Structure of the Project Schedule & SP Clarifications

04-17-2020

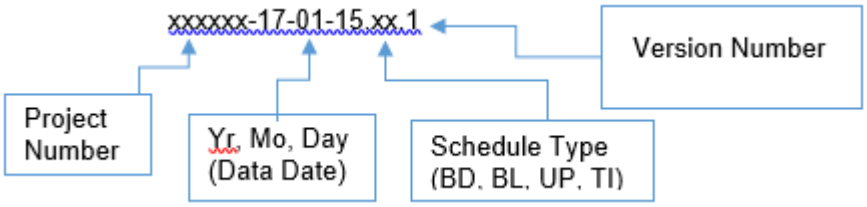
Structure

(1) SP section 108.2(j)(1) - Project ID

The following project ID structure shall be implemented on all projects:

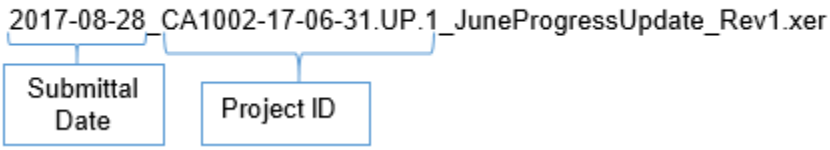
(a) The first 6 characters shall be the project number followed by a dash.
(b) The next 2 characters shall be the current year followed by a dash.
(c) The next 2 characters shall be the current month (month of update period) followed by a dash.
(d) The next 2 characters shall be the current day (day update period) followed by a dot.
(e) The next 2 characters shall be the Schedule Type followed by a dot:
- i) BD = Bid
- ii) BL = Baseline
- iii) UP = Update
- iv) CO = Change Orders (Non-TIA)
- v) TI = Time Impact

(f) The last character shall be the schedule version number, beginning with "0" for each initial submittal, then sequential numbering for revisions "1 thru 9".



1) Incorporate the Project ID into the P6 .xer schedule backup (export) file name for submittal.

Example: P6 .xer file name (using the CAP/ArDOT file name convention):

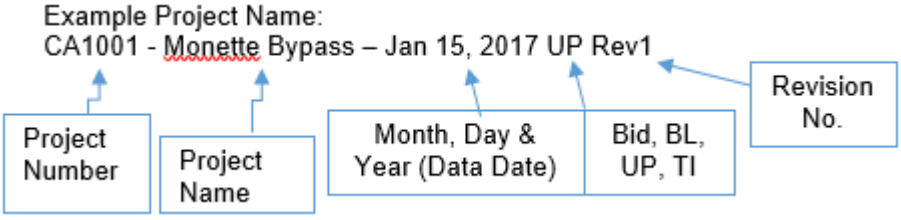


(2) SP section 108.2(j)(1) – Project Name

The following naming structure shall be implemented on all projects:

(a) The first 6 characters shall be the project number followed by a space, a dash, and a space. (CA = Connecting Arkansas program)
(b) The Project Name shall be included next followed by a space, a dash, and a space.
(c) The Current Update period Month, Day, Year
(d) Schedule Type:
- **1)** BD = Bid Schedule
- **2)** BL = Baseline
- **3)** UP = Update
- **4)** CO = Change Order Fragnet
- **5)** TI = Time Impact Analysis

