	05		Gross floor area by FSA	SF	CASEWORK Casework items that are permanently fixed in-place.
05	05	01	Lineal feet of counters	LF	COUNTERS Assemblies include all counters and counter tops with all necessary brackets and supporting materials and finish, if required.
05	05	02	Lineal feet of cabinets	LF	CABINETS Assemblies include all cabinetry and millwork items with associated accessories and anchoring devices. Cabinet finish is included in this assembly. Metal cabinets should be a separate assembly from wood cabinets or millwork.
05	05	03	Lineal feet of closets	LF	CLOSETS The assembly includes all built-in closets with all associated work and finishes. These closets are millwork items or prefabricated, i.e., prefabricated cost closets for schools and dormitories.
05	05	9X	Lineal feet of miscellaneous cabinetwork	XX	OTHER CASEWORK Assemblies would include built-in cabinetwork not covered above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
06	02		Area of finished floors	SF	FLOORING AND FLOOR FINISHES All flooring and floor finishes applied to interior floors.
06	02	01	Area of tile floors	SF	TILE FLOOR FINISHES Assemblies include ceramic, quarry, and other non-resilient tile floors.
06	02	02	Area of terrazzo floors	SF	TERRAZZO FLOOR FINISHES Assemblies include terrazzo floors.
06	02	03	Area of wood flooring	SF	WOOD FLOORING Assemblies include wood floors.
06	02	04	Area of resilient flooring	SF	RESILIENT FLOORING Assemblies include resilient floors.
06	02	05	Area of carpeting	SY	CARPETING Assemblies include carpet floors. The unit of measure at the assembly level is square feet.
06	02	06	Area of masonry or stone flooring	SF	MASONRY AND STONE FLOORING Assemblies include masonry and stone flooring.
06	02	07	Area of special flooring	SF	ACCESS FLOORING Assemblies include all types of raised flooring, pedestal access floors and other types of access.
06	02	08	Area of painted and stained floors	SF	PAINTING AND STAINING FLOORS Assemblies include painting and staining of floor surfaces.
06	02	9X	Area of other floor finishes	XX	OTHER FLOOR FINISHES Floor finishes not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
06	03		Area of ceilings	SF	CEILING AND CEILING FINISHES All ceilings and ceiling finishes applied to interiors.
06	03	01	Area of exposed concrete finish	SF	EXPOSED CONCRETE FINISHES Assemblies include concrete finishes applied to interior ceilings. This assembly does not include items that directly apply to wall finishes covered elsewhere in this subsystem.
06	03	02	Area of plaster ceiling finish	SF	PLASTER CEILING FINISHES Assemblies include plaster or stucco finish applied directly to an interior ceiling. Lath and associated work would apply to this assembly. This assembly does not include items that directly apply to wall finishes covered elsewhere in this subsystem.
06	03	03	Area of gypsum ceilings	SF	GYPSUM WALLBOARD CEILING FINISHES Assemblies include gypsum wallboard applied directly to an interior ceiling. Furring strips or channels are included in this assembly if they are applied directly to the ceiling surface. If the gypsum board is applied to a suspended ceiling system, the suspended system would be in Assembly Category 06 03 07. This assembly does not include items that directly apply to wall finishes covered elsewhere in this subsystem.
06	03	04	Area of acoustical ceilings	SF	ACOUSTICAL CEILING TILES AND PANELS Assemblies include acoustical ceiling tiles and panels. The suspension system, if required, is in Assembly Category 06 03 07. This assembly does not include items that directly apply to wall finishes covered elsewhere in this subsystem.
06	03	05	Area of wood ceiling	SF	WOOD CEILINGS Assemblies include wood ceilings. Different types of wood ceilings should be separated into different assemblies. Suspension systems for wood ceilings are not included in this assembly. This assembly does not include items that directly apply to wall finishes covered elsewhere in this subsystem.
06	03	06	Area of painted or stained ceilings	SF	PAINTING AND STAINING CEILINGS Assemblies include painting and staining of finished interior ceiling surfaces.
06	03	07	Area of suspension system	SF	SUSPENSION SYSTEMS This assembly includes any suspension system which is suspended or hung from the structure for the purpose of fastening a ceiling.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
06	03	08	Area of metal ceiling	SF	METAL STRIP CEILINGS Assemblies include all metal strip materials applied to ceilings.
06	03	9X	Area of special ceilings	XX	OTHER SPECIAL CEILINGS & CEILING FINISHES Special ceilings and ceiling finishes not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
07			Number of stories	STY	**CONVEYING SYSTEMS** This system includes elevators, escalators, pneumatic tube systems, conveyors, chutes, etc. Foundations for these systems are included in System 01, Substructure.
07	01		Number of stops	STP	ELEVATORS
07	01	01	Number of items	EA	GENERAL CONSTRUCTION ITEMS Includes construction work, other than conveying system work, which must be performed in conjunction with this type of work to complete the system.
07	01	02	Number of stops	STP	PASSENGER ELEVATORS The unit of measure at the assembly level is each stop.
07	01	03	Number of stops	STP	FREIGHT ELEVATORS The unit of measure at the assembly level is each stop.
07	01	9X		XX	OTHER ELEVATORS Elevators not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
07	02		Lineal feet of stairs or walks	LF	MOVING STAIRS AND WALKS The lineal feet of stair or walk is calculated by the length of moving stair or walk plus lift (vertical floor-to-floor height) of escalators. The unit of measure at the assembly level is lineal feet.
07	02	01	Lineal feet of stairs	LF	MOVING STAIRS The unit of measure at the assembly level is lineal feet.
07	02	02	Lineal feet of walks	LF	MOVING WALKS The unit of measure at the assembly level is lineal feet.
07	02	9X		XX	OTHER MOVING STAIRS AND WALKS Moving stairs and walks not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
07	03		Each material handling system	EA	MATERIAL HANDLING SYSTEMS
07	03	01	Each material handling system	EA	CONVEYOR BELT The unit of measure at the assembly level is linear feet.
07	03	02	Each crane	EA	OVERHEAD CRANES
07	03	03	Each lift	EA	LIFTS
07	03	04	Number of stops	STP	DUMBWAITERS The unit of measure at the assembly level is each stop.
07	03	05	Linear feet	LF	CHUTES
07	03	06	Number of systems	EA	PNEUMATIC TUBE SYSTEMS The unit of measure at the assembly level is linear feet.
07	03	9X		XX	OTHER MATERIAL HANDLING SYSTEMS Material handling systems not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
08			Number of fixtures	EA	**PLUMBING** The plumbing system's primary function is the transfer of liquids and gases. This system includes all water supply and waste items within the building.
08	01		Number of fixtures	EA	PLUMBING FIXTURES All terminal devices on the domestic plumbing system which have water supplied to the fixture. Hot water heaters, hose bibbs, and special equipment are not counted as a fixture.
08	01	01	Number of fixtures	EA	WATERCLOSETS
08	01	02	Number of fixtures	EA	URINALS
08	01	03	Number of fixtures	EA	LAVATORIES
08	01	04	Number of fixtures	EA	SINKS
08	01	05	Number of fixtures	EA	SHOWERS/TUBS
08	01	06	Number of fixtures	EA	DRINKING FOUNTAINS AND COOLERS
08	01	9X	Number of fixtures	XX	OTHER FIXTURES Fixtures not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
08	02		Number of fixtures	EA	DOMESTIC WATER SUPPLY This system provides for human health and comfort. The water supply needed is determined by the number of fixtures attached. Hot water heaters, hose bibbs, and special equipment are not counted as a fixture.
08	02	01	Number of fixtures	EA	PIPES AND FITTINGS Assemblies include all pipe, fittings, and associated work with regard to domestic water supply. The unit of measure at the assembly level is number of fixtures.
08	02	02	Number of valves and hydrants	EA	VALVES AND HYDRANTS Assemblies include all valves and hydrants. Hose bibbs are included in this assembly. The unit of measure at the assembly level is number of valves and hydrants.
08	02	04	Number of fixtures	EA	INSULATION & IDENTIFICATION Assemblies include insulation used in association with domestic water supply. The unit of measure at the assembly level is number of fixtures.
08	02	05	Places of equipment	EA	SPECIALTIES Any other specialty items associated with domestic water supply. All associated work items, including pipes, fittings, valves, insulation, and hook-up should be included in this assembly. The unit of measure at the assembly level is places of special equipment.
