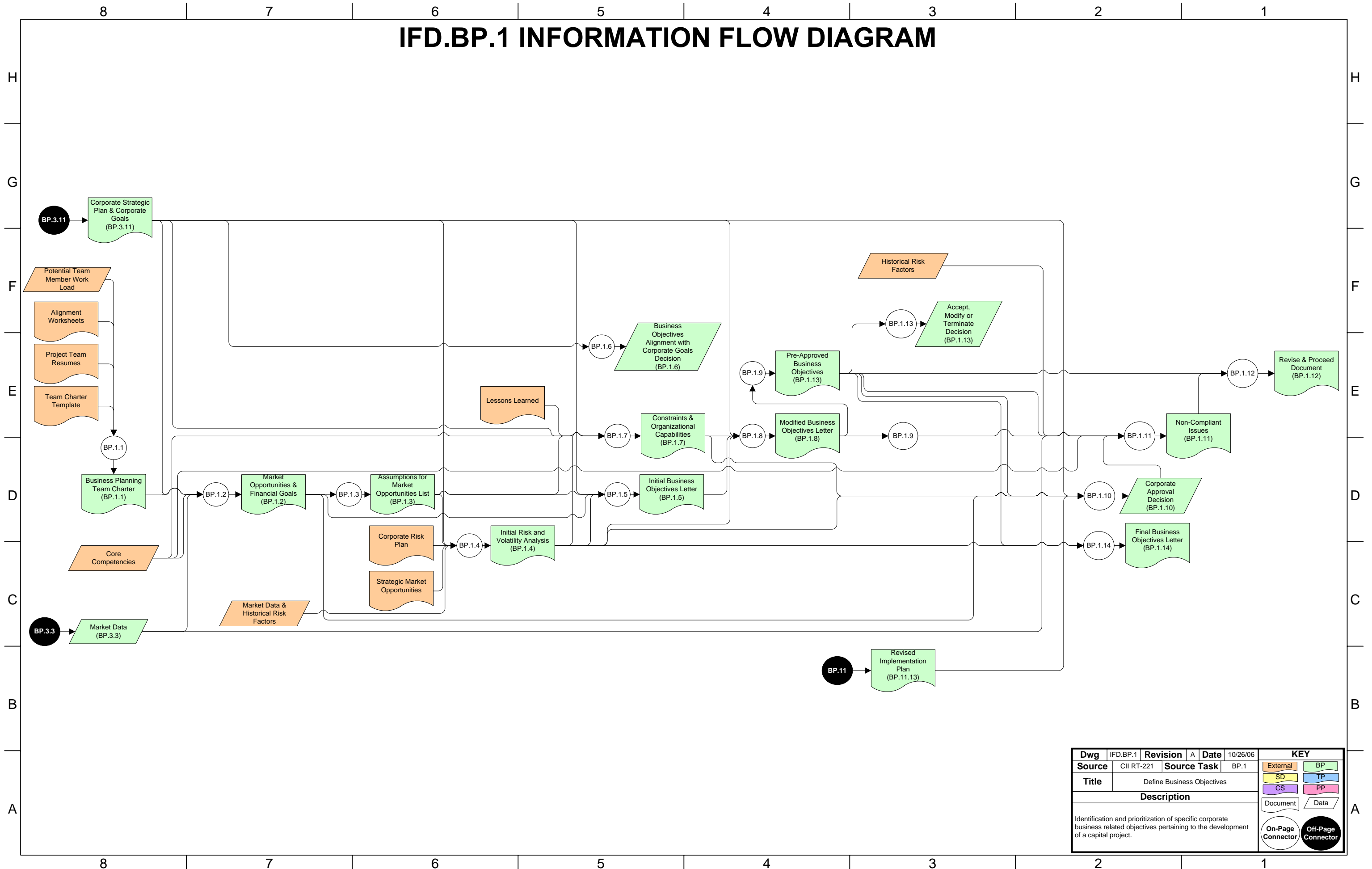
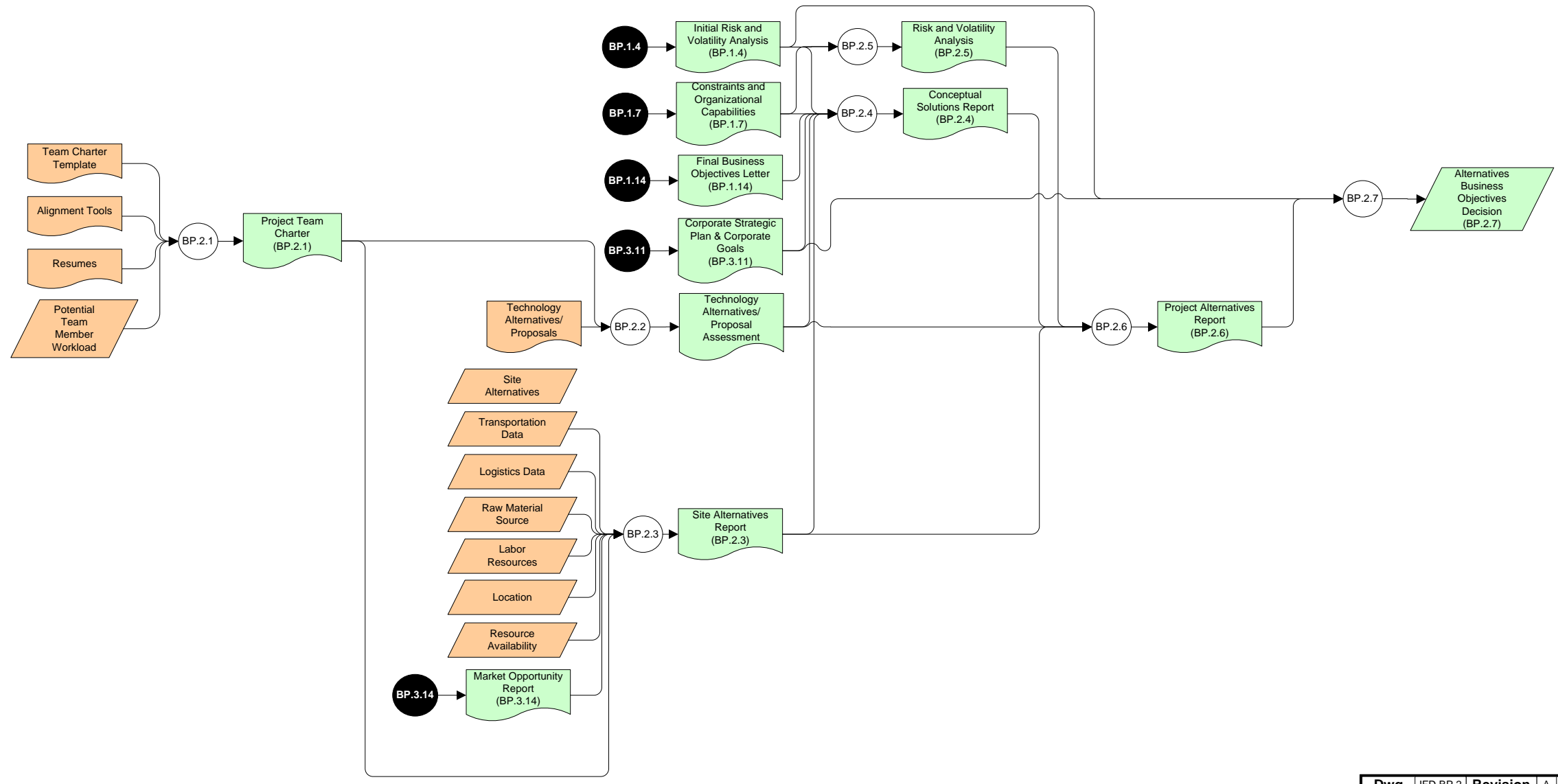


# IFD.BP.1 INFORMATION FLOW DIAGRAM



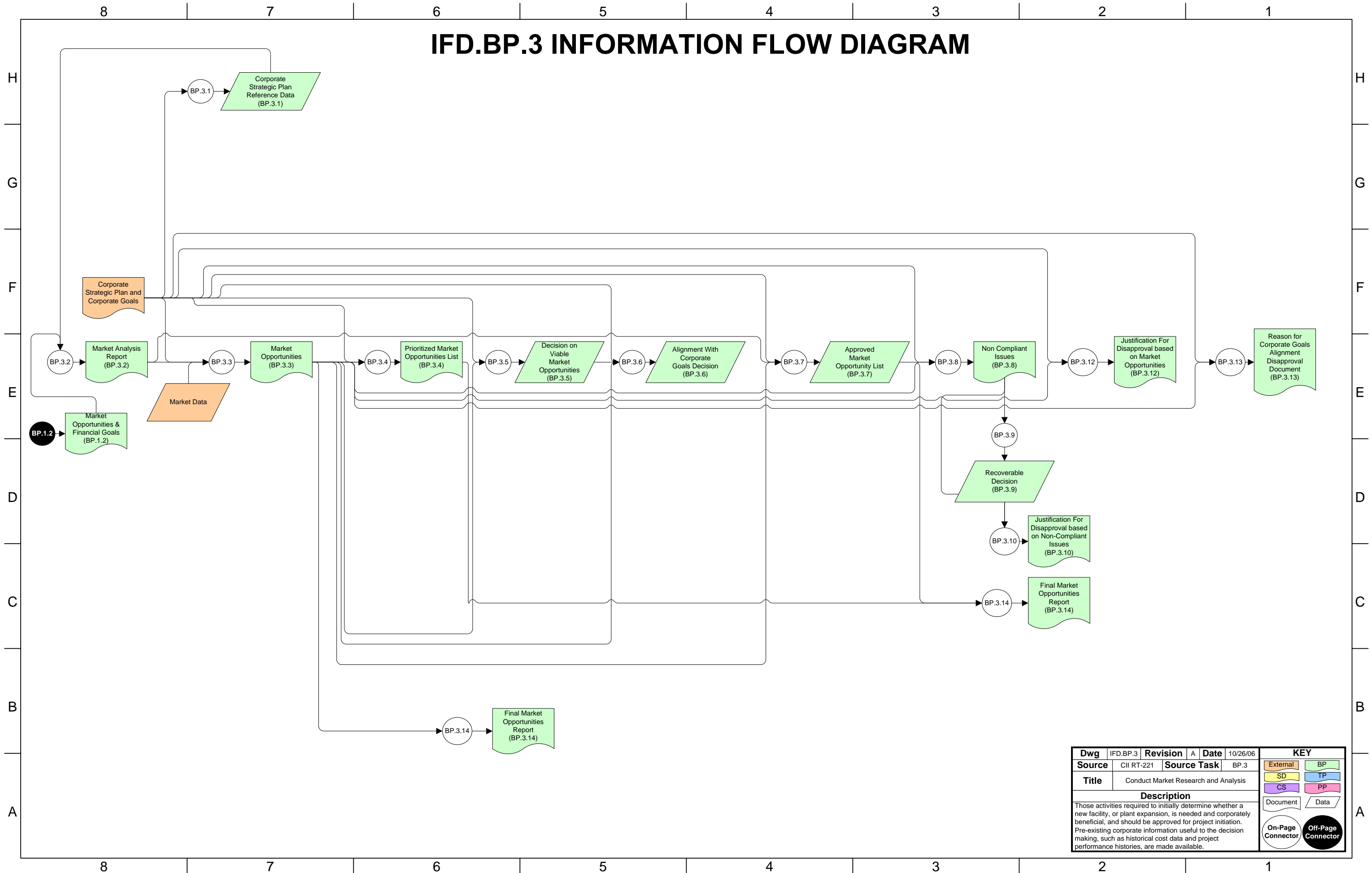
Dwg	IFD.BP.1	Revision	A	Date	10/26/06	KEY	
Source	CII RT-221	Source Task	BP.1	External	BP	SD	TP
Title		Define Business Objectives		CS	PP	Document	Data
Description		Identification and prioritization of specific corporate business related objectives pertaining to the development of a capital project.					
		On-Page Connector	Off-Page Connector				

# IFD.BP.2 INFORMATION FLOW DIAGRAM



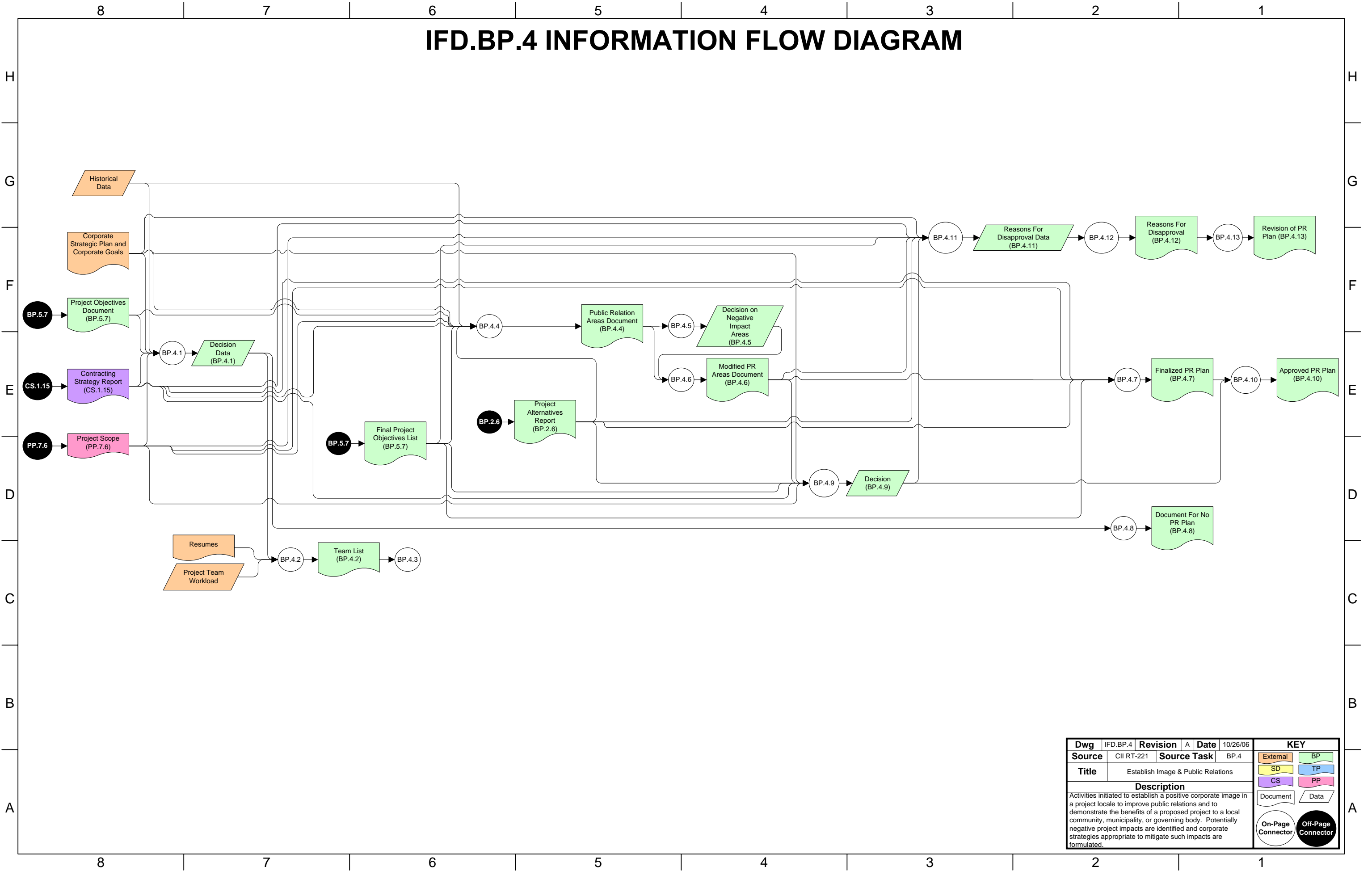
<b>Dwg</b>	IFD.BP.2	<b>Revision</b>	A	<b>Date</b>	10/26/06	<b>KEY</b>	
<b>Source</b>	CII RT-221	<b>Source Task</b>	BP.2			External	BP
<b>Title</b>	Identify/Select Project Alternatives					SD	TP
<b>Description</b>						CS	PP
Identification of facility requirements relating to the operation of the facility over its lifetime. The facility objectives must demonstrate compliance with corporate business strategies.						Document	Data
						On-Page Connector	Off-Page Connector