(e) Revision Number, if applicable



(3) SP section 108.2(j)(1) - CPM Schedule Requirements

(a) All contractual dates shall be reflected as start milestones with a 'start on or after' constraint or finish milestones with a 'finish on or before' constraint.
(b) Project Start-Start Milestone for work prior to work order.
(c) (NTP / Work Order) - Start Milestone after the date the work order is issued
(d) Construction Start – Start Milestone for planned start of construction work
(e) Stage Complete - Finish Milestone for each stage of the project (shall not be constrained unless necessary to reflect MOT (Staging) plan.)
(f) Substantial Completion - Finish Milestone to follow all contracted work scope and punch-list activities required for beneficial use.
(g) B-Day Substantial Completion – Finish Milestone to follow all contracted B-Day work scope.
(h) Final Completion - Finish Milestone to follow all close-out activities after substantial completion. A Project Level "Must Finish By" date shall be applied on Calendar Day and Fixed Completion Date contracts. Note that the project level "Must Finish By" constraint is as-of 12:01 am.
(i) Contract Days - No Level of Effort activities are to be used with the exception of a Level of Effort activity used for tracking the planned, actual, and remaining contract days. Relationships to be Start-to-Start (SS) with NTP/Work Order-Start milestone and Finish-to-Finish (FF) with Substantial Completion milestone. This activity will reflect total contract duration and track actual days charged against contract duration.
(j) Additional milestones used by the Contractor shall be approved by the Engineer.
(k) Constraints - only constraints associated with the WBS, phasing, staging, milestones, or project completion dates specified in the Contract are allowed. Any constraints to be utilized on the schedule other than the aforementioned dates must be authorized in advance by the Engineer.
(l) No lags shall be used on Finish-To-Start relationships and no negative lags shall be used at any time.
(m) No Start-to-Finish relationships shall be used at any time.
(n) No activity shall have only Start-to-Start successor relationship(s) or only Finish-to-Finish predecessor relationship(s).
(o) Critical path shall be determined by the longest path.
(p) No activity shall contain scope that represents multiple Contractors, trades, or types of work.
(q) The Contractor shall resource-load the project schedule by assigning every construction activity the appropriate material and equipment resources which align with the Contractor's project plan and directly correlate to and support the Estimate Item Codes (Schedule of Values).
(r) Only project calendars shall be used. No global calendars may be used. Separate calendars shall be developed and assigned to activities for various Work Types, as

appropriate.

(s) Seasonal weather conditions shall be considered and included in the project schedule for all work influenced by temperature and/or precipitation. Seasonal weather conditions shall be determined by an assessment of average historical climatic conditions. Average historical weather data is available through the National Oceanic and Atmospheric Administration (NOAA), company historical records, or any additional reference the Contractors deems necessary to prepare an accurate schedule. These effects will be simulated through the use of work calendars for each major work type (i.e., earthwork, concrete paving, structures, asphalt, drainage, etc.) for all activities.

(t) Float time in the project schedule is a shared commodity between the Department and the Contractor. Suppression or consumption of float shall not be allowed, including by use of extended activity durations, dummy activities, unspecified or unnecessary milestones, unnecessary logic ties, or preferential sequencing.

(u) The following activity IDs shall be used for the required standard project milestones.

1)	Project Start	0XMS1000PS
2)	NTP / Work Order	0XMS1000WO
3)	Construction Start	0XMS1000CS
4)	Substantial Completion	0XMS1000SC
5)	B-Day Substantial Completion	0XMS1000BDSC
6)	Final Completion	0XMS1000FC

(v) At a minimum, include the following work activities, as applicable:

1) Work to be performed by the Contractor, subcontractors, and suppliers.
2) Work to be performed by the Department and third parties.
3) The project start date, scheduled completion dates, and other milestones required by the Contract, start or finish dates for phases, or site access or availability dates.
4) Submittal review and approval activities when applicable, including time for the Department's approval as specified in the Contract.
5) Fabrication, delivery, installation, testing, and similar activities for materials, plants, and equipment.
6) If and where directed items shall be included in the schedule as an activity showing the plan quantity being utilized.
7) Sampling and testing periods.
8) Settlement or surcharge periods.
9) Cure periods.
10) Utility notification and relocation identified in the Contract.
11) Installation, erection, and removal identified in contract documents and similar activities related to temporary systems or structures.
12) Required acceptance testing, inspections, or similar activities.
i) Activities representing acquisition of any necessary permits to be obtained by the Contractor or acquisition of right of way when a delay of occupancy is included in the contract documents.

(4) SP section 108.2(j)(1) – Closed Activities

If scope or activity no longer applies, close the activity using the following process:

(a) Apply actual start and finish date.
(b) Remove activity from current sequence string.
(c) Add predecessor of Project start and successor of project complete.
(d) Add negative resource quantity(s) so as to have a quantity sum of zero (0).

(e) Add note on activity explaining the reason for closing the activity and add the word "CLOSED" to the activity description.

(f) Link predecessors and successors of closed activity to each other, as appropriate, to maintain the original logic flow.

(g) Ensure explanation is included in the monthly narrative.