08	02	9X		XX	OTHER DOMESTIC WATER SUPPLY Domestic water supply not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
08	03		Number of fixtures	EA	SANITARY WASTE AND VENT SYSTEM This system provides for human health and comfort. Fixtures include all terminal devices which have a water supply (except water supply equipment and specialties) and also devices that transfer fluids into the sanitary waste system that do not have a water supply. Floor drains (not hub drains) are included as a sanitary waste fixture.
08	03	01	Number of fixtures	EA	WASTE PIPE AND FITTINGS Assemblies include all pipe, fittings, and associated work with regard to sanitary waste pipe and fittings. The unit of measure at the assembly level is number of fixtures.
08	03	02	Number of fixtures	EA	VENT PIPE AND FITTINGS Assemblies include all pipe, fittings, and associated work with regard to sanitary vent pipe and fittings. The unit of measure at the assembly level is number of fixtures.
08	03	03	Number of drains	EA	FLOOR DRAINS Assemblies include all floor drains. Hub drains are considered to be pipe and are not included in this assembly. The unit of measure at the assembly level is number of drains.
08	03	04	Number of fixtures	EA	INSULATION & IDENTIFICATION Assemblies include insulation used in association with sanitary waste and vent system. The unit of measure at the assembly level is number of fixtures.
08	03	0X		XX	OTHER SANITARY WASTE & VENT Sanitary waste and vent not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
08	04		Area of roof	SF	RAINWATER DRAINAGE SYSTEM Roof drainage system. Gutter and downspouts are not included in this subsystem.
08	04	01	Lineal feet of pipe	LF	PIPE AND FITTINGS Assemblies include pipe and fittings from the roof drains to the discharge points, including supports and other associated work. The unit of measure at the assembly level is lineal feet of pipe.
08	04	02	Number of roof drains	EA	ROOF DRAINS Assemblies include roof drains. The unit of measure at the assembly level is number of drains.
08	04	03	Lineal feet of pipe insulation	LF	INSULATION & IDENTIFICATION Assemblies include insulation used in association with rainwater drainage syste . The unit of measure at the assembly level is lineal feet of pipe insulation.
08	04	0X		XX	OTHER RAINWATER DRAINAGE SYSTEM Rainwater drainage system not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
08	05			EA	PLUMBING EQUIPMENT
08	05	01	Pieces of equipment	EA	DOMESTIC WATER EQUIPMENT This is equipment associated with the domestic water supply, including fittings and specialties required for hook-up. Assemblies include hot water heaters; water treatment equipment, i.e., water softeners, filters, distillers, etc.; pumps directly associated with domestic water supply; and tanks for the potable hot or cold water system. The unit of measure at the assembly level is pieces of equipment.
08	05	02	Pieces of equipment	EA	SANITARY AND VENT EQUIPMENT This is equipment associated with the sanitary waste system, including fittings and specialties required for hook-up. Assemblies include waste treatment equipment, i.e., comminuters, sluice gates, incinerators, etc.; pumps for sewage ejection; and holding tanks for the domestic waste system. The unit of measure at the assembly level is pieces of equipment.
08	05	03	Pieces of equipment	EA	RAINWATER DRAINAGE EQUIPMENT This is equipment associated with rainwater drainage, including all fittings and specialties required for hook-up. Assemblies would include pumps and other associated items for drainage of rainwater.
08	05	9X	Number of special fixtures	XX	OTHER SPECIAL PLUMBING EQUIPMENT Special plumbing equipment not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09	06		MBH	MBH	CONTROLS AND INSTRUMENTATION Includes devices such as thermostats, timers, sensors, control valves, etc., necessary to operate the system as designed.
09	06	01	Tons	EA	HVAC CONTROLS Includes devices such as thermostats, timers, sensors, control valves, etc., necessary to operate the total system. The unit of measure at the assembly level is each system.
09	06	02	Number of panels	EA	INSTRUMENT PANELS Assemblies include all devices that indicate system condition or status, including on/off devices. The unit of measure at the assembly level is each.
09	06	03	Number of compressors	EA	INSTRUMENT AIR COMPRESSORS Assemblies include air compressors, dryers, and distribution tubing (only used with pneumatic control systems). The unit of measure at the assembly level is each.
09	06	04	Number of systems	EA	GAS PURGING SYSTEMS Assemblies include the removal of contaminated or unwanted gases from a structure or pipe.
09	06	9X		XX	OTHER CONTROLS AND INSTRUMENTATION Controls and instrumentation not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
10	04		Number of extinguishers	EA	FIRE EXTINGUISHERS This subsystem includes fire extinguishing devices.
10	04	01	Number of extinguishers	EA	FIRE EXTINGUISHING DEVICES Assemblies include all types of fire extinguishers, i.e., water, dry chemical, carbon dioxide, soda acid, etc. The brackets, sleeves, and supporting devices are included in this assembly.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
08	06		Number of special fixtures, interceptors, or outlets	EA	SPECIAL PLUMBING SYSTEMS This subsystem includes all special plumbing systems which are not included in 08 01 through 08 05.
08	06	01	Number of special fixtures, interceptors, outlets, or systems	EA	SPECIAL PIPING SYSTEMS Assemblies include all special pipe and fittings, excluding acid waste pipe and fitting, and associated work with regard to special pipe. Medical gas and vacuum systems piping are included in this category. The unit of measure at the assembly level is number of special fixtures, interceptors, outlets, or systems.
08	06	02	Number of special fixtures, interceptors, outlets, or systems	EA	ACID WASTE SYSTEMS Assemblies include all pipe, fittings, special acid waste equipment, and other associated work items with regard to acid waste systems. The unit of measure at the assembly level is number of fixtures, interceptors, outlets, or systems.
08	06	03	Number of interceptors	EA	INTERCEPTORS Assemblies include all interceptors. The unit of measure at the assembly level is number of interceptors.
08	06	04	Gallons per minute	GPM	POOL EQUIPMENT Assemblies include pumps and equipment associated with pools, including specialties required for hook-up. The unit of measure at the assembly level is each.
08	06	9X		XX	OTHER SPECIAL PLUMBING SYSTEMS Special plumbing systems not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09			Total MBH capacity of 09 02 and 09 03	MBH	**HVAC** This system includes all equipment, distribution systems, controls, and energy supply systems required by the heating, ventilating, and air conditioning system.
09	01		Total MBH of heating system	MBH	ENERGY SUPPLY The energy input to the facility (other than electrical) in the form of fuels or hot and cold water distributed from a central base facility. Energy received from wind or solar power is included in this subsystem.
09	01	01	Calories per gallon	MBH	OIL SUPPLY SYSTEM Assemblies include storage equipment, transfer equipment, and distribution piping. The unit of measure at the assembly level is each system.
09	01	02	MBH	MBH	GAS SUPPLY SYSTEM This category includes both natural gas and LPG. Assemblies include metering and regulation equipment, storage equipment, transfer equipment, and distribution piping. The unit of measure at the assembly level is each system.
09	01	03	MBH	MBH	COAL SUPPLY SYSTEM Assemblies include storage equipment, transfer equipment, processing equipment, and the distribution system. The unit of measure at the assembly level is each system.
09	01	04	MBH	MBH	STEAM SUPPLY SYSTEM (FROM CENTRAL PLANT) Assemblies include meters, valves, heat exchangers, fittings, and specialties required for hook-up, and distribution piping, including supports, sleeves, and insulation. The unit of measure at the assembly level is each system.
09	01	05	MBH	MBH	HOT WATER SUPPLY SYSTEM (FROM CENTRAL PLANT) Assemblies include meters, valves, heat exchangers, fittings, and specialties required for hook-up, and distribution piping, including supports, sleeves, and insulation. The unit of measure at the assembly level is each system.
09	01	06	MBH	MBH	SOLAR SYSTEMS Assemblies include collector panels, heat exchangers, storage tanks, pumps, etc., including pipe and fittings required for hook-up. The unit of measure at the assembly level is each system.
09	01	07	MBH	MBH	WIND ENERGY SUPPLY SYSTEM Wind is used to turn a generator which generates electricity. This energy is either stored in a battery or used to generate hot water in an electric boiler. Assemblies would include the required devices to make this a total electromechanical system. The unit of measure at the assembly level is each system.
09	01	9X		XX	OTHER ENERGY SUPPLY Energy supply not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09	02		Total MBH of heating system	MBH	HEAT GENERATING SYSTEMS This subsystem includes steam, hot water, furnace, and unit heater systems. Fuels include coal, oil, gas and electric unless otherwise noted.