# IFD.BP.3 INFORMATION FLOW DIAGRAM



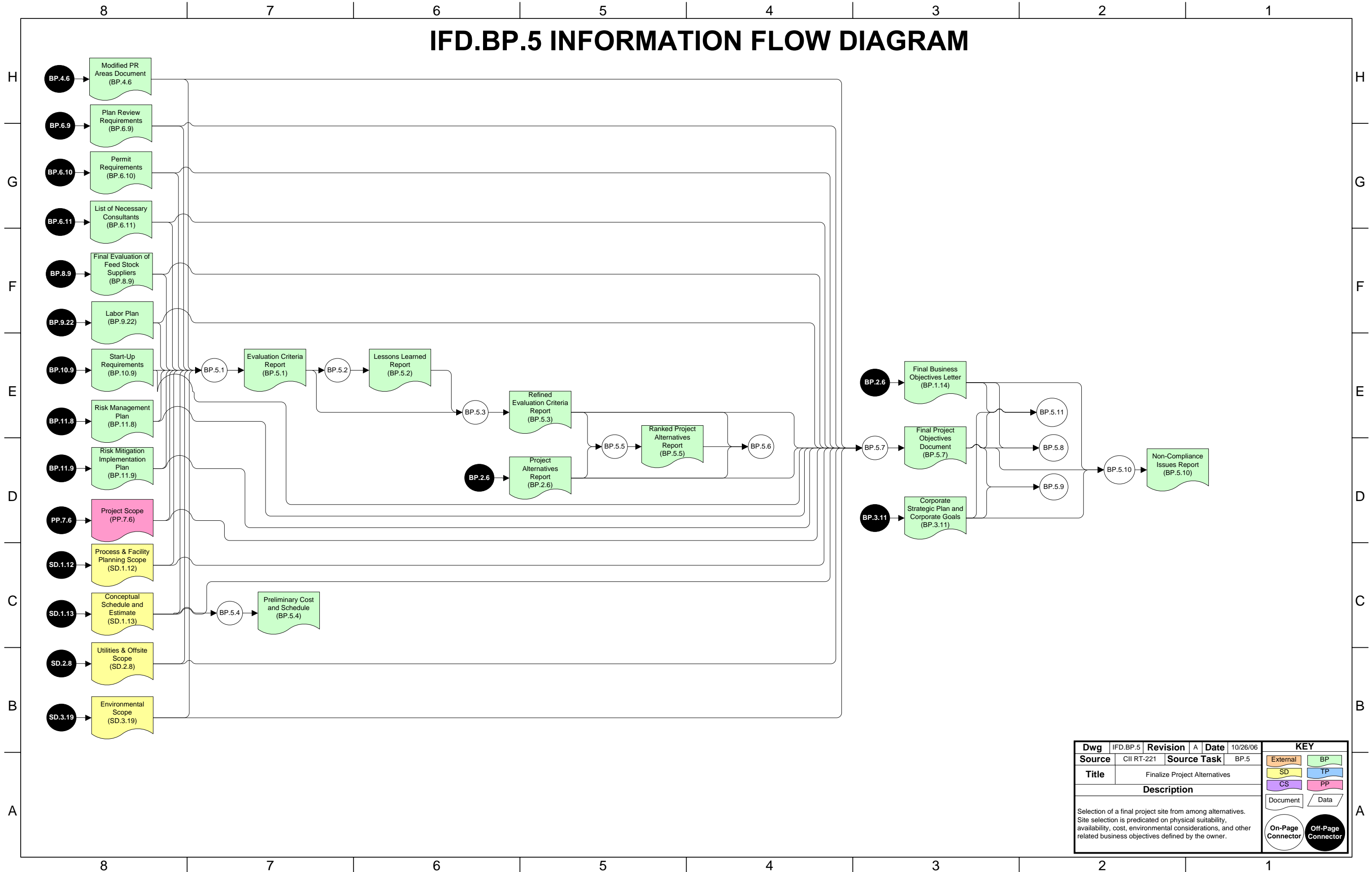
Dwg	IFD.BP.3	Revision	A	Date	10/26/06	<b>KEY</b>	
Source	CII RT-221	Source Task	BP.3	External	BP	SD	TP
Title	Conduct Market Research and Analysis				CS	PP	
<b>Description</b>						Document	Data
Those activities required to initially determine whether a new facility, or plant expansion, is needed and corporately beneficial, and should be approved for project initiation. Pre-existing corporate information useful to the decision making, such as historical cost data and project performance histories, are made available.						On-Page Connector	Off-Page Connector

# IFD.BP.4 INFORMATION FLOW DIAGRAM



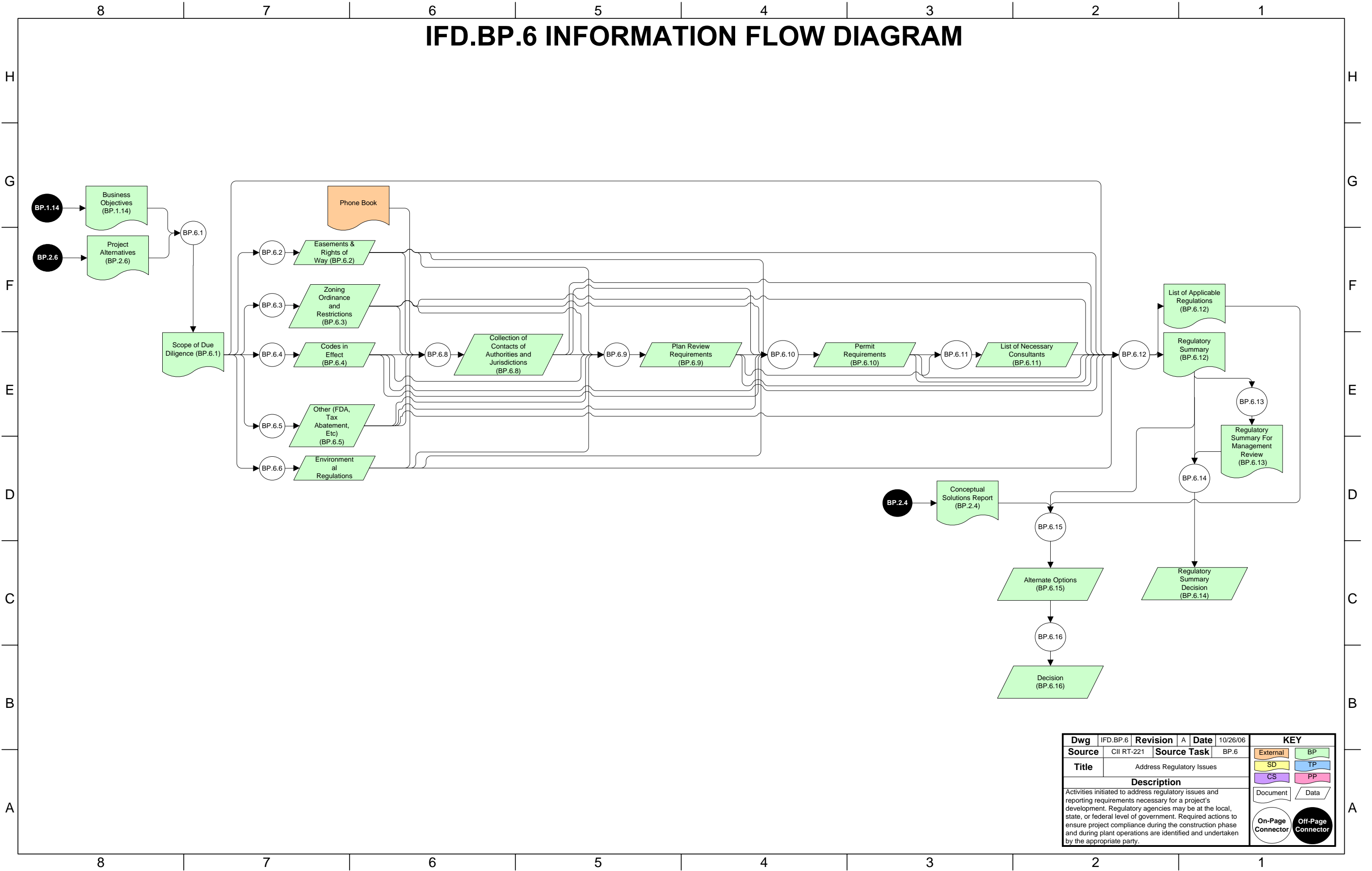
Dwg	IFD.BP.4	Revision	A	Date	10/26/06
Source	CII RT-221	Source Task	BP.4		
Title	Establish Image & Public Relations				
Description					
Activities initiated to establish a positive corporate image in a project locale to improve public relations and to demonstrate the benefits of a proposed project to a local community, municipality, or governing body. Potentially negative project impacts are identified and corporate strategies appropriate to mitigate such impacts are formulated.					
KEY					
External	BP	SD	TP	CS	PP
Document	Data	On-Page Connector	Off-Page Connector		

# IFD.BP.5 INFORMATION FLOW DIAGRAM



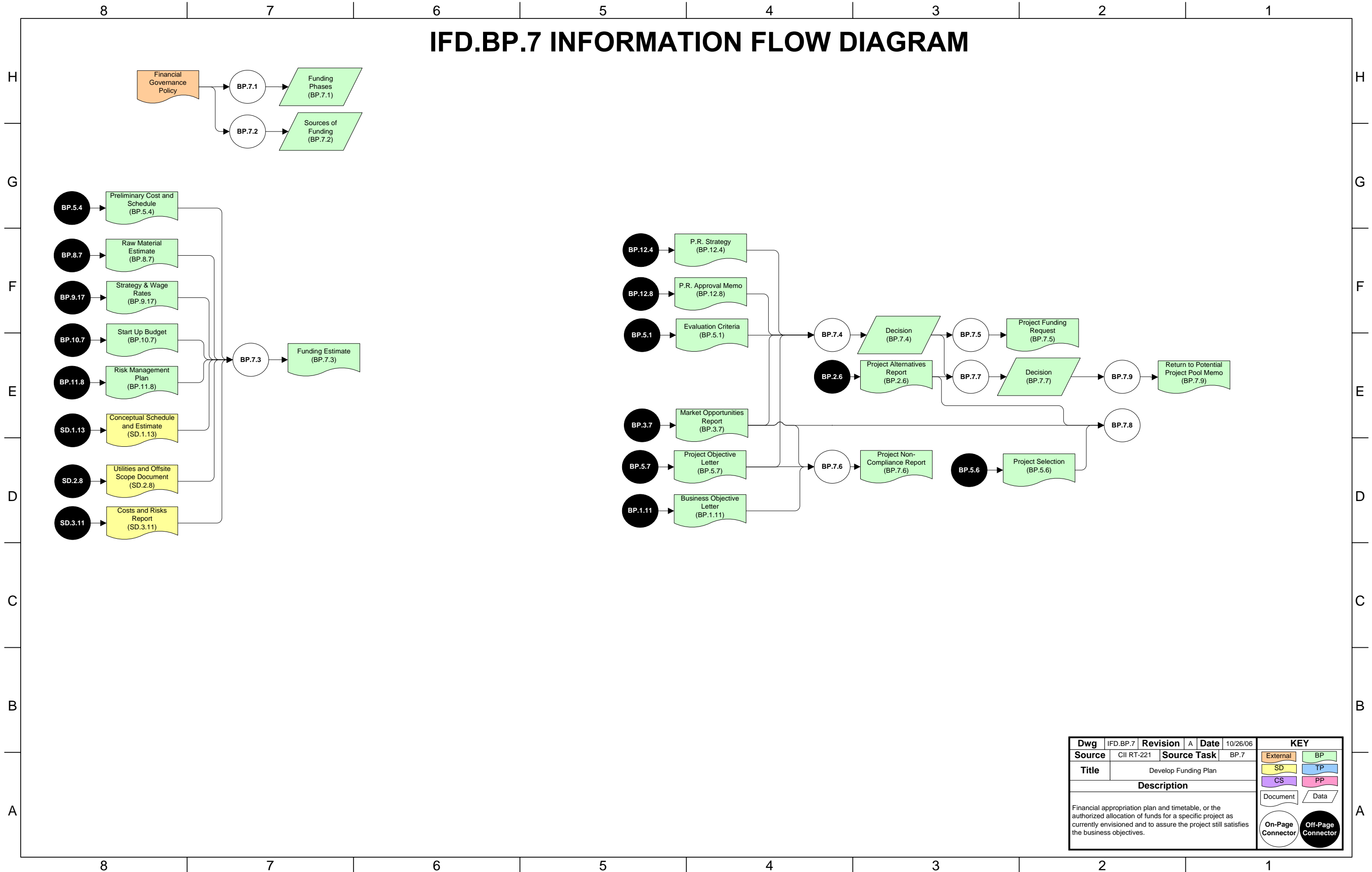
Dwg	IFD.BP.5	Revision	A	Date	10/26/06
Source	CII RT-221	Source Task	BP.5		
Title	Finalize Project Alternatives				
<b>Description</b>					
Selection of a final project site from among alternatives. Site selection is predicated on physical suitability, availability, cost, environmental considerations, and other related business objectives defined by the owner.					
		External	BP		
		SD	TP		
		CS	PP		
		Document	Data		
		On-Page Connector	Off-Page Connector		

# IFD.BP.6 INFORMATION FLOW DIAGRAM



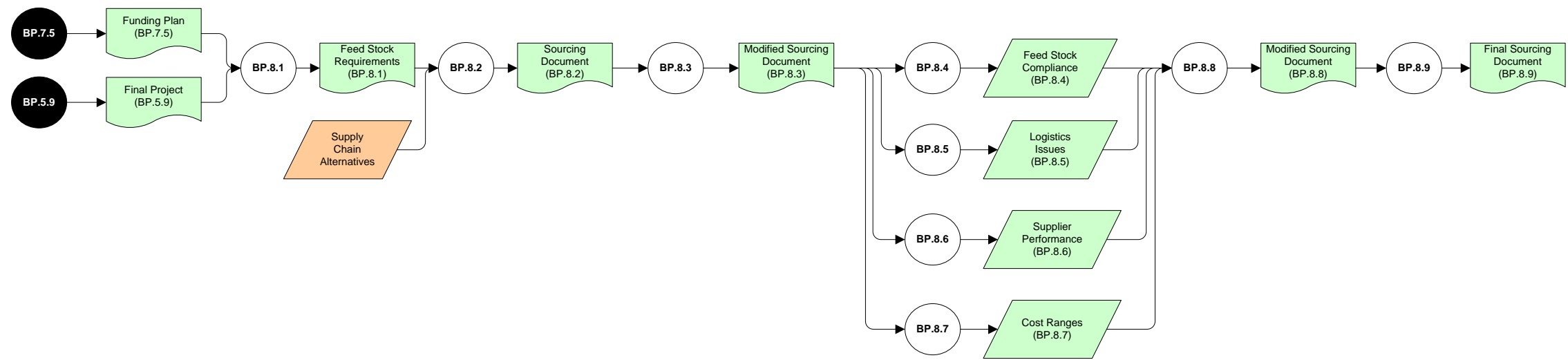
Dwg	IFD.BP.6	Revision	A	Date	10/26/06	KEY	
Source	CII RT-221	Source Task	BP.6			External	BP
Title	Address Regulatory Issues					SD	TP
Description						CS	PP
Activities initiated to address regulatory issues and reporting requirements necessary for a project's development. Regulatory agencies may be at the local, state, or federal level of government. Required actions to ensure project compliance during the construction phase and during plant operations are identified and undertaken by the appropriate party.						Document	Data
						On-Page Connector	Off-Page Connector

# IFD.BP.7 INFORMATION FLOW DIAGRAM



Dwg	IFD.BP.7	Revision	A	Date	10/26/06	KEY	
Source	CII RT-221	Source Task	BP.7			External	BP
Title	Develop Funding Plan					SD	TP
Description						CS	PP
Financial appropriation plan and timetable, or the authorized allocation of funds for a specific project as currently envisioned and to assure the project still satisfies the business objectives.						Document	Data
						On-Page Connector	Off-Page Connector