(5) SP section 108.2(j)(1) – Activity ID

The following activity ID structure shall be incorporated into the each schedule activity.

(a) Characters 1-2 shall correspond to the MOT Stage.

(b) Character 1 is numeric and character 2 is alphabetic.

Examples (see full list in table below)

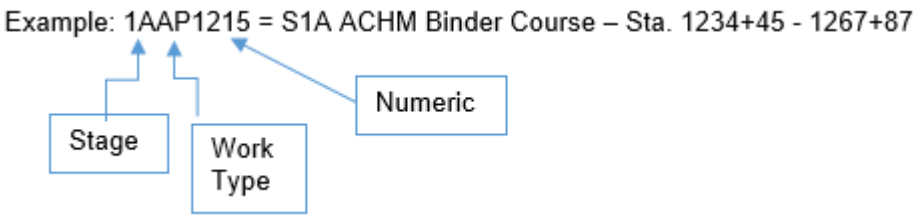
- 0X = Not Stage Specific
- 1X = Stage 1
- 1A = Stage 1A
- 1B = Stage 1B
- 2X = Stage 2

(c) Characters 3-4 shall equate to the Work Type activity code:

Examples (see full list in table below)

- AD = Administration
- ER = Earthwork
- AP = Asphalt (ACHM)

(d) Characters 5-8 shall be numeric, at the contractor's discretion



Values for Activity ID				
Characters 1 & 2 (Stage)			**Characters 3 & 4 (Work Type)**	
ID Value	**Stage Name**		**ID Value**	**Work Type Name**
0X	Not Stage Specific		AD	Admin
1X	Stage 1		CO	Change Order(s)
1A	Stage 1A		MS	Milestones
1B	Stage 1B		UT	Utilities / ROW
2X	Stage 2		EC	Erosion Control (incl. clearing & grubbing, temporary fencing)
xx	Stage xx, etc.		SD	Storm Drainage (incl. box & pipe culverts)
			TC	Traffic Control
			DM	DEMO / Removals
			ER	Earthwork
			AG	Aggregate
			AP	Asphalt (ACHM)

			CN	Concrete
			WL	Walls
			BR	Bridge
			GR	Guardrail / Signage / Pavement Markings / Permanent Fence / Landscape / Lights / misc.
			PL	Punchlist / Closeout

(e) SP section 108.2(j)(1) & (8) – Change Order Activity ID

1) The Activity ID shall have the initials "CO" as the fifth (5th) and sixth (6th) characters with characters seven and eight representing the 2-digit ArDOT change order number.

(6) SP section 108.2(j)(1) – Activity Name

Each activity name shall contain the following items in the described format and sequence. No two activities shall have the same description.

(a) Stage number. (Examples: S1A, S1B, S2, etc.)

(b) Verb stating what type of work is being performed. (Examples: Install, Remove, Excavate, Place, Cut, Fill, Clear & Grub, Demo, Grout, Erect, Test, etc.)

(c) Noun stating what the verb is acting upon. (Examples: Bent, Box Culvert, Piling, concrete, ACHM Base Course, ACHM Surface Course, Column, Shaft, Access Tubes, etc.)

(d) Location of work. (Examples: Station 1234+45 - 1267+87, Cedar Creek Bridge, etc.)

Activity Name Examples:

- S1 Cut Earthwork – Sta. 1234+45 - 1267+87
- S1A ACHM Binder Course – Sta. 1234+45 - 1267+87
- S1B Bent 5 - Pre Bore & Drive Piling 5 - 12' - (12"x53) - Cedar Creek Bridge
- S2 Grade Out - Single 4 x 6 - Pre-Cast Box Culvert – Sta. 611+36.13 - 38 LF – RT
- S1A Backfill Embankment - Sta. 683+00 to 704+00 Left (Shoulder Only)

(e) SP section 108.2(j)(1) & (8) – Change Order Activity Name

1) The Activity Name (description) shall include the CO noted after the Stage designation the activity description (name) shall have the initials "CO" followed by the 2-digit ArDOT change order number. The standard formatting requirements apply to change order activities.

(7) SP section 108.2(j)(1) – WBS

The contractor shall use the following four (4) levels of WBS as a minimum requirement.