09	02	01	MBH	MBH	STEAM BOILERS Assemblies include boilers, expansion tanks, chemical feeders, air separators, pumps, heat exchangers, boiler feed units, etc. This assembly would also include fittings and specialties and the flue stack. The unit of measure at the assembly level is each.
09	02	02	MBH	MBH	HOT WATER BOILERS Assemblies include boilers, expansion tanks, chemical feeders, air separators, pumps, heat exchangers, boiler feed units, etc. This assembly would also include fittings and specialties and the flue stack. The unit of measure at the assembly level is each.
09	02	03	MBH	MBH	FURNACES This is a system that heats air. Assemblies would include furnace and necessary fittings and specialties required for hook-up, including flue and stack. The unit of measure at the assembly level is each.
09	02	04	MBH	MBH	FUEL FIRED UNIT HEATERS Assemblies would include unit heaters and the energy supply system hook-up (other than electrical) with all necessary pipe, fittings, and specialties required for hook-up. Flue and stack, if required, are included in this assembly. The unit of measure at the assembly level is each.
09	02	05	MBH	MBH	AUXILIARY EQUIPMENT Assemblies would include any other equipment associated with heat generating systems. The unit of measurement at the assembly level is each.
09	02	06	SF of insulation	SF	EQUIPMENT THERMAL INSULATION Assemblies include insulation of any component in this subsystem. The unit of measure at the assembly level is each
09	02	9X		XX	OTHER HEAT GENERATING SYSTEMS Heat generating systems not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09	03		Total tonnage of cooling capacity	TON	COOLING GENERATING SYSTEMS Cooling generating equipment of the absorption, centrifugal, reciprocating, and direct expansion types.
09	03	01	Tons	TON	CHILLED WATER SYSTEMS Assemblies include condensers, compressors, chillers, pumps, cooling towers, etc., including fittings and specialties required for hook-up. The unit of measure at the assembly level is each.
09	03	02	Tons	TON	DIRECT EXPANSION SYSTEMS Assemblies include condensers, compressors, heat pumps, and refrigerant piping. The unit of measure at the assembly level is each.
09	03	9X		XX	OTHER COOLING GENERATING SYSTEMS Cooling generating systems not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09	04		MBH	MBH	DISTRIBUTION SYSTEMS This includes systems that distribute heated and cooled air, ventilating and exhaust air, hot and chilled water, steam, and glycol heating.
09	04	01	MCFM	MCF	AIR DISTRIBUTION, COOLING, AND HEATING Assemblies include air handling units, heating coils, cooling coils, and fittings and specialties required for water hook-up. This assembly also includes duct heaters, filters, humidifiers, supply and return duct work, dampers, fire dampers, supply and return grilles, registers and diffusers, turning vanes, sound traps, and all associated insulation. The unit of measure at the assembly level is MCFM.
09	04	02	MBH	MBH	STEAM DISTRIBUTION SYSTEMS Assemblies include pipe and fitting, including supports, wall and floor sleeves, and pipe insulation. The unit of measure at the assembly level is MBH.
09	04	03	MBH	MBH	HOT WATER DISTRIBUTION SYSTEMS Assemblies include pipe and fitting, including supports, wall and floor sleeves, and pipe insulation. The unit of measure at the assembly level is MBH.
09	04	04	MBH	MBH	CHANGE OVER DISTRIBUTION SYSTEMS
09	04	05	MBH	MBH	GLYCOL DISTRIBUTION SYSTEMS Assemblies include pipe and fitting, including supports, wall and floor sleeves, and pipe insulation. The unit of measure at the assembly level is MBH.
09	04	06	Tons	TON	CHILLED WATER DISTRIBUTION SYSTEMS Assemblies include pipe and fitting, including supports, wall and floor sleeves, and pipe insulation. The unit of measure at the assembly level is tons.
09	04	07	MCFM	MCF	EXHAUST SYSTEMS Assemblies include duct work, grilles, registers, diffusers, fans, and all associated work. The unit of measure at the assembly level is each system.
09	04	9X		XX	OTHER DISTRIBUTION SYSTEMS Distribution systems not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09	05		MBH	MBH	TERMINAL AND PACKAGE UNITS This category includes self-contained heating and cooling units.
09	05	01	Number of units	EA	UNIT VENTILATORS Assemblies include the complete terminal unit and wall sleeve with all controls.
09	05	02	Number of units	EA	UNIT HEATERS Assemblies include the complete terminal unit and wall sleeve with all controls.
09	05	03	Number of units	EA	FAN COIL UNITS Assemblies include the complete terminal unit and wall sleeve with all controls.
09	05	04	Number of units	EA	FIN TUBE RADIATION Assemblies include the complete terminal unit and wall sleeve with all controls.
09	05	05	Number of units	EA	ELECTRIC HEATING Assemblies include the complete terminal unit and wall sleeve with all controls.
09	05	06	Number of units	EA	PACKAGE UNITS Assemblies include complete package units, with integral roof top curbs and all associated devices. Heating system can be selected from hot water, steam coil, or gas furnace and can be a single- or multi-zone system. The unit of measure at the assembly level is each.
09	05	0X		XX	OTHER TERMINAL AND PACKAGE UNITS Terminal and package units not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09	06		MBH	MBH	CONTROLS AND INSTRUMENTATION Includes devices such as thermostats, timers, sensors, control valves, etc., necessary to operate the system as designed.
09	06	01	Tons	EA	HVAC CONTROLS Includes devices such as thermostats, timers, sensors, control valves, etc., necessary to operate the total system. The unit of measure at the assembly level is each system.
09	06	02	Number of panels	EA	INSTRUMENT PANELS Assemblies include all devices that indicate system condition or status, including on/off devices. The unit of measure at the assembly level is each.
09	06	03	Number of compressors	EA	INSTRUMENT AIR COMPRESSORS Assemblies include air compressors, dryers, and distribution tubing (only used with pneumatic control systems). The unit of measure at the assembly level is each.
09	06	04	Number of systems	EA	GAS PURGING SYSTEMS Assemblies include the removal of contaminated or unwanted gases from a structure or pipe.
09	06	9X		XX	OTHER CONTROLS AND INSTRUMENTATION Controls and instrumentation not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09	07		MBH	MBH	SYSTEMS TESTING AND BALANCING This includes operation of all systems to determine capacity and adjustment of water flow in chilled water and hot water systems, air flow of air handling units, supply and exhaust fans and supply, and return and exhaust registers.
09	07	01	Number of devices	EA	WATER SIDE TESTING AND BALANCING - HEATING AND COOLING Includes operating and testing of pumps, setting of all flow control valves, and determining system capacity. The unit of measure at the assembly level is each device, ie. boiler, chiller, fan coil, unit heater.
09	07	02	Number of devices	EA	AIR SIDE TESTING AND BALANCING - HEATING, COOLING AND EXHAUST SYSTEMS Includes operating and testing of all air handling devices, adjusting of all fans to set rate of air flow, setting all fan motors at desired operation, setting of air flow at all registers, grilles, diffusers, and louvers to deliver design CFM, and testing and calibrating of thermostats to achieve desired space temperature. The unit of measure at the assembly level is each device.
09	07	03	Lump Sum	LS	HVAC COMMISSIONING Final testing of operational system.
09	07	9X		XX	OTHER SYSTEMS TESTING AND BALANCING Systems testing and balancing not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
09	08		Number of Special Mechanical Systems	EA	SPECIAL MECHANICAL SYSTEMS This subsystem includes special mechanical systems that are not normally included as part of standard HVAC systems.
09	08	01	Area of special system	SF	GENERAL CONSTRUCTION ITEMS (MECHANICAL) Includes construction work other than mechanical which must be performed in conjunction with the special mechanical system to make the system complete.
09	08	02	Tons of refrigeration	TON	REFRIGERATION SYSTEMS Includes equipment for refrigeration in a cold storage facility. Both low and medium temperature equipment are included. Assemblies include: Condensing and compressor units, evaporator blowers, refrigerant piping and specialties, heat recovery systems (liquid or gas), heat recovery distribution systems (liquid or gas), and system testing and balancing.
09	08	9X	Area of special system	XX	OTHER SPECIAL MECHANICAL Any other mechanical system not defined in other categories. Assemblies would include special systems and special devices. The unit of measure at the assembly level is each system or device.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
10			Gross floor area	SF	**FIRE PROTECTION SYSTEMS** This system includes standard and special fire protection systems. Fire alarm systems are included in 12 01 01.