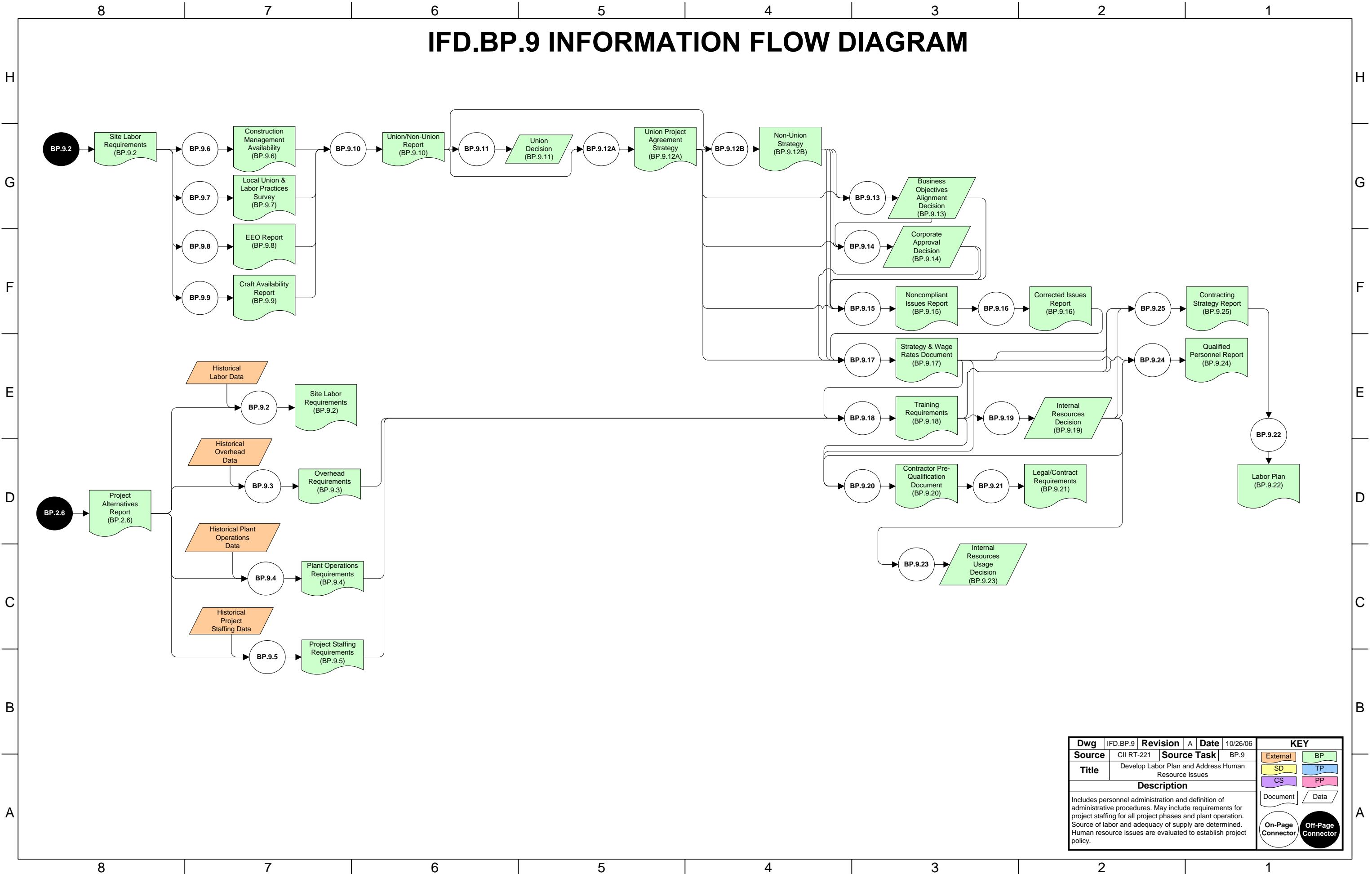
# IFD.BP.8 INFORMATION FLOW DIAGRAM



<b>Dwg</b>	IFD.BP.8	<b>Revision</b>	A	<b>Date</b>	10/26/06	<b>KEY</b>	
<b>Source</b>	CII RT-221	<b>Source Task</b>	BP.8			External	BP
<b>Title</b>	Raw Material Sourcing					SD	TP
<b>Description</b>						CS	PP
The process of determining qualified sources of raw materials to support plant operations. Modes of delivery, scheduled quantities, cost, storage requirements, and other such issues are considered.						Document	Data
						On-Page Connector	Off-Page Connector

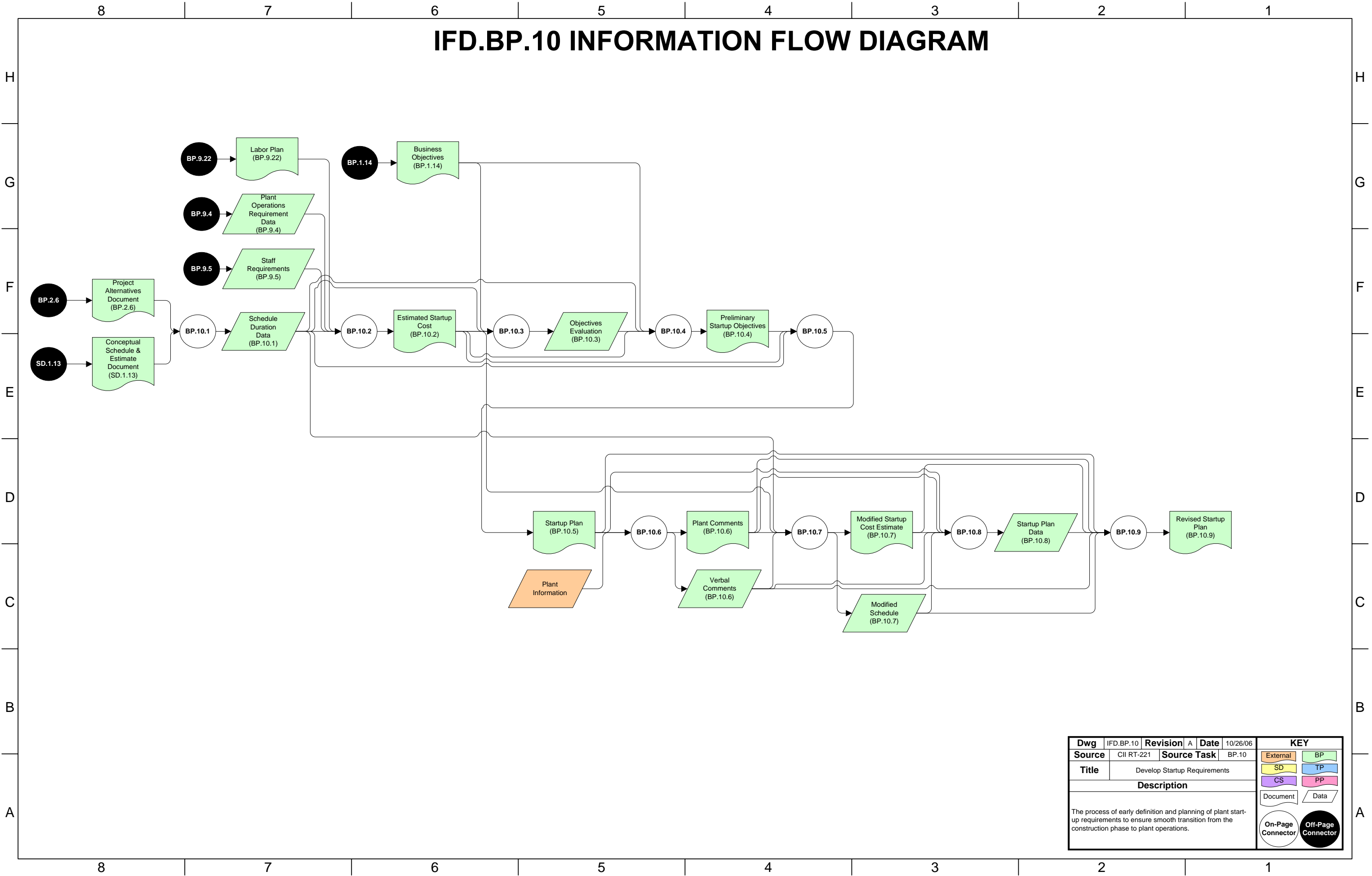


# IFD.BP.9 INFORMATION FLOW DIAGRAM



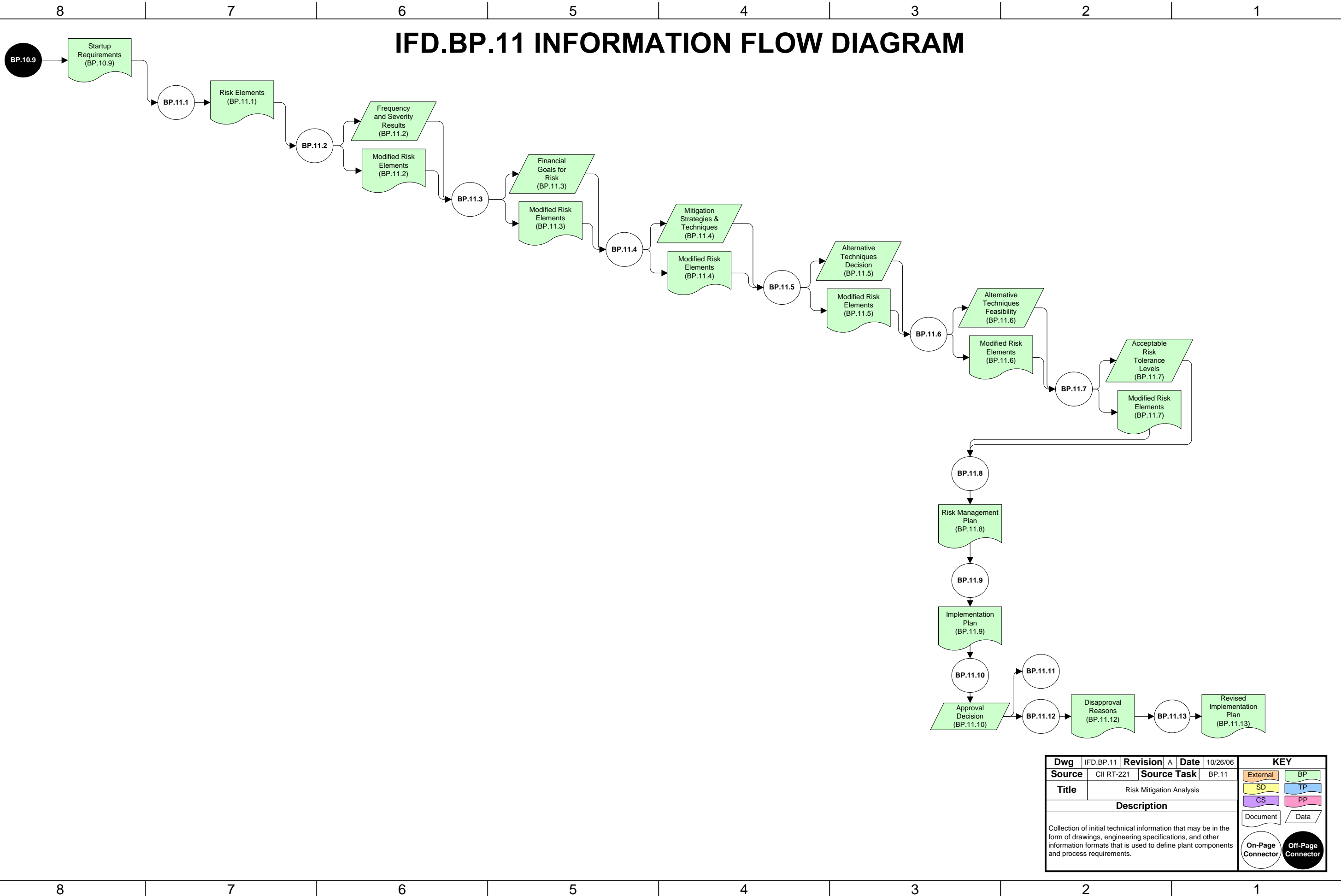
Dwg	IFD.BP.9	Revision	A	Date	10/26/06	KEY		
Source	CII RT-221	Source Task	BP.9			External	BP	
Title	Develop Labor Plan and Address Human Resource Issues						SD	TP
<b>Description</b>								
Includes personnel administration and definition of administrative procedures. May include requirements for project staffing for all project phases and plant operation. Source of labor and adequacy of supply are determined. Human resource issues are evaluated to establish project policy.						CS	PP	
						Document	Data	
						On-Page Connector	Off-Page Connector	

# IFD.BP.10 INFORMATION FLOW DIAGRAM



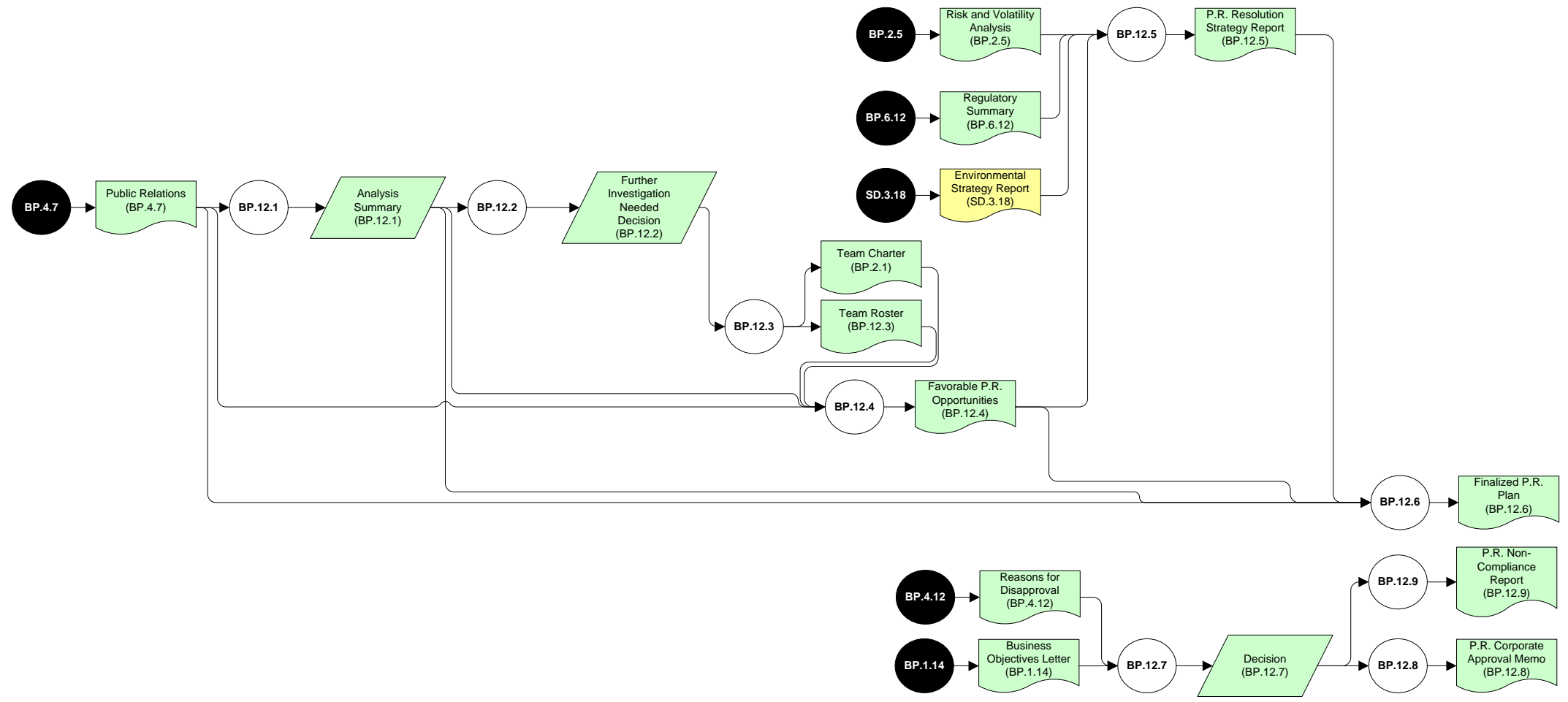
<b>Dwg</b>	IFD.BP.10	<b>Revision</b>	A	<b>Date</b>	10/26/06	<b>KEY</b>	
<b>Source</b>	CII RT-221	<b>Source Task</b>	BP.10			External	BP
<b>Title</b>	Develop Startup Requirements					SD	TP
<b>Description</b>						CS	PP
The process of early definition and planning of plant start-up requirements to ensure smooth transition from the construction phase to plant operations.						Document	Data
						On-Page Connector	Off-Page Connector