1. Project *{P6 default level 1 WBS for each new project}*
   - 1.1 Admin
   - 1.2 Milestones
     - 1.2.1 Project Milestones
     - 1.2.2 Utility / ROW Milestones
   - 1.3 Change Orders
   - 1.4 Impacts
   - 1.5 Engineering
     - 1.5.1 Submittals
     - 1.5.2 Approvals
   - 1.6 Procurement
     - 1.6.1 Purchasing
     - 1.6.2 Fabrication
     - 1.6.3 Delivery

1.7 Construction
- 1.7.1 Stage 1A *(WBS Level 3 (Stage) – According to MOT Plan)*
  - 1.7.1.1 Station 10+00 - 16+54.68 - Temp Crossover – Stage 1A
  - 1.7.1.2 Station 505+25 - 527+11 - Temp Widening – Stage 1A
- 1.7.2 Stage 1B
  - 1.7.2.1 Cedar Creek Bridge - A7135 - Station 480+71.92 - 483+89.08 - Stage 1B
  - 1.7.2.2 Box Culverts - Section 1 - BOJ - Station 645+00 - Stage 1B *(Section / Area Level 4 - Note the naming convention.)*

(8) SP section 108.2(j)(1) – Activity Codes

(a) Work Type (Global Activity Code)
The contractor must assign the appropriate work type activity code to each activity within the schedule. A Work Type Global Activity Code has been established in the Department P6 database that contains the following code values and names. The name of the Global Activity Code shall be "**WORK TYPE (*)**". Set Max Length for value character to two (2).

Code Value	Description
AD	Admin
MS	Milestones
UT	Utilities / ROW
EC	Erosion Control (incl. clearing & grubbing, fencing)
SD	Storm Drainage (incl. box & pipe culverts)
TC	Traffic Control
DM	DEMO / Removals
ER	Earthwork
AG	Aggregate
AP	Asphalt (ACHM)
CN	Concrete
WL	Walls
BR	Bridge
GR	Guardrail / Signage / Pavement Markings / Permanent Fence / Landscape
PL	Punchlist / Closeout

(NOTE: Submittal and Approval activities shall be assigned code values correlating to the type of work for which they are related.)

(b) Responsibility / Contractor (Global Activity Code)
The contractor must assign the appropriate responsibility activity code to each activity within the schedule.

The Contractor must request addition of new subcontractors, not currently present in the code dictionary, to be added into the responsibility activity code dictionary. The department will attempt to add new contractors from the contact list included with the submitted preliminary and baseline schedule narratives.

A Responsibility Global Activity Code has been established in the Department P6 database that contains the following code values and names. The name of the Global Activity Code shall be "**RESPONSIBILITY (*)**" Set Max Length for value character to six (6).

NOTE: A list of Responsibility code values and names are attached to the end of this document. Contact the ArDOT / CAP Scheduler to request the most recent list and/or to add company values and names that are not on the list.

(c) Station / Location (Project Activity Code) – The contractor shall develop a Project Level Activity Code to be assigned to all activities. The name of the Project Activity Code shall be "**Station / Location**".

Examples:

Code Value	Description
ES	Entire Stage
EP	Entire Project
Sec1	Section 1 - BOJ - Sta 645+00
Sec2	Section 2 - Station 645+00 - 825+00
Det797	Detour 797+83 to 806+02
RML616	Right Main Lanes 616+41 to 640+00
BR07363	Bridge 07363 - Stage 1

(d) Unspecified Activity Codes (Project Activity Code): The contractor may develop and use any additional project level activity codes deemed necessary to plan and manage the project in the most efficient manner.

(9) SP section 108.2(j)(2) & (8) – Resource Loading

(a) Labor resources assigned with associated crews.

(b) Material resources shall be developed and assigned with associated quantities, appropriate units of measure, and price per unit such as to support earned value, production analysis, and s-curves. All material quantities shall be carried on material resources in alignment with and equal to the estimate item code "schedule of value line items" bid/contract quantities.

(c) Major equipment shall be assigned as resources with associated hours.