10	01		Number of sprinkler heads	EA	WATER SUPPLY (FIRE PROTECTION) This subsystem includes the water supply equipment and related piping from the equipment to the sprinkler head.
10	01	01	Number of sprinkler heads	EA	WATER SUPPLY EQUIPMENT AND PIPING Assemblies include alarm valves, flow control valves, pipe and fittings from equipment to sprinkler heads, including all supports and wall or floor sleeves. All equipment including tanks, pumps, and other associated equipment, fittings, and specialties required for hook-up are in this assembly. The unit of measure at the assembly level is each sprinkler head.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
10	02		Number of sprinkler heads	EA	SPRINKLERS This subsystem includes sprinkler heads and release devices.
10	02	01	Number of sprinkler heads	EA	SPRINKLER HEADS AND RELEASE DEVICES The fixture, device, or sprinkler head that releases the water to suppress the fire. The unit of measure at the assembly level is each sprinkler head.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
10	03		Number of sprinkler heads	EA	STANDPIPE SYSTEMS This subsystem includes the complete standpipe system.
10	03	01	Number of sprinkler heads	EA	STANDPIPE EQUIPMENT AND PIPING Assemblies include standpipe risers and all other piping, fittings, and supports associated with this category. Siamese connections, roof manifolds, cabinets, hoses, racks, and other fire department connections are included in this assembly. All equipment including pumps, tanks, etc. with all required fittings and specialties for hook-up are in this assembly.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
10	04		Number of extinguishers	EA	FIRE EXTINGUISHERS This subsystem includes fire extinguishing devices.
10	04	01	Number of extinguishers	EA	FIRE EXTINGUISHING DEVICES Assemblies include all types of fire extinguishers, i.e., water, dry chemical, carbon dioxide, soda acid, etc. The brackets, sleeves, and supporting devices are included in this assembly.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
10	05		Each system	EA	SPECIAL FIRE PROTECTION SYSTEMS This subsystem includes other fire protection systems.
10	05	01	Each system	EA	OTHER SPECIAL FIRE PROTECTION SYSTEMS Assemblies include other fire protection systems such as halon systems, exhaust hood systems, and special chemical suppression systems.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
11			Gross floor area	AMP	**ELECTRIC POWER AND LIGHTING** This system is defined by the electric current used or regarded as a source of power.
11	0		Gross floor area	AMP	SERVICE AND DISTRIBUTION This subsystem provides for all electrical devices that are required to deliver the main source of power to the facility and to distribute this power to subpanels.
11	01	01	Number of transformers	AMP	MAIN TRANSFORMERS Overhead or underground transformers used for primary electrical service. Assemblies include transformers, pad, trenching, and backfill. only if included in bldg.
11	01	02	Gross floor area	AMP	SECONDARY Transformers fed from protection equipment on the building side of primary transformer. Assemblies include transformers, conduit, conduit support, and wire.
11	01	03	Gross floor area	AMP	MAIN SWITCHBOARDS This includes the protection equipment and metering devices for main distribution. Assemblies include main distribution panel, breaker, fuses, and meters.
11	01	04	Gross floor area	AMP	INTERIOR DISTRIBUTION TRANSFORMERS This includes the interior step-down or buck boost transformers.
11	01	05	Gross floor area	AMP	PANELS Branch circuit panelboards. Assemblies include panelboard, breakers, conduit, and wire.
11	01	06	Gross floor area	AMP	ENCLOSED CIRCUIT BREAKERS Over current protection device enclosed in its own housing. Assemblies include enclosed circuit breaker, conduit, and wire.
11	01	07	Gross floor area	AMP	MOTOR CONTROL CENTERS This is a cabinet in which motor starters and operation devices are contained. Assemblies include the motor control center cabinet, motor starters, contacts, switches, conduit, wire, and all associated items.
11	01	9X		XX	OTHER SERVICE AND DISTRIBUTION Service and distribution not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
11	02		Floor area	SF	LIGHTING AND BRANCH WIRING Lighting systems including light fixtures and devices, i.e., switches, receptacles, and equipment connections.
11	02	01	Floor area	EA	BRANCH WIRING This assembly includes switches, receptacles, equipment connections, conduit, and wire.
11	02	02	Floor area	EA	LIGHTING EQUIPMENT This assembly includes fixtures, conduit wire, and switching devices.
11	02	9X		XX	OTHER LIGHTING AND BRANCH WIRING Lighting and branch wiring not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
12			Gross floor area	SF	**ELECTRICAL SYSTEMS** Electrical systems which are not provided for in System 11.
12	01		Gross floor area	SF	COMMUNICATION, SECURITY AND ALARM SYSTEMS This subsystem includes provisions for communication devices and alarm protection systems.
12	01	01	Number of outlets	EA	FIRE ALARM SYSTEMS Assemblies include wire, conduit, conduit support or fastening systems, fire alarm devices, fire detection devices, safety switches, all electrical connections, and other associated items.
12	01	02	Number of outlets	EA	NURSE CALL SYSTEMS Assemblies include conduit, wire, speakers, monitoring devices, amplifiers, switches, power system tie-in devices, and detection devices.
12	01	03	Number of outlets	EA	TELEPHONE SYSTEMS This system would include central switchboards, telephone sets, underground ducts, and manholes. Assemblies include conduit, wire, backboards, cabinets, outlets, and power supply connections.
12	01	04	Gross floor area	SF	PUBLIC ADDRESS SYSTEMS Assemblies include conduit, wire, speakers, monitoring devices, amplifiers, switches, power system tie-in devices, and detection devices.
12	01	05	Number of stations	EA	INTERCOMMUNICATIONS SYSTEMS Assemblies include conduit, wire, speakers, monitoring devices, amplifiers, switches, power system tie-in devices, and detection devices.
12	01	06	Number of clocks	EA	CLOCK AND PROGRAM SYSTEMS Assemblies include conduit, wire, power systems tie-in, safety switches, control panels, battery back-up devices, clocks, and outlets.
12	01	07	Number of outlets	EA	TELEVISION SYSTEMS Assemblies include wire, conduit, grounding, amplifiers, receivers, video equipment, and outlets grouped according to use.
12	01	08	Number of system control points	EA	SECURITY SYSTEMS Assemblies include wire, conduit, conduit support or fastening systems, security alarm devices, all electrical connections, and other associated items. Intrusion detection systems are included in this category.
12	01	9X		XX	OTHER COMMUNICATIONS AND ALARM SYSTEMS Communications and alarm systems not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
12	02		Gross floor area	SF	SPECIAL ELECTRICAL SYSTEMS Systems not described in subsystem 12 01.
12	02	01	Gross floor area	EA	GENERAL CONSTRUCTION ITEMS (ELECTRICAL) Includes construction work other than electrical which must be performed in conjunction with the special electrical system to make the system complete.
12	02	02	Gross floor area	EA	EMERGENCY LIGHTING AND POWER Assemblies include fixtures, motors used for power generation, connection, and testing, transfer switches, conduit, wire, battery chargers, batteries, and solar panels.
12	02	03	Gross floor area	SF	GROUNDING SYSTEMS This includes grounding protection systems.
12	02	04	Gross Floor Area	EA	LIGHTNING PROTECTION Assemblies include lightning protection devices (air terminals, mounting devices), clamps, ground rods, cadwells, conductors, trenching, backfield, and any other items used to ground metal structural frames with conduit and wire.
12	02	05	Gross floor area	SF	ELECTRIC HEATING Items could include baseboard heaters and wall and ceiling heaters. Assemblies include safety switches, control devices, heaters, conduit, and wire.
12	02	06	Gross floor area	PTS	ENERGY MANAGEMENT CONTROL SYSTEMS Assemblies include wire, conduit, conduit support or fastening systems, sensor devices, and all electrical connections.
12	0L	9X		XX	OTHER SPECIAL SYSTEMS AND DEVICES Special systems and devices not described by the assembly categories listed above

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
13			Gross floor area	SF	EQUIPMENT This refers to equipment not found in System 05 04 (Interior Specialties).
13	01		Floor area	SF	FIXED AND MOVEABLE EQUIPMENT This equipment is not likely to be used in every building type. Subsystems 05 04 and 05 05 (Specialties) includes those items likely to be found in every building type.
13	01	01	Floor area	SF	BUILT-IN MAINTENANCE EQUIPMENT The unit of measure at the assembly level is each.