# IFD.BP.11 INFORMATION FLOW DIAGRAM



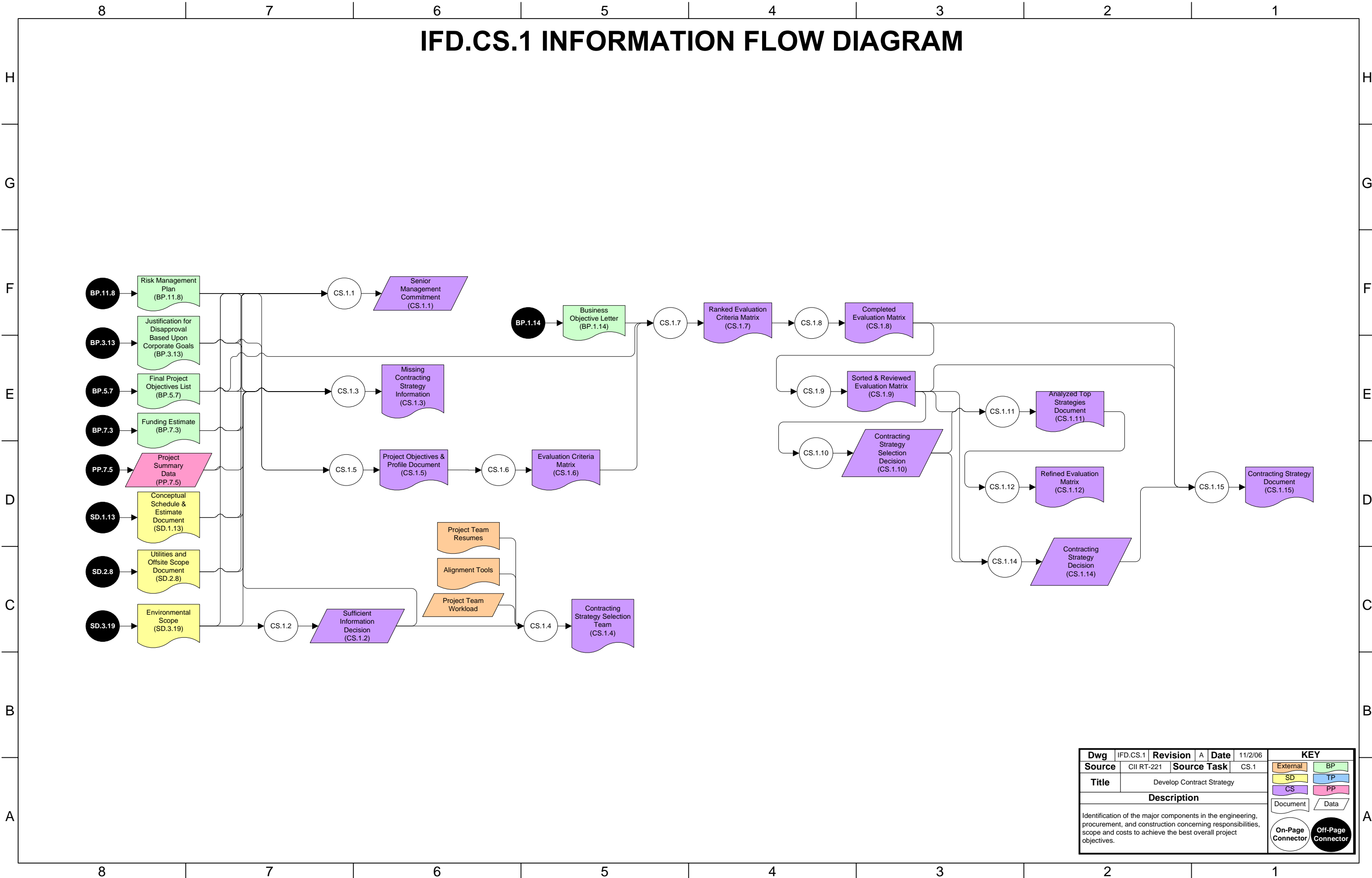
Dwg	IFD.BP.11	Revision	A	Date	10/26/06	<b>KEY</b>	
Source	CII RT-221	Source Task	BP.11			External	BP
Title	Risk Mitigation Analysis					SD	TP
<b>Description</b>						CS	PP
Collection of initial technical information that may be in the form of drawings, engineering specifications, and other information formats that is used to define plant components and process requirements.						Document	Data
						On-Page Connector	Off-Page Connector

# IFD.BP.12 INFORMATION FLOW DIAGRAM



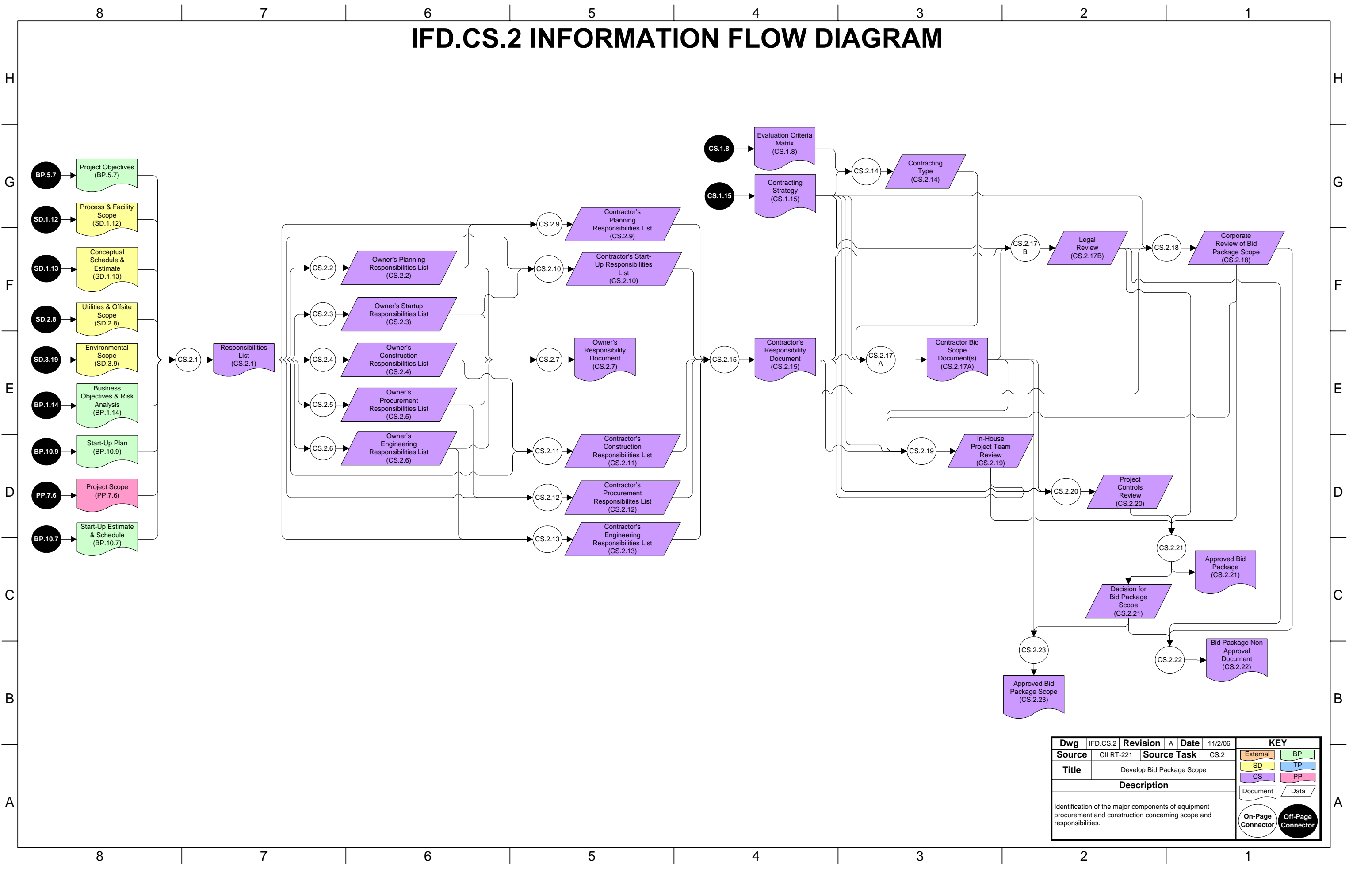
Dwg	IFD.BP.12	Revision	A	Date	10/26/06	KEY		
Source	CII RT-221	Source Task	BP.12	External	BP	SD	TP	
Title	Refine Public Relations						CS	PP
Description								
Finalize public relations plan based upon which project alternative was selected. This is a more detailed PR plan then designated in BP.5								
				Document	Data	On-Page Connector	Off-Page Connector	

# IFD.CS.1 INFORMATION FLOW DIAGRAM



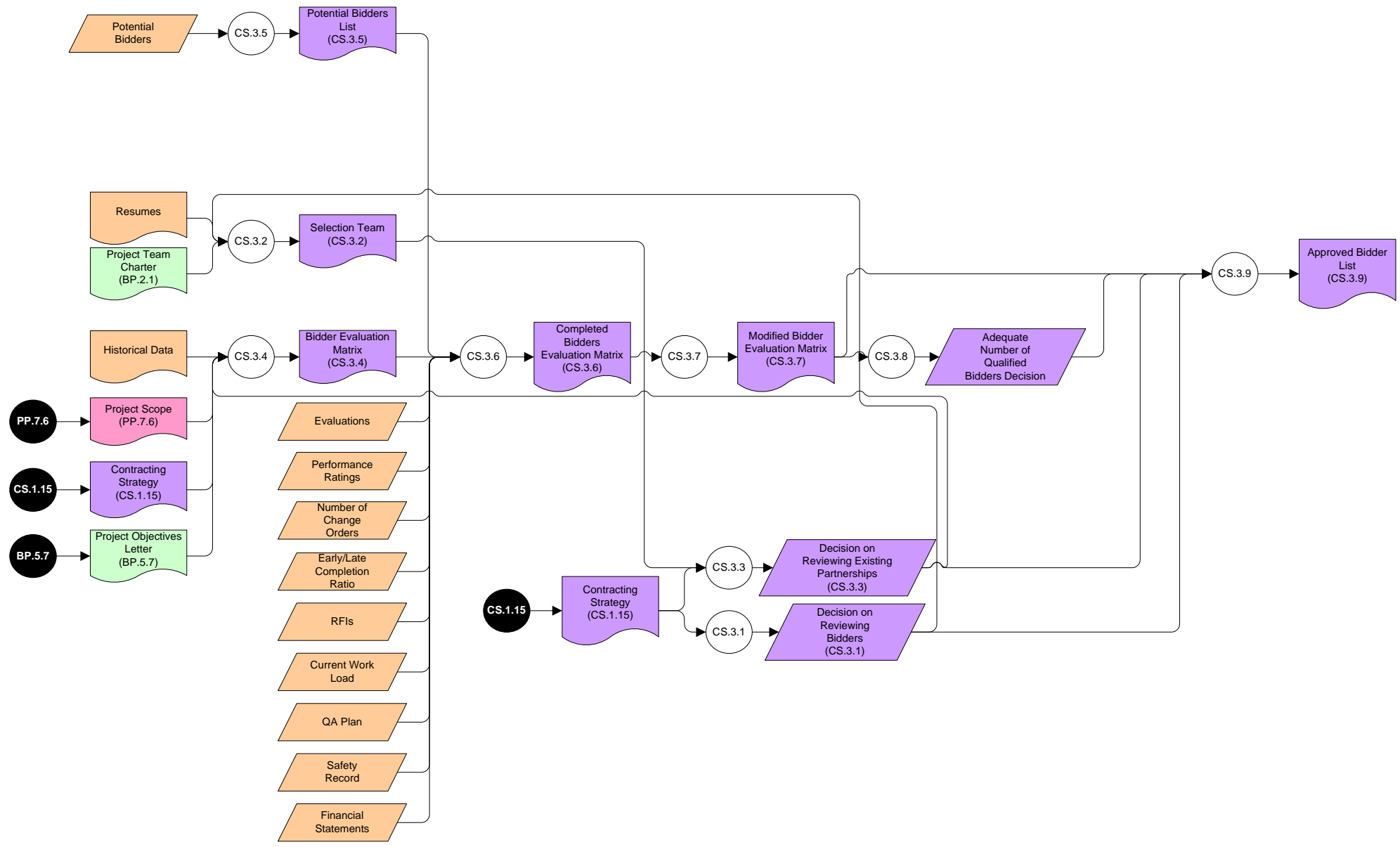
<b>Dwg</b>	IFD.CS.1	<b>Revision</b>	A	<b>Date</b>	11/2/06
<b>Source</b>	CII RT-221	<b>Source Task</b>	CS.1		
<b>Title</b>	Develop Contract Strategy				
<b>Description</b>					
Identification of the major components in the engineering, procurement, and construction concerning responsibilities, scope and costs to achieve the best overall project objectives.					
			<b>KEY</b>		
		External	BP		
		SD	TP		
		CS	PP		
		Document	Data		
		On-Page Connector	Off-Page Connector		

# IFD.CS.2 INFORMATION FLOW DIAGRAM



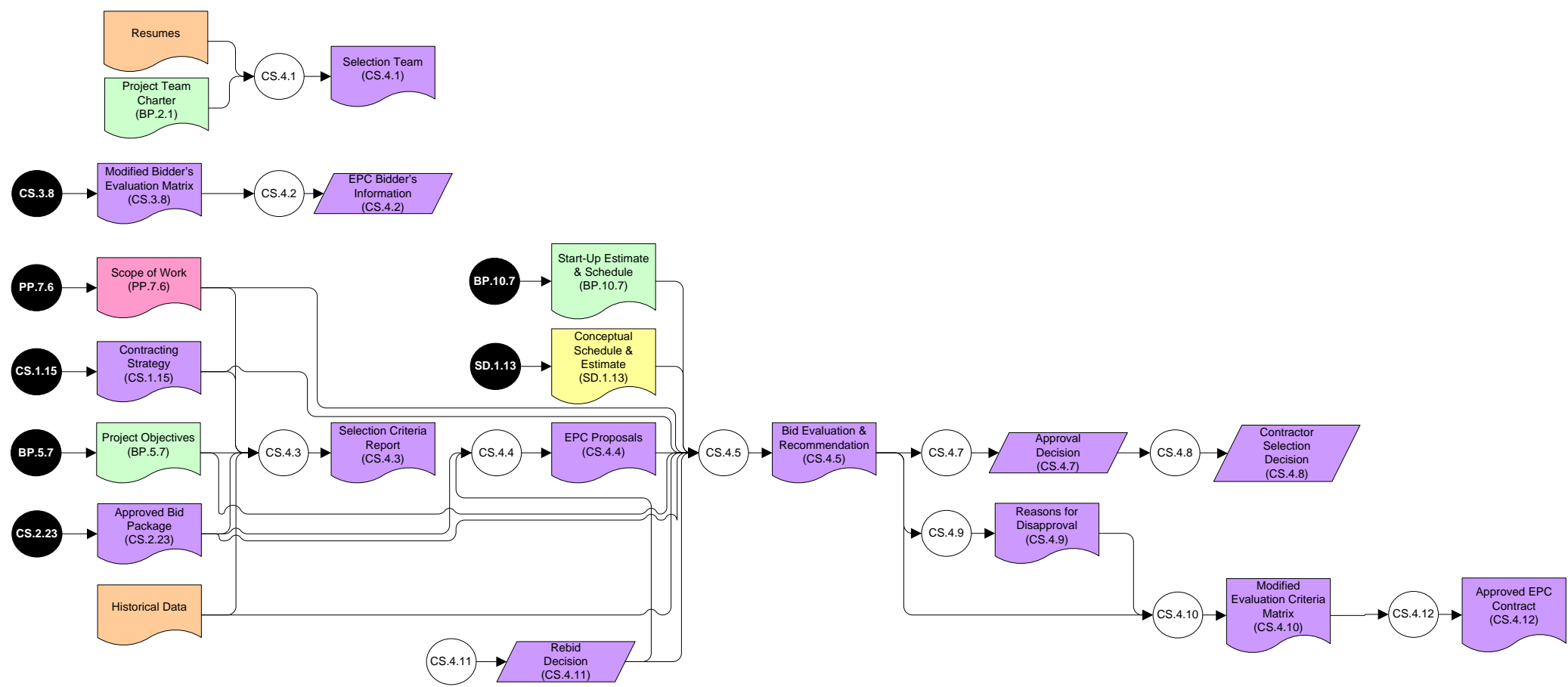
Dwg	IFD.CS.2	Revision	A	Date	11/2/06	KEY		
Source	CII RT-221	Source Task	CS.2	External	BP	SD	TP	
Title	Develop Bid Package Scope						CS	PP
<b>Description</b>								
Identification of the major components of equipment procurement and construction concerning scope and responsibilities.								
				Document	Data	On-Page Connector	Off-Page Connector	