(d) Cost Accounts shall be applied to each resource assignment ***as set forth in the*** "Resource Cost Accounts & Units of Measure" section of the "***Schedule Structure" document located at*** https://www.ardot.gov/ProgCon/Structure%20of%20the%20Project%20Schedule.pdf ***on the*** ARDOT ***website***

(e) Units of Measure will equal the bid documents unit of measure and that referenced in the "Resource Cost Accounts & Units of Measure" section of the "***Schedule Structure" document located at*** https://www.ardot.gov/ProgCon/Structure%20of%20the%20Project%20Schedule.pdf ***on the*** ARDOT ***website***

(10) SP section 108.2(j)(2) & (8) – Material Resources & ID Structure

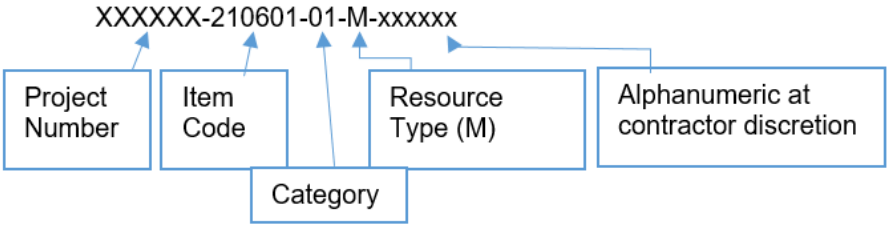
(a) The first 6 characters shall be the project number followed by a dash.

(b) The next 6 characters shall be the item code (schedule of values line item) followed by a dash. Add leading zero(s) to equal 6 characters if necessary.

(c) The next 2 characters shall be the Category followed by a dash.

(d) The next character shall be the resource type (M = Material) followed by a dash.

(e) The next 6 characters shall be alphanumeric (at contractor's discretion)

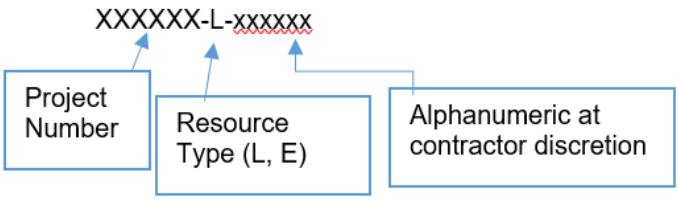


(11) SP section 108.2(j)(2) & (8) – Labor & Equipment Resources & ID Structure

(a) The first 6 characters shall be the project number followed by a dash.

(b) The next character shall be the resource type (L = Labor, E = Equipment) followed by a dash.

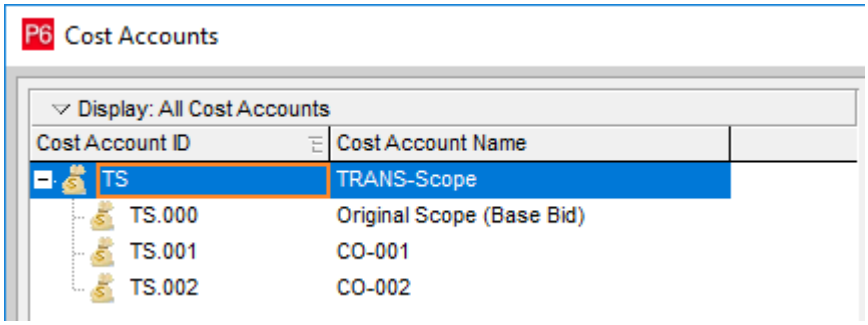
(c) The next 6 characters shall be alphanumeric (at contractor's discretion)



(12) SP section 108.2(j)(1), (2) & (8) – Resource Cost Accounts & Units of Measure

(a) Cost Accounts:

1) Assign the appropriate Cost Account to every resource assignment.
2) Create a Parent Cost Account ID of "TS" named "TRANS-Scope".
3) Assign Child Cost Account "000" to all original scope resources / assignments.
4) Assign Child Cost Accounts to each resource associated with Change Orders.



(b) Unit of Measure:
The Material Unit of Measure shall be the standard ArDOT abbreviations (values).