13	01	02	Number of coat hanging devices	COA	CHECKROOM EQUIPMENT All associated work items including keys, tags, and storage cabinets would be included in this assembly.
13	01	03	Seating capacity per meal based on dining	SEA	FOOD SERVICE EQUIPMENT The unit of measure at the assembly level is the total set of equipment needed in the particular functional space area.
13	01	04	Pieces of equipment	EA	VENDING EQUIPMENT
13	01	05	Pieces of equipment	EA	WASTE HANDLING EQUIPMENT
13	01	06	Number of docks	DCK	LOADING DOCK EQUIPMENT
13	01	07	Pieces of equipment	CAR	PARKING EQUIPMENT
13	01	08	Pieces of equipment	EA	MISCELLANEOUS COMMON FIXED AND MOVEABLE EQUIPMENT
13	01	09	Pieces of equipment	EA	WAREHOUSE EQUIPMENT

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
13	01	10	Pieces of equipment	EA	MEDICAL EQUIPMENT
13	01	11	Pieces of equipment	EA	LABORATORY EQUIPMENT
13	01	12	Pieces of equipment	EA	MORTUARY EQUIPMENT
13	01	13	Pieces of equipment	EA	AUDITORIUM AND STAGE EQUIPMENT
13	01	14	Pieces of equipment	EA	REGISTRATION EQUIPMENT
13	01	15	Pieces of equipment	EA	LIBRARY EQUIPMENT
13	01	16	Pieces of equipment	EA	LAUNDRY EQUIPMENT
13	01	17	Pieces of equipment	EA	SECURITY AND VAULT EQUIPMENT
13	01	9X	Pieces of equipment	XX	OTHER SPECIALIZED FIXED AND MOVEABLE EQUIPMENT Specialized fixed and moveable equipment not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
14			Floor area	SF	FURNISHINGS
14	01		Floor area	SF	FURNISHINGS
14	01	01	Number of units of prefab furniture	EA	MODULAR PREFABRICATED FURNITURE
14	01	02	Pieces of art work	EA	ART WORK
14	01	03	Square feet of window treatment	SF	WINDOW TREATMENT
14	01	04	Number of seats	EA	SEATING
14	01	05	Number of rugs, mats, or accessories	EA	RUGS, MATS, AND FURNISHING ACCESSORIES
14	01	06	Number of furnishings	EA	DINING ROOM FURNISHINGS Assemblies include dining room furnishings not covered above.
14	01	9X		XX	OTHER FURNISHINGS Furnishings not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
15			Floor area	SF	SPECIAL CONSTRUCTION Includes all building related items normally specified in CSI MASTERFORMAT Division 13.
15	01		Square feet of vault	SF	VAULTS This is a built-in-place vault. Prefabricated safes are not included in this assembly. The unit of measure at the assembly level is each.
15	02		Square feet of pool	SF	INTERIOR SWIMMING POOLS
15	03		Square feet of room	SF	SPECIAL PURPOSE ROOMS
15	04		Floor Area	SF	PRE-ENGINEERED BUILDINGS
15	05		Square feet of washracks	SF	WASHRACKS
15	06		Square feet of exterior building	SF	EXTERIOR UTILITY BUILDINGS
15	9X		Number of special construction items	XX	OTHER SPECIAL CONSTRUCTION Any special item not covered in the subsystems listed above

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
16				LS	**SELECTIVE BUILDING DEMOLITION**
16	01			LS	NON-HAZARDOUS SELECTIVE BUILDING DEMOLITION
16	01	01		LS	SUBSTRUCTURE & SUPERSTRUCTURE
16	01	02		LS	EXTERIOR CLOSURE
16	01	03		LS	ROOFING
16	01	04		LS	INTERIOR CONSTRUCTION & FINISHES
16	01	05		LS	CONVEYING SYSTEMS
16	01	06		LS	MECHANICAL SYSTEMS
16	01	07		LS	ELECTRICAL SYSTEMS
16	01	08		LS	EQUIPMENT & FURNISHINGS
16	01	9X		XX	OTHER NON-HAZARDOUS SELECTIVE BUILDING DEMOLITION Non-hazardous selective building demolition not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
17			Total acreage of site	AC	**SITE PREPARATION** This system includes assemblies for miscellaneous site work such as clearing and grubbing, demolition and relocation, various earthwork tasks, and other site preparation and cleanup requirements. Hazardous cleanup is not included but is the subject of another WBS.
17	01		Acres to be cleared	AC	SITE CLEARING This covers the different assemblies and options available for clearing of a site, tree and stump removal, burning, grubbing, chipping, and load and haul assemblies for removal of the cleared material.
17	01	01	Acres cleared	AC	CLEARING This is the removal of above ground vegetation, including stumps. For a wet site, Low Ground Pressure (LGP) equipment is used.
17	01	02	Each tree	EA	TREE REMOVAL This is the selective removal of trees on the site. Various options exist for different sizes of trees to be removed.
17	01	03	Each stump	EA	STUMP REMOVAL This is the selective removal of stumps on the site. Various options exist for different sizes of stumps to be removed.
17	01	04	Acres of brush to chip	AC	CHIPPING Chipping is the process of cutting brush into small pieces. This process reduces the bulking factor of the debris or brush that is to be removed from the site. Assemblies exist for various brush densities.
17	01	05	Acres grubbed	AC	GRUBBING Grubbing is the removal of sod and other topsoil that contains unsuitable organic material. Various equipment type and size choices exist. Wet grubbing utilizes Low Ground Pressure (LGP) equipment. Hauloff of grubbed material is also included.
17	01	06	Acres thinned	AC	SELECTIVE THINNING This is the selective removal of trees and underbrush without requiring extensive clearing and/or grubbing of the site.
17	01	07	Volume of material	CY	DEBRIS DISPOSAL This is the disposal of the material that has been cleared and grubbed. Loading, Hauling, and dump charges are included.
17	01	9X		XX	OTHER SITE CLEARING Site clearing not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
17	02		Area demolished	SY	SITE DEMOLITION & RELOCATION This includes the demolition and/or relocation of structures, pavements, fencing, and underground utilities. Disposal of debris or demolished material, including loading and hauling, is also included.
17	02	01	Interior volume of building	CF	BUILDING MASS DEMOLITION This is the complete demolition of buildings or structures. Options include steel, concrete, masonry, and wood structures.
17	02	02	Area to demolish	SY	ABOVE GROUND SITE DEMOLITION This is the demolition of pavements, fencing, and other non-building structures on a site. Pavement includes roads, sidewalks, driveways, and curbs. Fencing types include chain link, barb wire, and wood.
17	02	03	Area to demolish	SY	UNDERGROUND SITE DEMOLITION This is the demolition of underground utilities such as piping, manholes, and other non-building underground structures. The unit of measure at the assembly level for piping is LF and for manholes is CY.
17	02	04	Volume of material	CY	DEBRIS DISPOSAL This is the disposal of the demolished material. Loading, hauling, and dump charges are included.
17	02	05	Area of building to be relocated	SF	BUILDING RELOCATION This is the process of dismantling a structure and reassembling it on a different site.
17	02	06	Length of pipe run to remove and reset	LF	UTILITY RELOCATION This is the removal and relocation of underground utilities such as steel and concrete pipe.
17	02	07		EA	FENCING RELOCATION
17	02	0X		XX	OTHER SITE DEMOLITION AND RELOCATION Site demolition and relocation not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
17	00		Volume of material	CY	SITE EARTHWORK Included are assemblies and options for site work such as grading, excavation, filling, compaction, stabilization, etc.
17	00	01	Area to be graded	SY	GRADING Grading is leveling or flattening of the site in preparation for landscaping or other site construction. Includes unlined stormwater collection ponds.
17	03	02	Volume of material to be excavated	CY	COMMON EXCAVATION & DISPOSAL This is excavation for roads, sidewalks, curbs, and trenching for underground utilities. Excavation may be carried out by a variety of equipment sizes and types. Disposal of the excavated material is also included.
17	03	03	Volume of rock to excavate	CY	ROCK EXCAVATION & DISPOSAL This is excavation of rock by explosives. Different equipment selections and load and haul are included.
17	03	04	Volume of material to place	CY	FILL & BORROW This is filling or replacing the material that was removed during excavation. Either the excavated material may be used or soil and sand may be hauled in from off site. Filling to basements and foundations is included in System 01.