# IFD.CS.3 INFORMATION FLOW DIAGRAM



Dwg	IFD.CS.3	Revision	A	Date	11/9/06
Source	CII RT-221	Source Task	CS.3		
Title	Review Potential Contractor Bidders				
Description					
The process of screening contractors by the project owner, according to a given set of criteria, in order to determine their competence to perform the work if awarded the contract. The organizations' constructability programs or accomplishments may be a factor that is considered in this evaluation. Includes approved bidders list - List of a group of Suppliers or Subcontractors that have been approved to provide bids or quotations for materials or services for a particular single package.					
		KEY			
		External	BP		
		SD	TP		
		CS	PP		
		Document	Data		
		On-Page Connector	Off-Page Connector		

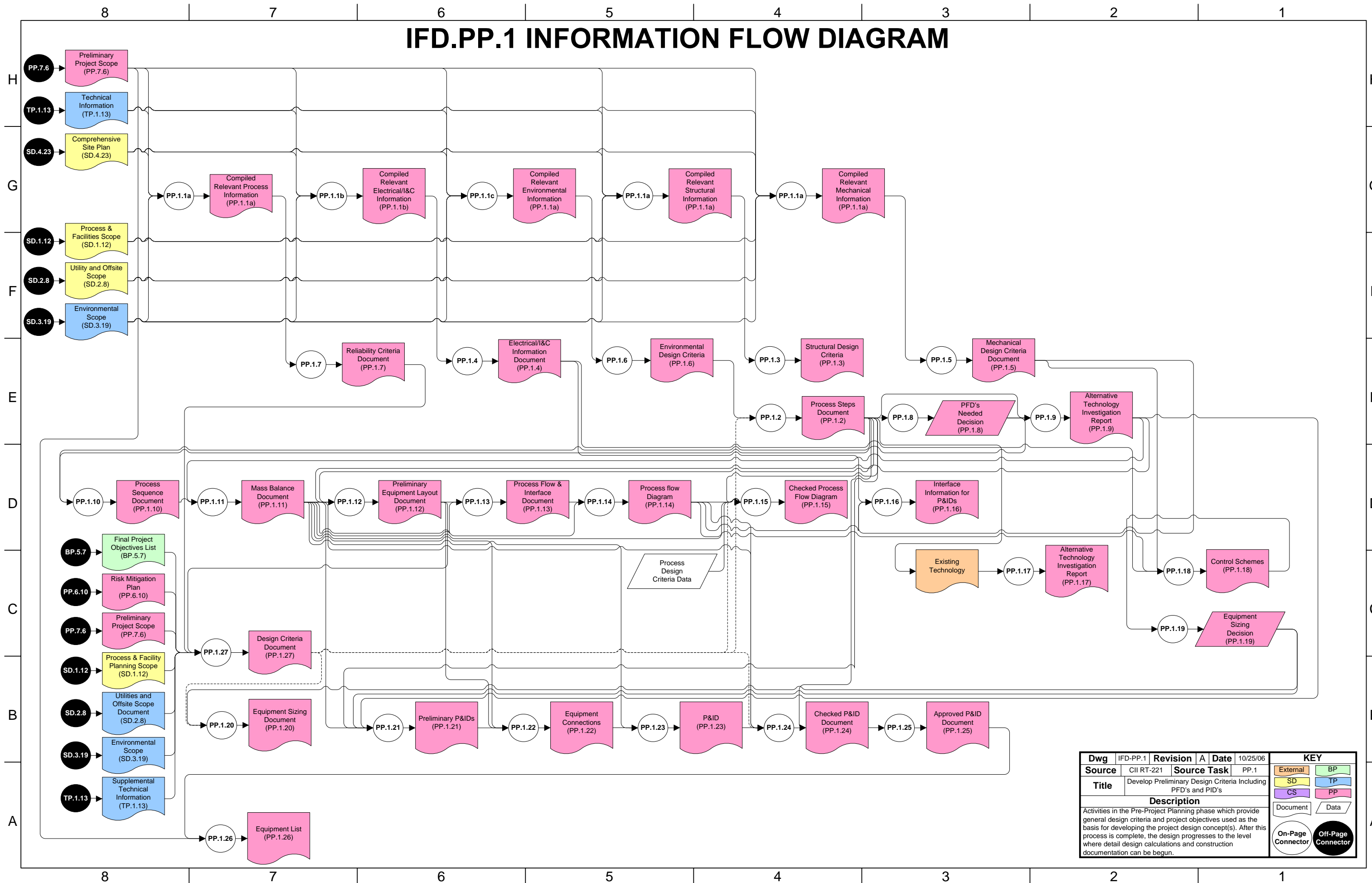
# IFD.CS.4 INFORMATION FLOW DIAGRAM



Dwg	IFD.CS.4	Revision	A	Date	11/2/06
Source	CII RT-221	Source Task	CS.4		
Title	Select Contractor Team				
Description					
Selection of one firm or a team of firms for the actual engineering, procurement, and construction process.					
		<b>KEY</b> External BP SD TP CS PP Document Data			
		On-Page Connector	Off-Page Connector		

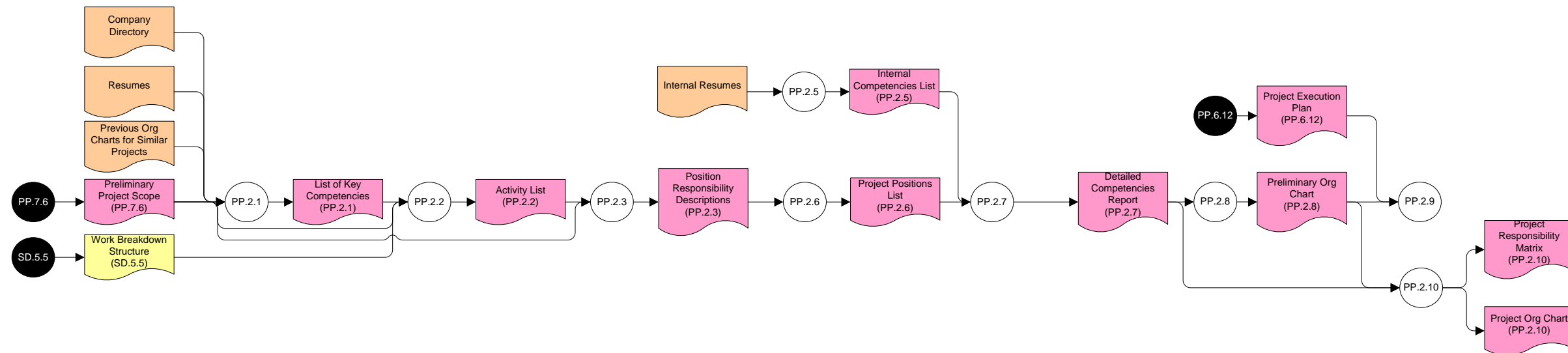


# IFD.PP.1 INFORMATION FLOW DIAGRAM



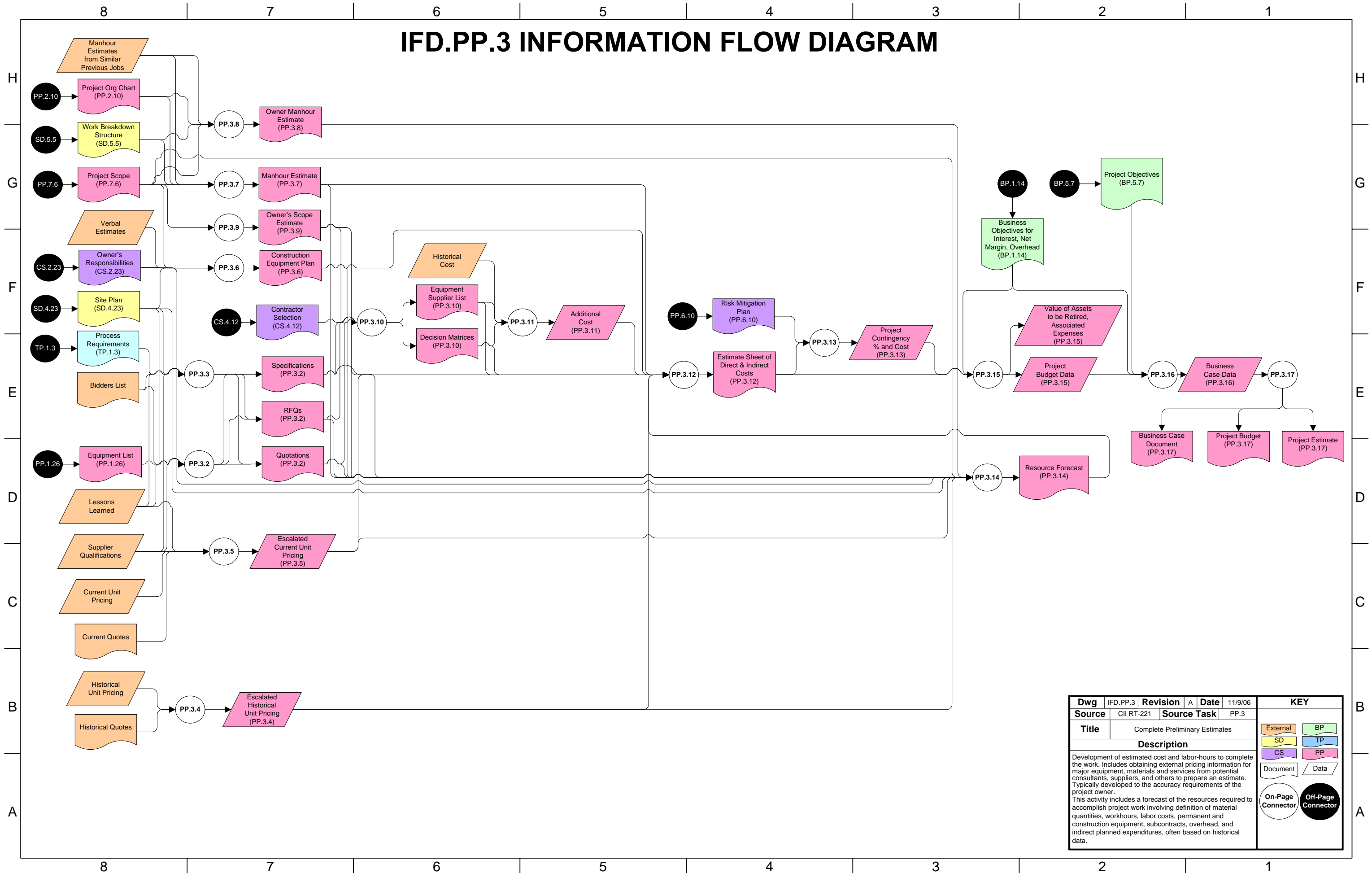
Dwg	IFD-PP.1	Revision	A	Date	10/25/06
<b>Source</b>	CII RT-221	<b>Source Task</b>	PP.1		
<b>Title</b>	Develop Preliminary Design Criteria Including PFD's and PID's				
<b>Description</b>					
Activities in the Pre-Project Planning phase which provide general design criteria and project objectives used as the basis for developing the project design concept(s). After this process is complete, the design progresses to the level where detail design calculations and construction documentation can be begun.					
<b>KEY</b>					
External	BP	SD	TP	CS	PP
Document	Data	On-Page Connector	Off-Page Connector		

# IFD.PP.2 INFORMATION FLOW DIAGRAM



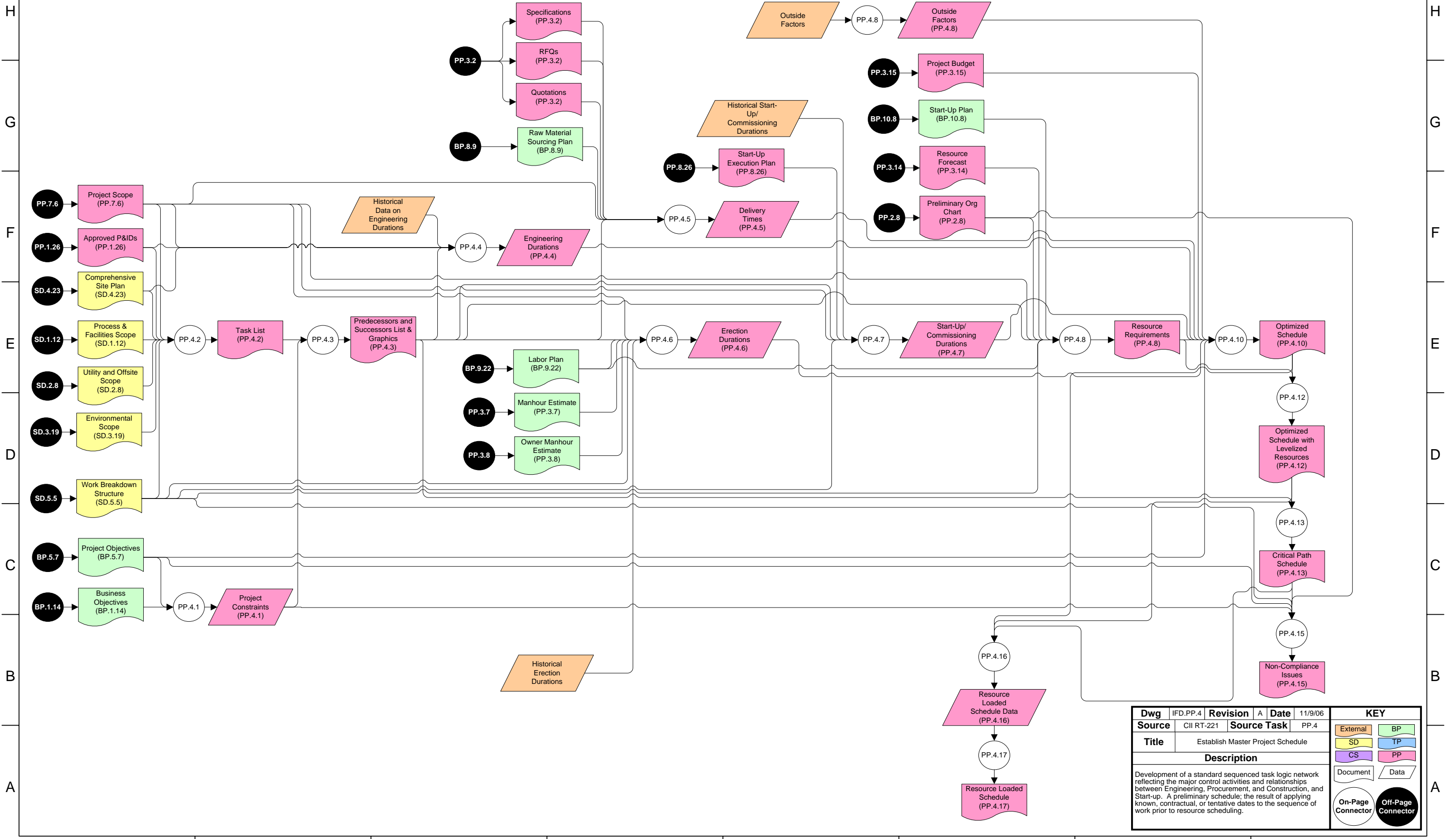
Dwg	IFD.PP.2	Revision	A	Date	11/9/06	KEY		
Source	CII RT-221	Source Task	PP.2				External	BP
Title	Formulate Preliminary Organization						SD	TP
Description								
Development of senior management assignments and projects responsibilities for design and construction.								
						CS	PP	
						Document	Data	
						On-Page Connector	Off-Page Connector	