ArDOT Unit of Measure	
Values	Description
ACRE	Acres
BAG	Bags
BALE	Bales
CUFT	Cubic Foot
CUIN	Cubic Inch
CUYD	Cubic Yard
DAY	Days
EACH	Each
GAL	Gallons
HOUR	Hours
LS	Lot Size (lump sum)
LB	Pounds
LF	Linear Feet
MGAL	Metric Gallons
MNTH	Months

SQFT	Square Feet
SQYD	Square Yards
STA	Stations
TON	Tons
WEEK	Weeks

(13) SP section 108.02(j)(1), (g)(2), (g)(4) - Calendars:

(a) The following Calendar Name structure shall be used on all Calendars (Project & Shared Resource)

1) The first 6 characters shall be the project number followed by a blank space.

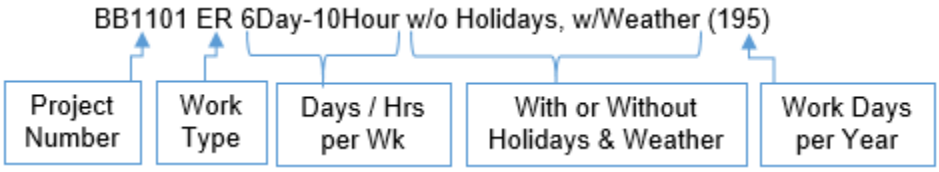
2) The characters 7 & 8 shall be the Work Type value followed by a blank space.

3) The next characters shall be the days per week and hours per day "xDay-xxHour" followed by a blank space.

4) Specify if the calendar includes or excludes Holidays. For calendars including holidays, use "w/ Holidays". For calendars without holidays, use "w/o holidays. Follow this with a comma and a blank space.

5) Specify if the calendar includes or excludes Weather (non-work days). For calendars including weather days, use "w/ Weather". For calendars without weather, use "w/o Weather". Follow this with a blank space.

6) In parentheses, show total number of Workdays planned for each calendar year per calendar.



(b) Create a Shared Resource calendar for all resource assignments. Please make it a 7-day workweek calendar to prevent the resource calendars from overriding any of the activity calendars.

(c) All activity calendars must be Project Calendars with no inheritance to Global Calendars.

(d) All start and finish times for each calendar must match for every workday within the calendars and between all calendars.

(e) All calendars must contain Holidays, Sundays, and weather (non-work) days extended fifty percent (50%) of the contract duration beyond the contract completion date. The monthly number of non-work days should be the same for all years.

(f) Non-work (weather) days shall be aligned in each calendar within a schedule. A varying number of non-work days based on work type is allowed, but each calendar's planned non-work days should align across all calendars for equivalent anticipated weather.

1) Example: If February 2nd is a planned weather day on an Asphalt calendar, February 2nd should align as a weather day on Concrete, Earthwork, etc. calendars if applicable.

2) NOTE: Weather days that are sequential days across multiple calendars for equivalent planned non-work days **is not allowed**.

Example: A single weather day planned within the same week across multiple calendars with Asphalt on Monday, Earthwork on Tuesday, Concrete on Wednesday, etc. This incorrectly blocks 3-days of weather within a week for a single anticipate weather day.

Technical / Settings

Structure of the Project Schedule & SP Clarifications

04-17-2020

P6 Settings Clarifications - The following P6 settings must be used in order for all projects to function and calculate properly within the ArDOT (CAP) Enterprise environment.

Administration Defaults:

Earned Value		
	Activity Percent Complete	**Check**
	ETC = Remaining Cost for activity	**Check**
	At Completion with Current Dates	**Check**

User Preferences:

Resource	Opened Projects Only	**Check**
Analysis	Remaining Early Dates	**Check**
	Calculate Primary resources' limit	**Check**
Calculations	Preserve the units	**Check**
	When assigning resource, Ask me to select	**Check**
	When Resource & Role share, Ask me to select	**Check**

Schedule Options:

General	Use Expected Finish	**Check**
	Retained Logic	**Check**
	Early Start	**Check**
	Longest Path	**Check**
	Each Project	**Check**
	Compute TF as FF = LF - EF	**Check**
	Calendar for Rel lag is Predecessor calendar	**Check**
Advanced	Calculate Multiple Float Paths (# Paths = 1000)	**Check**

Project Level Defaults:

Defaults	Duration Type = **Fixed Duration & Units**	
	Percent Complete Type = **Duration**	
	Activity Type = **Task Dependent**	
	Calendar = **Project Calendar**	
	Must Finish By = **'Final Completion' date**	
Resources	Default Rate Type = **'Price / Unit'**	
	Drive activity dates by default	***Uncheck***
	Resources can be assigned to same activity more than once	**Check**
Settings	Summarize to WBS **Level = 2**	
	Detail activity resource	**Check**
	Project Baseline	**Check**
	Longest Path	**Check**
Calculations	Activity percent complete based on steps	***Uncheck***
	Link Budget and At Completion for unstarted activities	**Check**
	Reset Remaining Duration and Units to Original	**Check**
	Subtract Actual from At Completion	**Check**
	Recalculate Actual Units and Cost when duration % complete changes	**Check**
	Update units when costs change on a resource assignment	***Uncheck***
	Link actual to date and actual this period units and cost	**Check**

Resource Defaults:

Material Details	Auto Compute Actuals **(Required)**	***Uncheck***

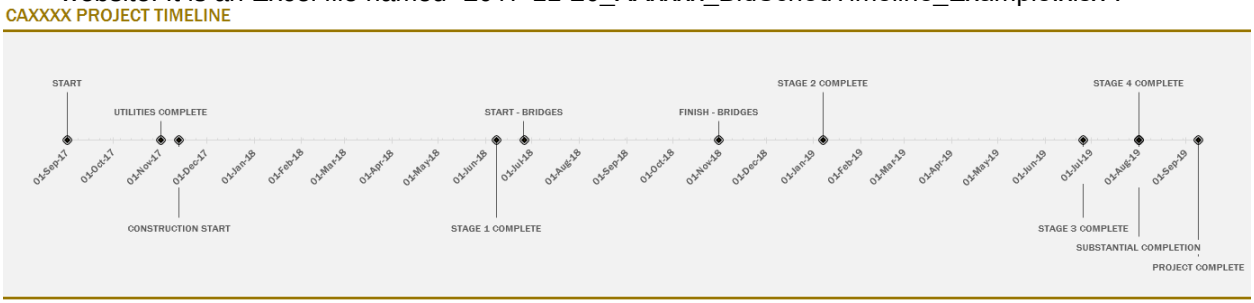
	Calculate costs from units **(Required)**	**Check**
Equipment Details	Auto Compute Actuals *(Preferred)*	**Check**
	Calculate costs from units *(Preferred)*	**Check**
Labor Details	Auto Compute Actuals *(Preferred)*	**Check**
	Calculate costs from units *(Preferred)*	**Check**

Resource Assignments:

Material Assignments	Drive Activity Dates (all assignments **Required**)	***Uncheck***
	Auto Compute Actuals (all assignments **Required**)	***Uncheck***
	Calculate costs from units (all assignments **Required**)	**Check**
	Primary Resource (all assignments **Required**)	***Uncheck***
Equipment Assignments	Drive Activity Dates (all assignments **Required**)	***Uncheck***
	Auto Compute Actuals *(all assignments Preferred)*	**Check**
	Calculate costs from units *(all assignments Preferred)*	**Check**
	Primary Resource *(all assignments Preferred)*	***Uncheck***
Labor Assignments	Drive Activity Dates (all assignments **Required**)	***Uncheck***
	Auto Compute Actuals *(all assignments Preferred*	**Check**
	Calculate costs from units *(all assignments Preferred*	**Check**
	Primary Resource *(all assignments Preferred)*	**Check**

Clarifications

Example of the bid schedule timeline required for the bid narrative is shown below and located at https://www.ardot.gov/ProgCon/Structure%20of%20the%20Project%20Schedule.pdf on the AHTD website. It is an Excel file named “2017-11-20_XXxxxx_BidSchedTimeline_Example.xlsx”.



(14) SP section 108.2(j)(8) – Change Order Fragnets for Directed Change Orders

Change Order fragnets for Directed Change Orders must be submitted within five (5) days of receiving notice. Potential time extensions based on change orders will be analyzed based on the most recent approved schedule, impact to the longest path, contract baseline production rates of resources same as resources in the change order, and subsequent movement of the current project completion date in accordance with the Evaluation of Delays and Calculation of Time Extensions section of this special provision. Failure to submit a fragnet with the change order forfeits any recovery for an associated recoverable project delay at any future date.