17	03	05	Volume of material to compact	CY	COMPACTION Compaction is the process of packing the fill material once it is in place. This may be done by machine or hand. Assemblies exist for both hand and machine compaction of soil, sand, and the excavated material.
17	03	06	Volume of soil to stabilize	CY	SOIL STABILIZATION This is stabilization of the soil in place by the addition of lime or cement.
17	03	07	Area of slope	SY	SLOPE STABILIZATION This is stabilization of the soil in place through the use of rip-rap, gabions, slope paving, or other forms of soil armoring.
17	03	08	Area of soil to treat	SY	SOIL TREATMENT Treatment of soil prior to final construction for insect protection or other purposes.
17	03	09	Area requiring shoring	SF	SHORING Shoring is the temporary support for existing structures or excavation during construction.
17	03	10	Area to dewater	SY	TEMPORARY DEWATERING This is the dewatering of the site by wellpoints to lower the groundwater table. This will facilitate excavation in areas with high water tables.
17	03	11	Area to be protected	SF	TEMPORARY EROSION CONTROL Interim measures to minimize erosion during construction.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
17	03	9X		XX	OTHER SITE EARTHWORK Site earthwork not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
17	04		Lump sum	SY	SITE CLEANUP This includes other site preparation assemblies such as site cleanup that were not covered in the previous subsystems.
17	04	01	Area of site to clean	SY	SITE CLEANUP Covered in this assembly category are assemblies for site and area cleanup and pavement sweeping. Disposal of the debris is also included.
17	04	9X		XX	OTHER SITE CLEANUP Site cleanup not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
17	9X			XX	OTHER SITE PREPARATION Any site preparation not covered in the subsystems listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
18			Area of site	SY	**SITE IMPROVEMENTS** This includes improvements such as parking lots, sidewalks, roadways, fencing, retaining walls, and landscaping.
18	01		Area of roadway	SY	ROADWAYS This subsystem includes options for access, arterial, or interstate roadways. A variety of pavement types and thicknesses are available.
18	01	01	Area of roadway	SY	BASES AND SUBBASES These are the compacted and prepared gravel or soil layers that are placed prior to the installation of the final surface. The subbase is placed and compacted before the base layer is applied.
18	01	02	Length of drainage piping	LF	DRAINS, INLETS, CURBS, & GUTTERS This is the drainage system for the selected roadway type. Options include curb and gutter drains or area drains with grates.
18	01	03	Area of roadway	SY	PAVED SURFACES This is the material that is placed atop the base layer to provide the driving surface.
18	01	04	Area of roadway	SY	MARKING & SIGNAGE This includes roadway signage and pavement painting. Assemblies are included for traffic signs and posts and intersection, crosswalk, or other pavement painting or striping.
18	01	05	Length of guardrail or barrier	LF	GUARDRAILS & BARRIERS This is any associated guardrails or barriers that are required for the selected roadway type.
18	01	06	Area of roadway	SY	RESURFACING This is the placement of an asphalt wearing course over the existing pavement surface. Assemblies exist for resurfacing of gravel, concrete, and asphalt roadways.
18	01	9X		XX	OTHER ROADWAYS Roadways not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
18	02		# of spaces	SPA	PARKING LOTS These are the areas required for vehicle parking and include different surfaces and drainage options.
18	02	01	Area of parking lot	SY	BASES AND SUBBASES These are the compacted and prepared gravel or soil layers that are placed prior to the installation of the final surface. The subbase is placed and compacted before the base layer is applied.
18	02	02	Length of drainage piping	LF	DRAINS, CURBS & GUTTERS This is the drainage system of the parking lot. Options include curb drains or area drains with grates.
18	02	03	Area of parking lot	SY	PAVED SURFACES This is the material that is placed atop the base layer. This provides the driving surface for the parking lot.
18	02	04	# of Spaces	SPA	MARKING & SIGNAGE This is the painting of the parking stalls, signage, etc.
18	02	05	Length of guardrail or barrier	LF	GUARDRAILS & BARRIERS Guardrails, barriers, parking stops and other similar devices.
18	02	06	Area of parking lot	SY	RESURFACING This is the placement of an asphalt wearing course over the existing parking surface.
18	02	9X		XX	OTHER PARKING AREAS Parking areas not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
18	03		Area of pavement	SF	WALKS, STEPS, RAMPS, & TERRACES This subsystem includes options for sidewalks and other small paved areas.
18	03	01	Area of pavement	SF	BASES AND SUBBASES These are the compacted and prepared gravel or soil layers that are placed prior to the installation of the final surface. The subbase is placed and compacted before the base layer is applied.
18	03	02	Length of drainage piping	LF	DRAINS, CURBS & GUTTERS This is the drainage system of the pavement option chosen. Options are included for curb and gutter drains.
18	03	03	Area of pavement	SF	PAVED SURFACES This is the material that is placed atop the base layer to provide the walking or driving surface.
18	03	04	Length of guardrail or barrier	LF	GUARDRAILS & BARRIERS This is any associated guardrails or barriers that are required.
18	03	05	Area of Pavement	SF	RESURFACING This is the placement of an asphalt wearing course over the existing pavement surface.
18	03	9X		XX	OTHER WALKS, STEPS, RAMPS, & TERRACES Walks, steps, ramps, and terraces not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
16	04		Each structure	EA	SITE DEVELOPMENT Included are assemblies for on site construction of fences, retaining walls, playing fields, fountains, and other site improvements.
16	04	01	Length of fence	LF	FENCING & GATES This includes installation or construction of security, boundary, or barb wire fencing and all required gates.
16	04	02	Area of wall	SF	RETAINING WALLS These are structures used to prevent the flow or lateral movement of soil. Assemblies exist for cast in place concrete retaining walls.
16	04	03	Each furnishing	EA	EXTERIOR FURNISHINGS This includes the addition of such exterior furnishings as benches, planters, etc.
16	04	04	Each structure	EA	SECURITY STRUCTURES This includes the construction or addition of security structures such as guard houses.
16	04	05	Each sign	EA	SIGNAGE Signs displayed to convey direction or information such as building function or tenant except for signs included in 16 01 04 and 16 02 04. Does not include Roadway and Parking Signage.
16	04	06	Each	EA	FOUNTAINS & POOLS This includes assemblies for swimming pools and decorative fountains.
16	04	07	Each	EA	PLAYING FIELDS Playing fields such as baseball or tennis courts as well as backstops, bleachers, and other playing field requirements are included.
16	04	08	Gallons	GAL	LINED STORMWATER COLLECTION PONDS & OTHER STORMWATER COLLECTION & STORAGE STRUCTURES
16	04	9X		XX	MISCELLANEOUS STRUCTURES This includes any other miscellaneous structures not found above or in previous sections.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
18	05		Area to be landscaped	SY	LANDSCAPING Assemblies are included that improve the appearance of the site by planting, seeding, and sodding.
18	05	01	Area of site	SY	FINE GRADING & SOIL PREPARATION Fine grading of the site by hand or machine is required to prepare the soil for planting, seeding, or sodding.
18	05	02	Area of erosion	SY	EROSION CONTROL MEASURES Soil erosion or deterioration due to wind, rain or other factors can be controlled or remedied in different ways. This includes slope protection by planting of vegetation or grass and/or placement of manmade geotextiles.
18	05	03	Area of planting bed	SY	TOP SOIL AND PLANTING BEDS Top soil is placed to provide the nutritious soil bed which is required for plants or grass to grow.
18	05	04	Area of site	SY	SEEDING & SODDING This includes the seeding, sodding, fertilizing, watering, and mowing for the grass required on site.
18	05	05	Each plant	EA	PLANTINGS This includes the planting of trees, shrubs, and other vegetation for site beautification or improvement.
18	05	06	Each planter	EA	PLANTERS Planters are exterior decorative containers that contain plants or trees.
18	05	07	Area of site to be watered	SY	IRRIGATION SYSTEMS This includes the underground installation of irrigation systems required for watering of trees, shrubs, and grass or other vegetation.
18	05	9X		XX	OTHER LANDSCAPING Landscaping not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
16	06		Each	EA	SPECIAL CONSTRUCTION Heavy construction consists of bridges/overpasses, railroads, and other large or heavy construction projects.
16	06	01	Area of structure	SY	BRIDGES Bridges included here are typically small spans of overpasses that are not meant to be used to estimate spans over large bodies of water. Options exist for cast in place concrete T beam, precast I beam, precast box, concrete and steel composite, and timber laminated deck bridge structures.