# IFD.PP.3 INFORMATION FLOW DIAGRAM



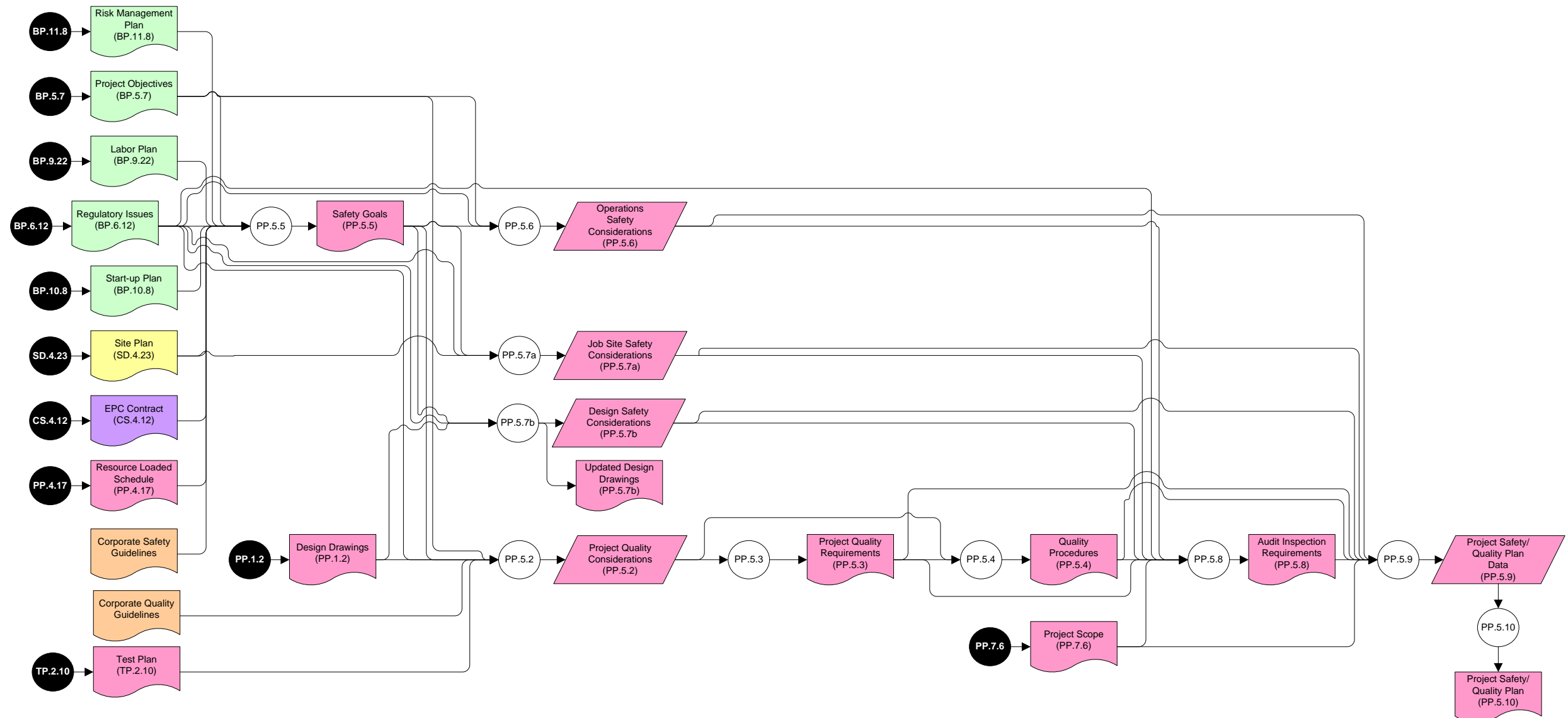
Dwg	IFD.PP.3	Revision	A	Date	11/9/06	KEY	
Source	CII RT-221	Source Task	PP.3	Description			
Development of estimated cost and labor-hours to complete the work. Includes obtaining external pricing information for major equipment, materials and services from potential consultants, suppliers, and others to prepare an estimate. Typically developed to the accuracy requirements of the project owner.						External	BP
This activity includes a forecast of the resources required to accomplish project work involving definition of material quantities, workhours, labor costs, permanent and construction equipment, subcontracts, overhead, and indirect planned expenditures, often based on historical data.						SD	TP
						CS	PP
						Document	Data
						On-Page Connector	Off-Page Connector

# IFD.PP.4 INFORMATION FLOW DIAGRAM



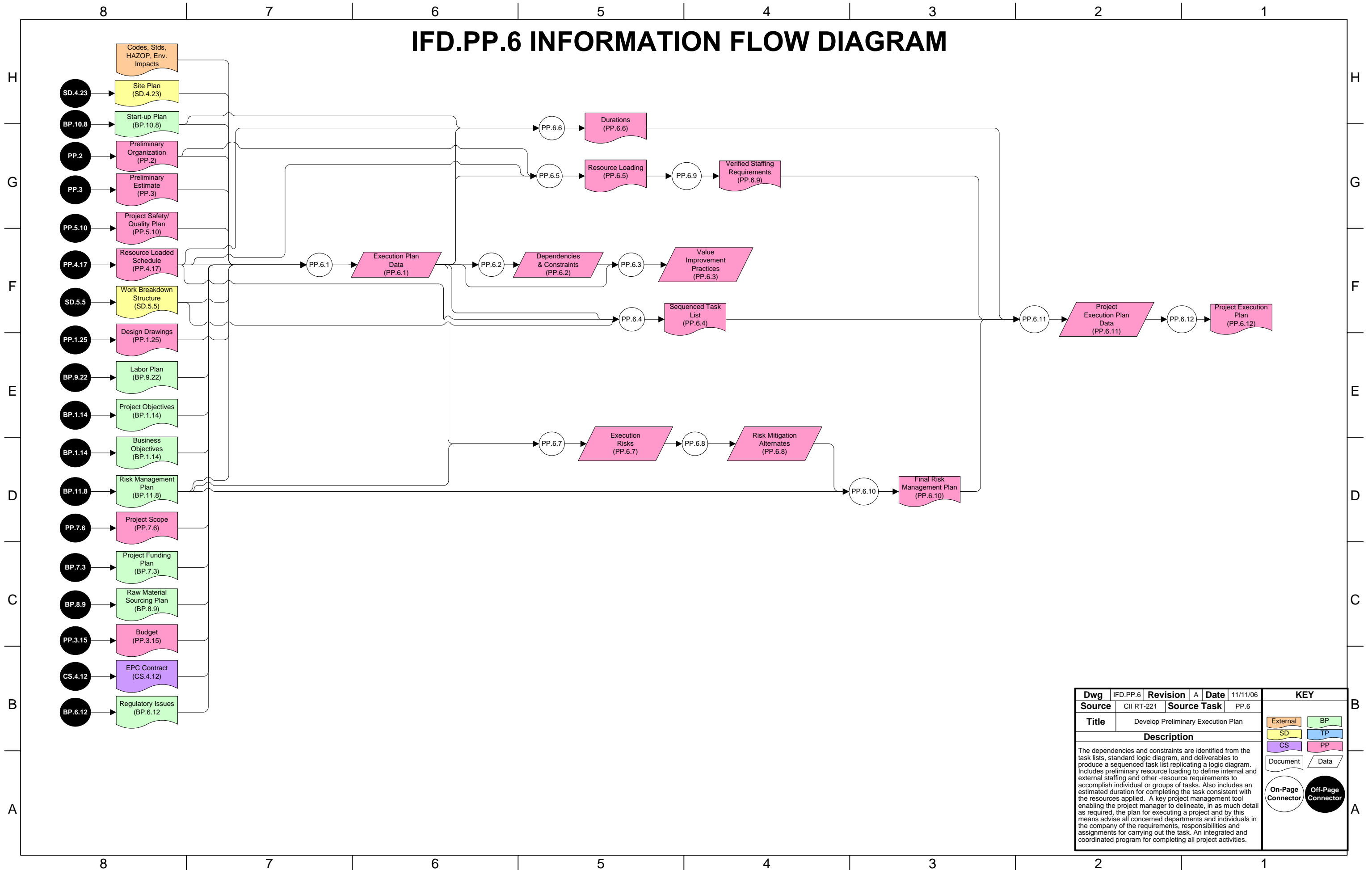
Dwg	IFD.PP.4	Revision	A	Date	11/9/06
Source	CII RT-221	Source Task	PP.4		
Title	Establish Master Project Schedule				
Description					
Development of a standard sequenced task logic network reflecting the major control activities and relationships between Engineering, Procurement, and Construction, and Start-up. A preliminary schedule; the result of applying known, contractual, or tentative dates to the sequence of work prior to resource scheduling.					
KEY					
External	BP	SD	TP	CS	PP
Document	Data				
On-Page Connector	Off-Page Connector				

# IFD.PP.5 INFORMATION FLOW DIAGRAM



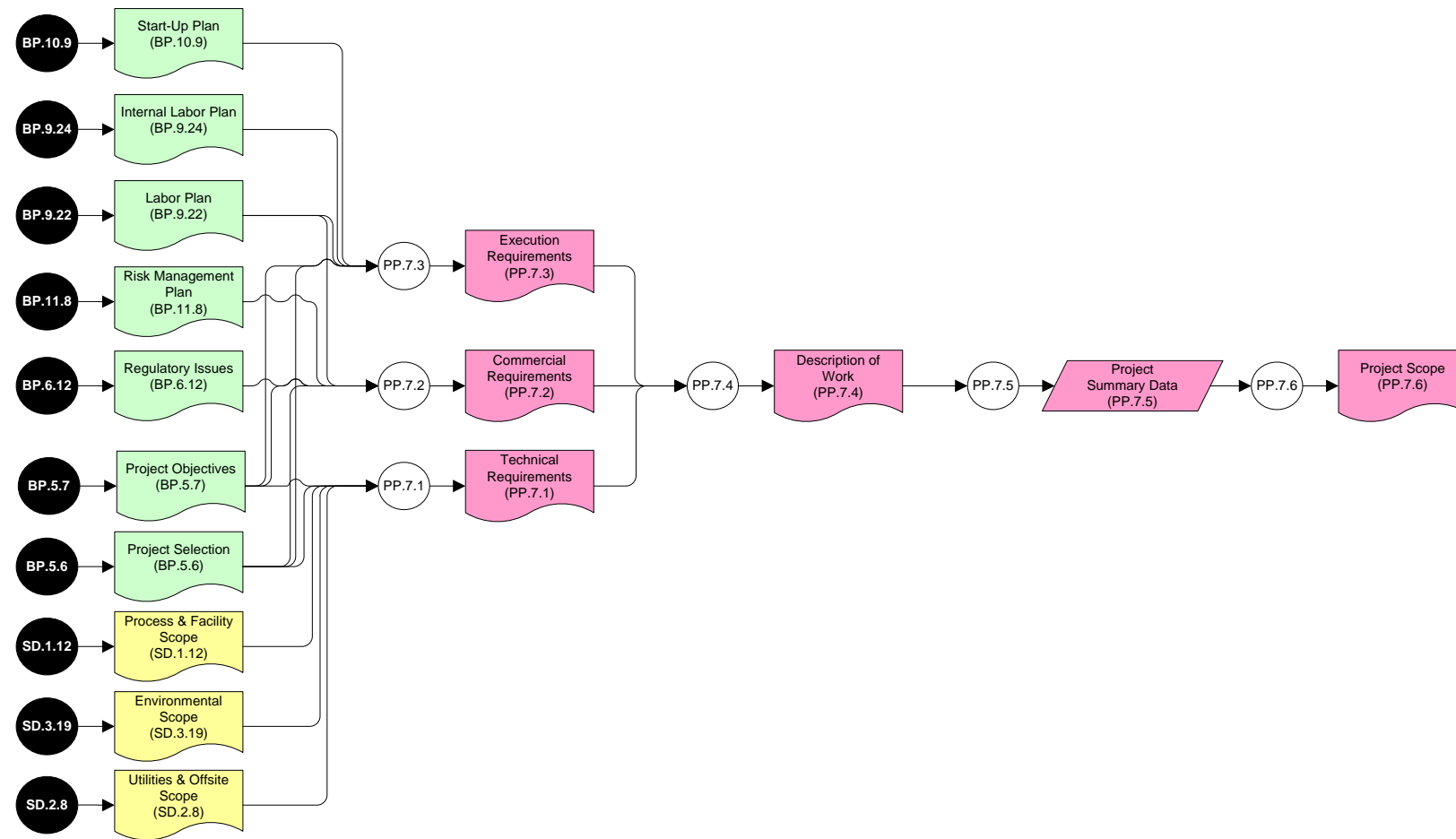
<b>Dwg</b>	IFD.PP.5	<b>Revision</b>	A	<b>Date</b>	11/9/06
<b>Source</b>	CII RT-221	<b>Source Task</b>	PP.5		
<b>Title</b>	Address Quality and Safety Issues				
<b>Description</b>					
Development of quality and safety management systems; development of procedures for quality and safety improvement processes.					
		<b>KEY</b>			
External	BP	SD	TP		
CS	PP	Document	Data		
On-Page Connector	Off-Page Connector				

# IFD.PP.6 INFORMATION FLOW DIAGRAM



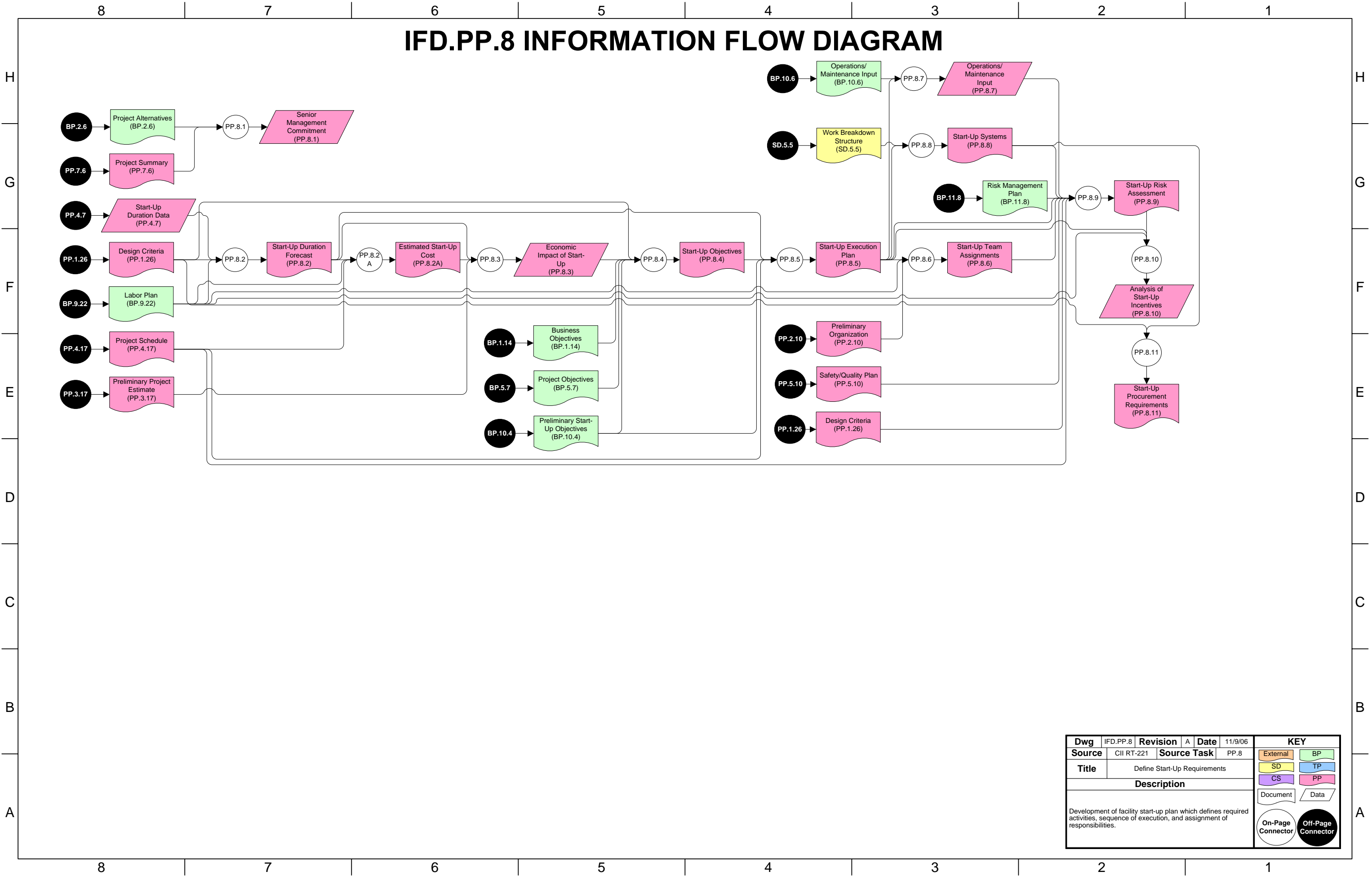
Dwg	IFD.PP.6	Revision	A	Date	11/11/06	KEY		
Source	CII RT-221	Source Task	PP.6			External	BP	
Title	Develop Preliminary Execution Plan						SD	TP
<b>Description</b>								
The dependencies and constraints are identified from the task lists, standard logic diagram, and deliverables to produce a sequenced task list replicating a logic diagram. Includes preliminary resource loading to define internal and external staffing and other -resource requirements to accomplish individual or groups of tasks. Also includes an estimated duration for completing the task consistent with the resources applied. A key project management tool enabling the project manager to delineate, in as much detail as required, the plan for executing a project and by this means advise all concerned departments and individuals in the company of the requirements, responsibilities and assignments for carrying out the task. An integrated and coordinated program for completing all project activities.								
						Document	Data	
						On-Page Connector	Off-Page Connector	