(15) Duration Type: The Duration Type for all activities must be set to “Fixed Durations and Fixed Units”.

(16) Primary Resource: Since P6 does not allow a Material resource to be the Primary resource, use the Labor resource as Primary.

(17) SP section 108.2(j)(General) – Progress Updates

(a) Remaining Durations - When performing progress updates, the Remaining Durations should be updated (progressed) on in-progress activities, reflecting the number of days required to complete the work.

NOTE: Do not update the duration percent complete.

(b) Percent Complete - When performing progress updates, the physical percent complete should be used, **not** the duration percent complete. The physical percent complete should be close, if not exactly, to what the primary material resource percent complete is.

Best Practices

(18) Steps for Schedule Calendar Development:

The following basic steps will help ensure there are no partial days, resources are spread properly, start/finish dates, and TF are correct. Cleaning up these items after the fact can be time consuming.

(a) Make sure all settings are correct.

(b) Create all calendars

- **1)** Verify "Hours per time period" for each calendar
- **2)** Verify the daily Start and Finish times are the same for all calendars
- **3)** Verify inclusion of holidays and weather days for all calendars

(c) Create activities, resources, logic, and assign calendars & resources.

Scheduling Terms

1. **Activity**. A discrete, identifiable task or event that takes time, uses resources, has a definable start and stop date, furthers the work's progress, and can be used to plan, schedule, and monitor a project.
2. **Activity, Controlling**. The first incomplete activity on the critical path. (Also referred to as the controlling operation.)
3. **Activity, Critical**. Any activity on the critical path.
4. **Activity ID**. A unique, alphanumeric, identification code assigned to an activity.
5. **Activity Network Diagram**. (Also called a pure-logic diagram.) A graphic representation of a CPM schedule that shows the relationships among activities.
6. **Bar Chart**. Also called a Gantt chart, a graphic representation of a schedule without relationships. A timescale appears along the horizontal axis.
7. **Calendar Day**. A day on the calendar, beginning and ending at midnight.
8. **Completion Date, Contract**. The original date specified in the contract for completion of the project or a revised date resulting from authorized time extensions. The contract may also specify completion dates for interim milestones, phases, or other portions of the project.
9. **Completion Date, Scheduled**. The completion date projected or forecasted by the schedule. The schedule may also project or forecast interim completion dates for milestones, phases, or other portions of the project.
10. **Constraints**. A restriction imposed on the start or finish dates of an activity that modifies or overrides the activity's logic relationships.
11. **Critical Path**. The Longest Path.
12. **Dangling Activity**. The condition that exists when an activity's only predecessor relationship is a finish-to-finish relationship or only successor relationship is a start-to-start relationship.
13. **Data Date**. The first day in the Initial or Baseline Schedule and the first day for performance of the work remaining in the Monthly Schedule Update or Revised Schedule. (The date from which a schedule is calculated.)

14. **Duration, Original**. The estimated time, expressed in workdays, needed to perform an activity.
15. **Duration, Remaining**. The estimated time, expressed in workdays, needed to complete an activity.
16. **Float, Free**. The amount of time an activity can be delayed and not delay its successor(s).
17. **Float, Total**. The amount of time an activity can be delayed and not delay the project completion date.
18. **Longest Path**. The sequence of activities that establishes the scheduled completion date.
19. **Milestone**. An activity, with no duration, that is typically used to represent the beginning or end of the project or its interim stages.
20. **Narrative Report**. A descriptive report submitted with each schedule, schedule update, or revised schedule. The required contents of this report are set forth in this specification.
21. **Open End**. The condition that exists when an activity has either no predecessor or no successor.
22. **Predecessor**. An activity that is defined by schedule logic to precede another activity. A predecessor may control the start or finish date of its successor.
23. **Relationship**. The interdependence among activities. Relationships link an activity to its predecessors and successors. (A schedule's relationships are sometimes referred to as the logic of the schedule. Examples of relationships are: finish-to-start, start-to-start, and finish-to-finish.)
24. **Schedule**. Activities organized by relationships to depict the plan for execution of a project.
25. **Schedule, Baseline**. The accepted schedule showing the original plan to complete the entire project. (Sometimes known as the as-planned schedule.)