16	06	02	Length of track	LF	RAILROAD SPUR Railroad assemblies exist for 110, 115, and 132 lb tracks and ties. Turnouts, roadway crossings, derailleurs, stops, and bumpers are also included.
16	06	9X		XX	OTHER SPECIAL CONSTRUCTION Any special construction not covered in the above categories.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
18	9X			XX	OTHER SITE IMPROVEMENTS Any site improvements not covered in the subsystems listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19			Each utility	EA	SITE CIVIL/MECHANICAL UTILITIES This includes assemblies for water, sewer, storm sewer, and energy distribution systems.
19	01		Length of system	LF	WATER SUPPLY & DISTRIBUTION SYSTEMS This includes installation or construction of water distribution systems and facilities.
19	01	01	Each system	EA	WELL SYSTEMS This includes installation of wells to include drilling and installing casings, pumps, and valves.
19	01	02	Length of system	LF	POTABLE WATER DISTRIBUTION This includes construction and installation of underground piping and valve boxes and valves.
19	01	03	Amount stored	GAL	POTABLE WATER STORAGE This includes construction and installation of tanks, both on grade and elevated.
19	01	04	Length of system	LF	FIRE PROTECTION WATER DISTRIBUTION This includes construction and installation of piping for fire protection only.
19	01	05	Amount stored	GAL	FIRE PROTECTION WATER STORAGE This includes tanks on grade and elevated for storage of water for fire protection only.
19	01	06	Length of system	LF	NON-POTABLE WATER DISTRIBUTION This includes construction and installation of water distribution systems not for consumption, such as irrigation or hydro electric power generation and from reservoirs to treatment facilities.
19	01	07	Operating capacity	GPM	PUMPING STATIONS This includes construction and installation of pumps, valves, and piping.
19	01	08	Operating capacity	GPD	PACKAGED WATER TREATMENT PLANTS This includes installation of completely assembled water treatment plants.
19	01	09	Length of trench	LF	TRENCHBOXES This includes installation of prefabricated benchboxes for shoring during installation of piping.
19	01	9X		XX	OTHER WATER SUPPLY Water supply not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19	02		Length of system	LF	SANITARY SEWER SYSTEMS This includes all assemblies necessary for sewage collection systems.
19	02	01	Length of piping	LF	SANITARY SEWER PIPING This includes installation of piping for collection of sewage.
19	02	02	Each manhole or cleanout	EA	SANITARY SEWER MANHOLES & CLEANOUTS This includes installation and construction of manholes and cleanouts in sewage collection systems.
19	02	03	Operating capacity	GPM	LIFT STATIONS This includes installation and construction of piping and equipment in lift stations.
19	02	04	Operating capacity	GPD	PACKAGED SANITARY SEWER TREATMENT PLANTS This includes installation of preassembled sewage treatment plants.
19	02	05	Volume of tank	GAL	SEPTIC TANKS This includes installation of prefabricated septic tanks or the construction of septic tanks.
19	02	06	Length of field	LF	DRAIN FIELDS This includes construction of drain fields for disposal of effluent from septic tanks.
19	02	07	Length of bench	LF	TRENCHBOXES This includes installation of prefabricated trenchboxes for shoring during installation of piping.
19	02	9X		XX	OTHER SANITARY SEWER Sanitary sewer not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19	03		Length of system	LF	STORM SEWER SYSTEMS This includes construction of storm water collection systems. Storm pond construction is included in 17 03 01 and 18 04 06.
19	03	01	Length of piping	LF	STORM SEWER PIPING This includes installation of piping for collection of storm water.
19	03	02	Each manhole	EA	STORM SEWER MANHOLES This includes construction of manholes for storm water collection systems.
19	03	03	Operating capacity	GPM	LIFT STATIONS This includes construction of lift stations including piping, pumps, and controls.
19	03	04	Length of culvert	LF	CULVERTS This includes construction and installation of culverts for storm water systems.
19	03	05	Each structure	EA	HEADWALLS & CATCH BASINS This includes construction of headwalls and installation of catch basins for storm water systems.
19	03	06	Area to control	SY	EROSION CONTROL MEASURES This includes construction to control erosion due to runoff.
19	03	07	Length of trench	LF	TRENCHBOXES This includes installation of prefabricated trenchboxes for shoring during installation of piping.
19	03	9X		XX	OTHER STORM SEWER Storm sewer not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19	04		Length of system	LF	INDUSTRIAL WASTE SYSTEMS This includes all systems for collection of contaminated waste requiring special treatment.
19	04	01	Length of piping	LF	INDUSTRIAL WASTE PIPE This includes construction and installation of all piping for collection of industrial waste.
19	04	02	Each manhole or cleanout	EA	MANHOLES & CLEANOUTS This includes construction of manholes and cleanouts for industrial waste piping.
19	04	03	Operating capacity	GPM	LIFT STATIONS This includes construction and installation of industrial waste lift stations and equipment.
19	04	04	Each tank	EA	HOLDING TANKS AND SEPARATORS This includes construction or installation of special tanks such as silver recovery tanks or separators such as oil water separators.
19	04	05	Length of trench	LF	TRENCHBOXES This includes installation of prefabricated trenchboxes for shoring during installation of piping.
19	04	9X		XX	OTHER INDUSTRIAL WASTE Industrial waste not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19	05		Length of system	LF	HEATING DISTRIBUTION SYSTEMS This includes overhead and underground hot water, steam, and condensate piping.
19	05	01	Length of system	LF	OVERHEAD HOT WATER SYSTEMS This includes installation of overhead hot water supply and return piping.
19	05	02	Length of system	LF	OVERHEAD STEAM SYSTEMS This includes installation of overhead steam supply and condensate return piping.
19	05	03	Length of system	LF	UNDERGROUND HOT WATER SYSTEMS This includes installation of underground hot water supply and return piping.
19	05	04	Length of system	LF	UNDERGROUND STEAM SYSTEMS This includes installation of underground steam supply and condensate return piping.
19	05	05	Length of trench	LF	TRENCHBOXES This includes installation of prefabricated trenchboxes for shoring during installation of piping.
19	05	9X		XX	OTHER HEATING Heating distribution not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19	06		Length of system	LF	COOLING DISTRIBUTION SYSTEMS This includes construction and installation of chilled water distribution systems.
19	06	01	Length of system	LF	OVERHEAD COOLING SYSTEMS This includes installation of overhead chilled water supply and return piping.
19	06	02	Length of system	LF	UNDERGROUND COOLING SYSTEMS This includes installation of underground chilled water supply and return piping.
19	06	03	Length of trench	LF	TRENCHBOXES This includes installation of prefabricated trenchboxes for shoring during installation of piping.
19	06	9X		XX	OTHER COOLING Cooling distribution not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19	07		Length of system	LF	NATURAL & PROPANE GAS DISTRIBUTION SYSTEMS This includes piping and storage tanks for propane systems and piping for natural gas systems.
19	07	01	Length of piping	LF	GAS DISTRIBUTION PIPING This includes piping for distribution of natural or propane gas.
19	07	02	Volume of tank	GAL	GAS STORAGE TANKS This includes installation of tanks for propane and natural gases.
19	07	03	Length of trench	LF	TRENCHBOXES This includes installation of prefabricated trenchboxes for shoring during installation of piping.
19	07	9X		XX	OTHER GAS DISTRIBUTION Gas distribution not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19	08		Volume of storage	GAL	BUILDING FUEL DISTRIBUTION SYSTEMS This includes installation of piping and storage tanks for building fuels.
19	08	01	Length of piping	LF	FUEL DISTRIBUTION PIPING This includes installation of piping for fuel oil distribution.
19	08	02	Volume of tank	GAL	FUEL STORAGE TANKS This includes installation of buried or above ground fuel oil tanks.
19	08	03	Each station	EA	FUEL DISPENSING STATIONS
19	08	04	Length of trench	LF	TRENCHBOXES This includes installation of prefabricated trenchboxes for shoring during installation of piping.
19	08	9X		XX	OTHER FUEL Fuel not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
19	9X			XX	OTHER CIVIL/MECHANICAL UTILITIES Any civil/mechanical utilities not covered in the subsystems listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
20			System Total	EA	**SITE ELECTRICAL UTILITIES** This system includes exterior electrical systems and equipment including substations, overhead and underground distribution systems, metering systems and equipment, exterior lighting, lightning protection systems, communication and alarm systems, and cathodic protection.