# IFD.PP.7 INFORMATION FLOW DIAGRAM



Dwg	IFD.PP.7	Revision	A	Date	11/9/06								
<b>Source</b>	CII RT-221	<b>Source Task</b>	PP.7										
<b>Title</b>	Compile Project Scope												
<b>Description</b>													
Consolidation of facility scope plan activities and feedback of technical, commercial, and project execution requirements from instructions and/or consultation with the client. Written description of work provides sufficient detail for identification of project tasks, sequence, and relationships. Develop preliminary summary of project characteristics, contractual arrangements, and related project information.													
		<table border="1"> <tr> <td>External</td> <td>BP</td> </tr> <tr> <td>SD</td> <td>TP</td> </tr> <tr> <td>CS</td> <td>PP</td> </tr> </table>		External	BP	SD	TP	CS	PP	<table border="1"> <tr> <td>Document</td> <td>Data</td> </tr> </table>		Document	Data
External	BP												
SD	TP												
CS	PP												
Document	Data												
		On-Page Connector	Off-Page Connector										

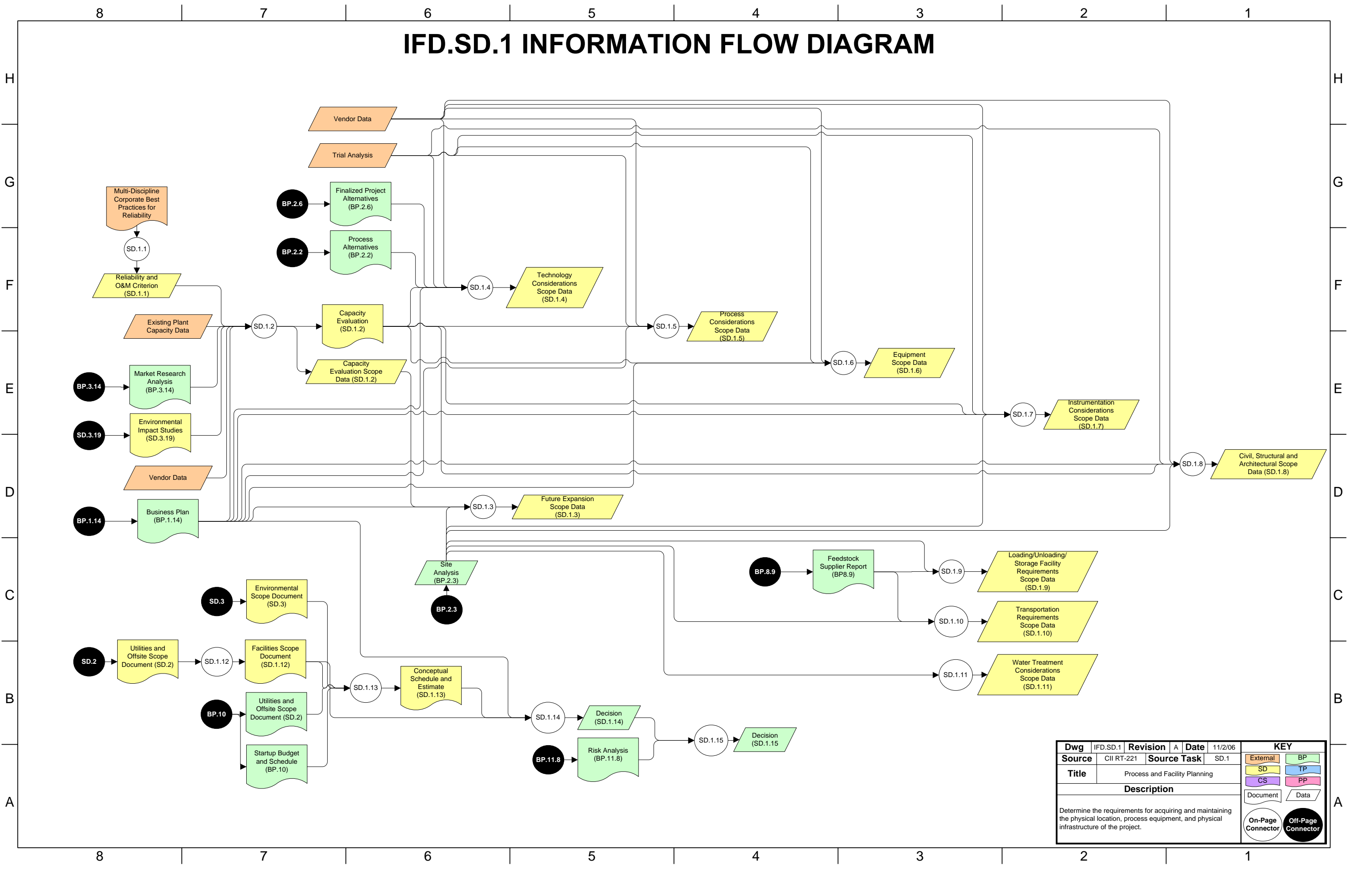
# IFD.PP.8 INFORMATION FLOW DIAGRAM



Dwg	IFD.PP.8	Revision	A	Date	11/9/06
<b>Source</b>	CII RT-221	<b>Source Task</b>	PP.8		
<b>Title</b>	Define Start-Up Requirements				
<b>Description</b>					
Development of facility start-up plan which defines required activities, sequence of execution, and assignment of responsibilities.					
		External	BP		
		SD	TP		
		CS	PP		
		Document	Data		
		On-Page Connector	Off-Page Connector		

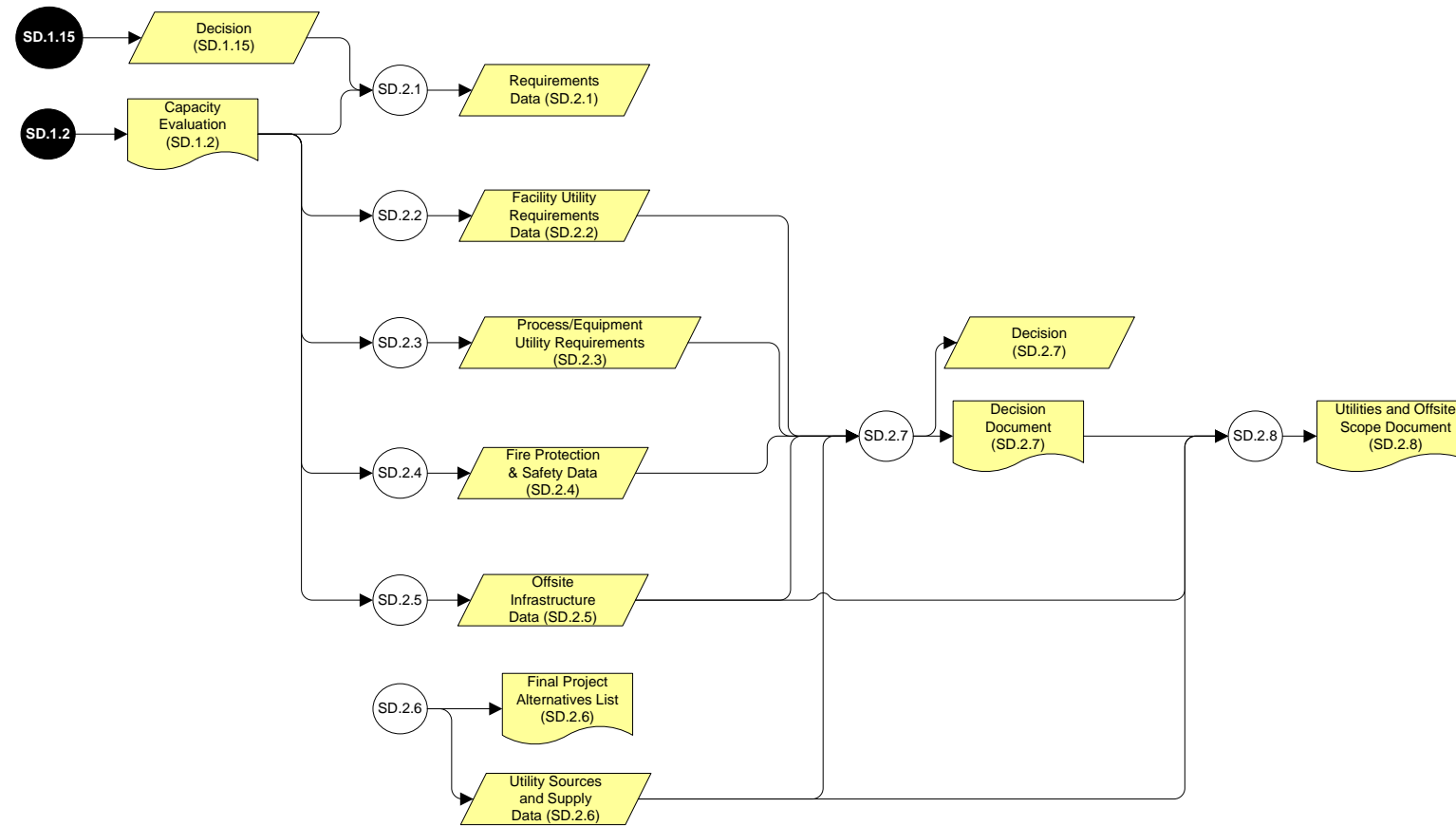


# IFD.SD.1 INFORMATION FLOW DIAGRAM



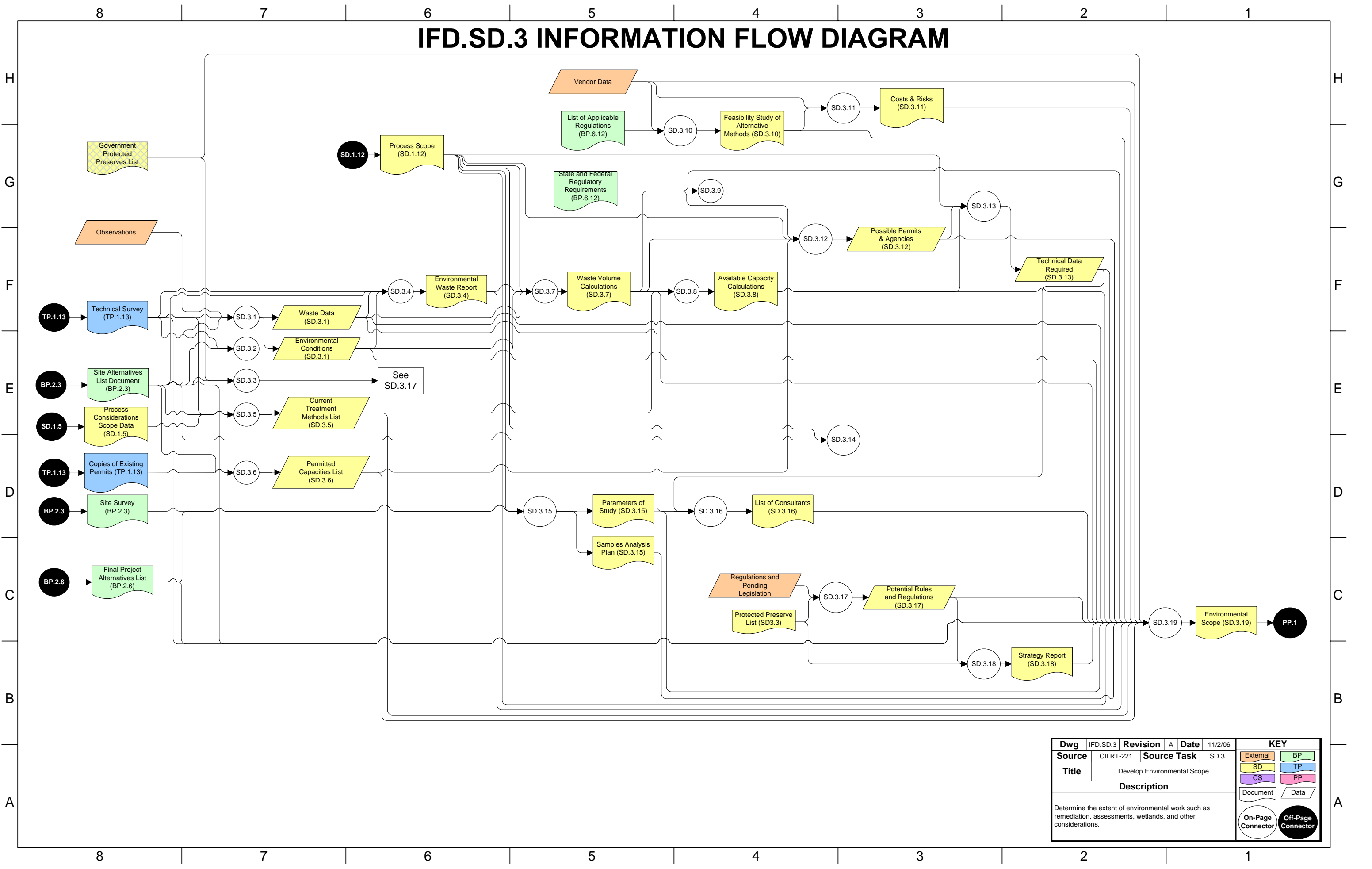
Dwg	IFD.SD.1	Revision	A	Date	11/2/06
Source	CII RT-221	Source Task	SD.1		
Title	Process and Facility Planning				
<b>Description</b>					
Determine the requirements for acquiring and maintaining the physical location, process equipment, and physical infrastructure of the project.					
		<b>KEY</b> <span style="background-color: #FFD700; border: 1px solid black; padding: 2px;">External</span> <span style="background-color: #90EE90; border: 1px solid black; padding: 2px;">BP</span> <span style="background-color: #FFFF00; border: 1px solid black; padding: 2px;">SD</span> <span style="background-color: #ADD8E6; border: 1px solid black; padding: 2px;">TP</span> <span style="background-color: #DDA0DD; border: 1px solid black; padding: 2px;">CS</span> <span style="background-color: #FFB6C1; border: 1px solid black; padding: 2px;">PP</span> <span style="border: 1px solid black; padding: 2px;">Document</span> <span style="border: 1px solid black; padding: 2px;">Data</span>			
		<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">On-Page Connector</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Off-Page Connector</span>			