20	01		Total rated capacity	KVA	SUBSTATIONS This subsystem includes substation equipment and materials required from the primary power source
20	01	01	Total rated capacity	KVA	TRANSFORMERS Electric power transformers used in conjunction with electrical substations. May include pole/tower or pad mounted transformers. (See 20 02 01 for other transformers)
20	01	02	Number of separate components	EA	SWITCHGEAR, VOLTAGE REGULATORS & BUSSBARS Includes all components of switchgear, voltage regulators and bussbars used with electrical substations. (See 20 02 for general switches, controls, and devices.)
20	01	03	Length of conductor	LF	OVERHEAD ELECTRIC CONDUCTORS Includes conductors used in conjunction with substations. (See 20 02 for general exterior electrical distribution systems.)
20	01	04	Number of towers and poles	EA	TOWERS, POLES, CROSSARMS & INSULATORS Towers, poles, crossarms, and insulators used in conjunction with the substation. (See 20 02 for towers, poles, etc. associated with exterior electric distribution systems.)
20	01	05	Length of conductor	LF	UNDERGROUND ELECTRIC CONDUCTORS Includes conductors used in conjunction with substations. (See 20 02 04 for general underground electrical distribution systems.)
20	01	06	Number ductbanks and access points	EA	DUCTBANKS, MANHOLES, & HANDHOLES Components used in conjunction with substations. (See 20 02 06 for components used for general underground distribution systems.)
20	01	07	Number of systems	EA	LIGHTNING ARRESTING SYSTEMS Lightning arresting systems used to protect substations. Lightning arresting systems for buildings, power distribution, and other electrical systems and subsystems are included with those other systems.
20	01	08	Number of systems	EA	GROUNDING SYSTEMS Grounding systems used in conjunction with substations. Grounding systems for buildings, power distribution, and other electrical systems and subsystems are included with those other systems.
20	01	0X		XX	OTHER SUBSTATION Substation not described by the assembly categories listed above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
20	02		Total length of distribution	LF	EXTERIOR ELECTRICAL DISTRIBUTION Exterior electrical transmission and distribution systems including transformers, conductors, switches, controls and other devices, supporting structures, grounding systems, metering and all other equipment required to support electric power distribution projects.
20	02	01	Total rated capacity	KVA	TRANSFORMERS Electric power transformers used in conjunction with exterior electrical distribution. May include pole/tower or pad mounted transformers. Also include exterior transformer serving building(s).
20	02	02	Number of devices	EA	SWITCHES, CONTROLS, & DEVICES Includes all components for switches, controls and devices for exterior electrical distribution.
20	02	03	Length of conductor	LF	OVERHEAD ELECTRIC CONDUCTORS Includes conductors for overhead exterior electrical distribution.
20	02	04	Number of towers and poles	EA	TOWERS, POLES, CROSSARMS & INSULATORS Includes towers, poles, crossarms, and insulators used in exterior electrical distribution.
20	02	05	Length of conductor	LF	UNDERGROUND ELECTRIC CONDUCTORS Includes conductors for underground electrical distribution.
20	02	06	Number of ductbank and access points	EA	DUCTBANKS, MANHOLES, HANDHOLES & RACEWAYS Includes all components used in conjunction with exterior electrical distribution.
20	02	07	Number of systems	EA	GROUNDING SYSTEMS Grounding systems used in conjunction with exterior electrical distribution.
20	02	08	Number of meters	EA	METERING Includes components used in conjunction with exterior electrical distribution.
20	02	9X	Number of other components	XX	OTHER ELECTRIC TRANSMISSION & DISTRIBUTION Includes components used for transmission and distribution of other exterior electrical distribution.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
20	03		Area of lighted space	SY	EXTERIOR LIGHTING This subsystem includes transformers, conductors, poles, lights, ductbanks, grounding systems, and all other equipment required for exterior lighting.
20	03	01	Total rated capacity	KVA	TRANSFORMERS Includes transformers, pole/tower, or pad mounted used in conjunction with exterior lighting.
20	03	02	Total length of conductor	LF	OVERHEAD ELECTRIC CONDUCTORS Includes conductors used for overhead electrical distribution in conjunction with exterior lighting.
20	03	03	Number of towers and poles	EA	TOWERS, POLES, CROSSARMS & INSULATORS Includes tower, poles, crossarms, and insulators used in conjunction with exterior lighting.
20	03	04	Total length of conductor	LF	UNDERGROUND ELECTRIC CONDUCTORS Includes conductors used for underground electrical distribution in conjunction with exterior lighting.
20	03	05	Number of ductbank and access points	EA	DUCTBANKS, MANHOLES & HANDHOLES Includes all components used in conjunction with exterior lighting.
20	03	06	Number of fixtures	EA	EXTERIOR LIGHTING FIXTURES & CONTROLS Includes fixtures, controls, and all components used in conjunction with exterior lighting.
20	03	07	Number of systems	EA	GROUNDING SYSTEMS Grounding systems used in conjunction with exterior lighting.
20	03	08	Number of systems	EA	SPECIAL SECURITY LIGHTING SYSTEMS Includes all components used for special security lighting.
20	03	9X		XX	OTHER AREA LIGHTING Includes components and equipment used for area lighting.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
20	04		Total length of distribution	LF	EXTERIOR COMMUNICATIONS & ALARM SYSTEMS This subsystem includes cables, ductbanks, manholes, and all other equipment required to support exterior communication and alarm systems.
20	04	01	Total length of distribution	LF	TELEPHONE SYSTEMS Includes all components, cables, and equipment used in conjunction with exterior telephone systems.
20	04	02	Total length of distribution	LF	SOUND SYSTEMS Includes all components, cables, and equipment used in conjunction with exterior sound systems.
20	04	03	Total length of distribution	LF	FIRE ALARM SYSTEMS Includes all components, cables, and equipment used in conjunction with exterior fire alarm systems.
20	04	04	Total length of distribution	LF	CABLE TV SYSTEMS Includes all components, cables, and equipment used in conjunction with exterior cable TV systems.
20	04	9X	Total length of distribution	XX	OTHER COMMUNICATION & ALARM Includes all components, cables, and equipment used in conjunction with other special communication and alarm systems not defined above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
20	05		Number of monitor and view stations	STA	EXTERIOR SECURITY SENSORS & TV MONITORING SYSTEMS This system includes cables, ductbanks, manholes, poles, cameras, monitors, and all components used in conjunction with exterior monitoring systems.
20	05	01	Total length of conductors	LF	CABLES & WIRING Includes cables, wiring, and equipment used in conjunction with exterior security systems.
20	05	02	Number of ductbank and access points	EA	DUCTBANKS, MANHOLES & HANDHOLES Includes ductbanks, manholes, and handholes used in conjunction with exterior security systems.
20	05	03	Number of towers poles, and stands	EA	TOWERS, POLES, & STANDS Includes towers, poles, stands, and equipment used in conjunction with exterior security systems.
20	05	04	Number of cameras and monitors	EA	TV CAMERAS & MONITORS Includes cameras, monitors, and components used in conjunction with exterior security systems.
20	05	05	Number of systems	EA	GROUNDING SYSTEMS Grounding systems used in conjunction with exterior security systems.
20	05	9X	Number of systems	XX	OTHER SECURITY SYSTEMS Includes all components and equipment used in conjunction with special security systems not defined above

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
20	06		Length of Conductor	LF	CATHODIC PROTECTION This system includes sacrificial anodes, induced current conductors, and components used in conjunction with cathodic protection.
20	06	01	Number of anodes	EA	SACRIFICIAL ANODE SYSTEM Includes all components required in conjunction with sacrificial anode system.
20	06	02	Length of Conductor	LF	INDUCED CURRENT SYSTEM Includes conductor and termination required for cathodic protection.
20	06	9X	Number of systems	XX	OTHER CATHODIC PROTECTION Includes components and equipment used in conjunction with other cathodic protection systems not defined above.

TRACES GENERIC WORK BREAKDOWN STRUCTURE

SYSTEM	SUB-SYSTEM	ASSEMBLY CATEGORY	DESCRIPTION OF MEASUREMENT	UNIT OF MEASURE	DESCRIPTION OF BUILDING FUNCTIONAL COMPONENTS
20	9X			XX	OTHER ELECTRICAL UTILITIES This system includes devices, supporting structures, equipment, and all components required to support special electrical utilities.