# IFD.SD.2 INFORMATION FLOW DIAGRAM



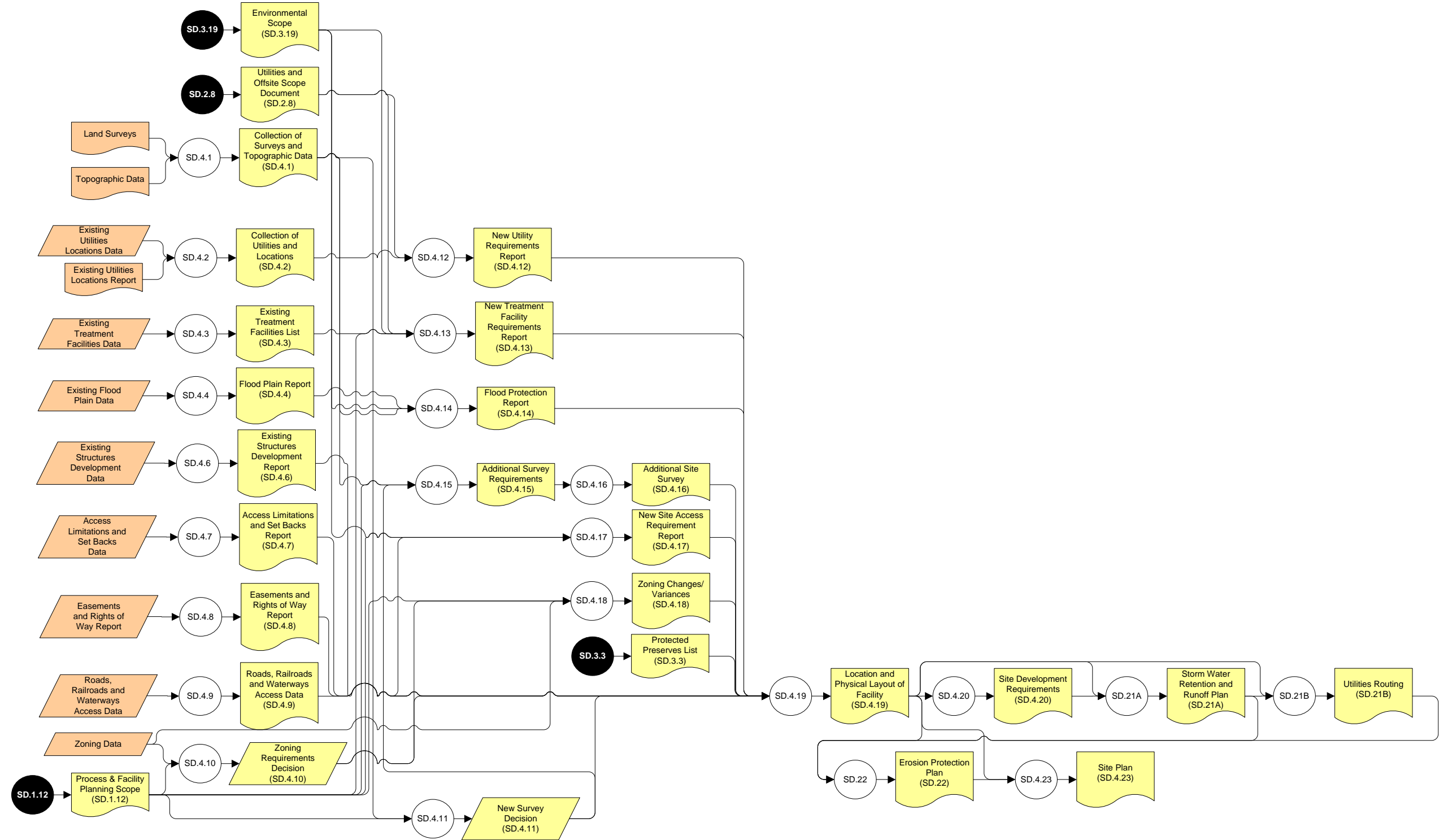
<b>Dwg</b>	IFD.SD.2	<b>Revision</b>	A	<b>Date</b>	11/2/06	<b>KEY</b>	
<b>Source</b>	CII RT-221	<b>Source Task</b>	SD.2	External	BP	SD	TP
<b>Title</b>	Develop Utilities and Offsite Scope					CS	PP
<b>Description</b>						Document	Data
Determine the requirements for power, water, sewer and other utilities and/or infrastructure, as well as other support facilities not part of the immediate location.						On-Page Connector	Off-Page Connector

# IFD.SD.3 INFORMATION FLOW DIAGRAM



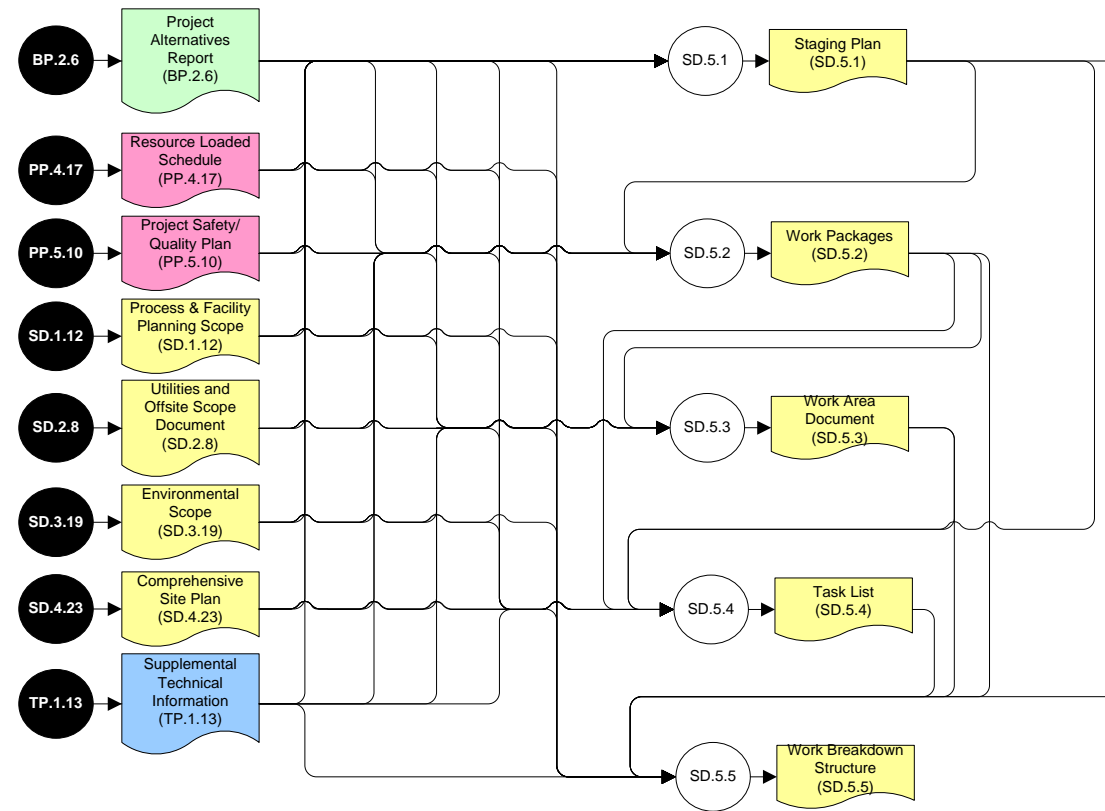
Dwg	IFD.SD.3	Revision	A	Date	11/2/06	KEY		
Source	CII RT-221	Source Task	SD.3	External	BP	SD	TP	
Title	Develop Environmental Scope						CS	PP
Description								
Determine the extent of environmental work such as remediation, assessments, wetlands, and other considerations.								
				Document	Data	On-Page Connector	Off-Page Connector	

# IFD.SD.4 INFORMATION FLOW DIAGRAM



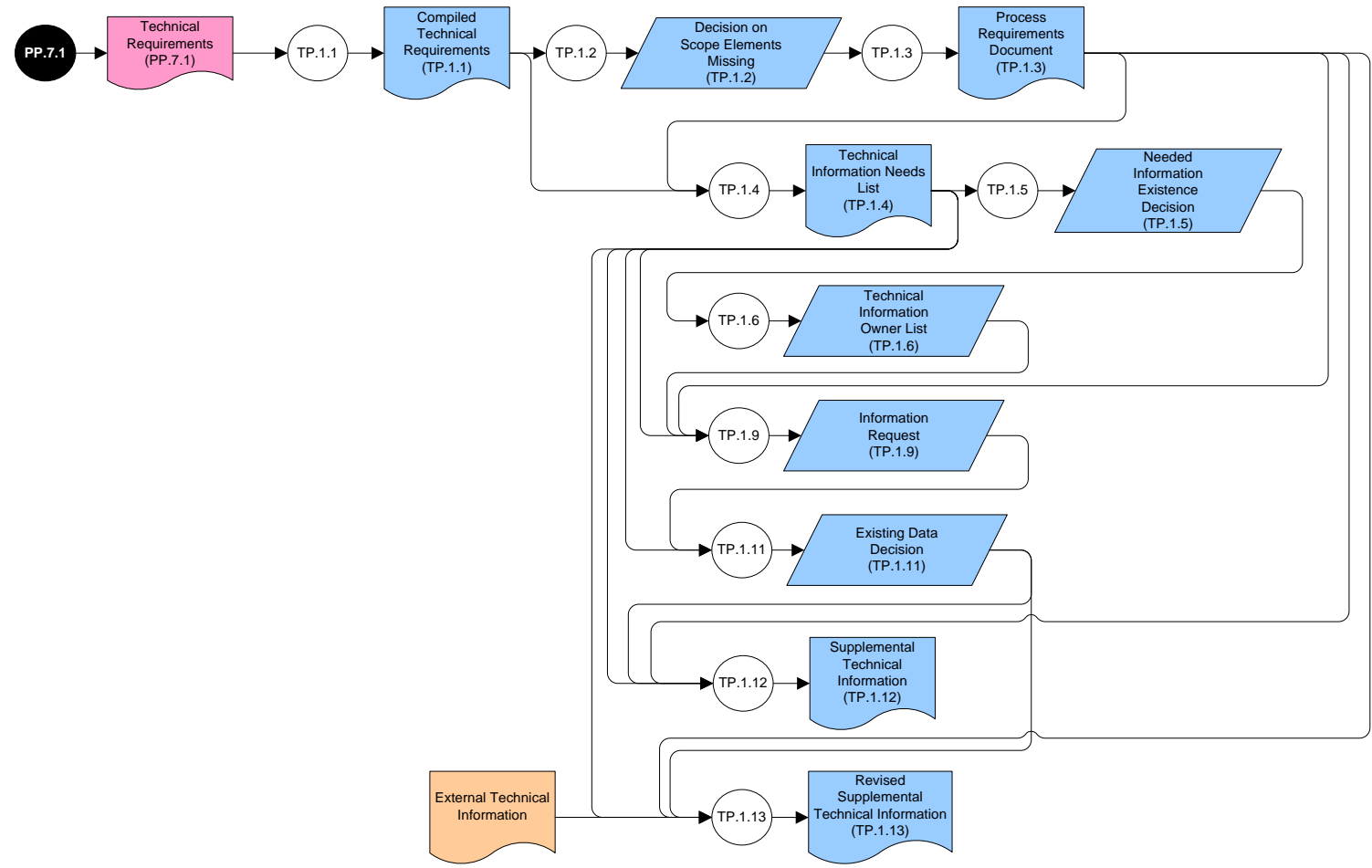
Dwg	IFD.SD.4	Revision	A	Date	11/2/06										
Source	CII RT-221	Source Task	SD.4												
Title	Develop Site Plan														
<b>Description</b>															
Determine the location and physical layout of facilities, utilities, infrastructure and other support processes or structures.															
		<table border="1"> <tr> <th colspan="2">KEY</th> </tr> <tr> <td>External</td> <td>BP</td> </tr> <tr> <td>SD</td> <td>TP</td> </tr> <tr> <td>CS</td> <td>PP</td> </tr> <tr> <td>Document</td> <td>Data</td> </tr> </table>		KEY		External	BP	SD	TP	CS	PP	Document	Data		
KEY															
External	BP														
SD	TP														
CS	PP														
Document	Data														
		On-Page Connector	Off-Page Connector												

# IFD.SD.5 INFORMATION FLOW DIAGRAM



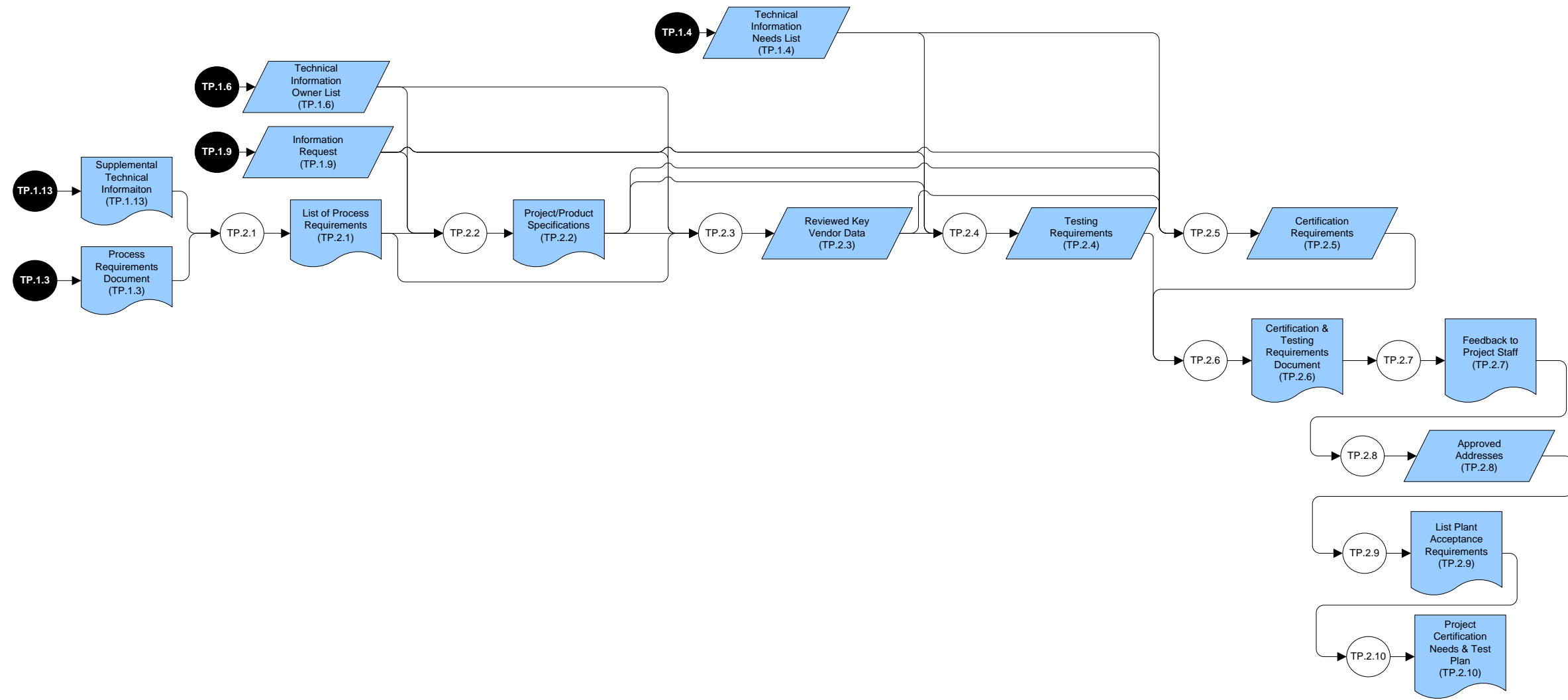
Dwg	IFD.SD.5	Revision	A	Date	11/2/06	KEY	
Source	CII RT-221	Source Task	SD.5	External	BP	TP	
Title	Detail Work Breakdown Structure					CS	PP
Description						Document	Data
Preparation of a list of tasks and deliverables that break the work scope into manageable work pieces, including time and cost aspects.						On-Page Connector	Off-Page Connector

# IFD.TP.1 INFORMATION FLOW DIAGRAM



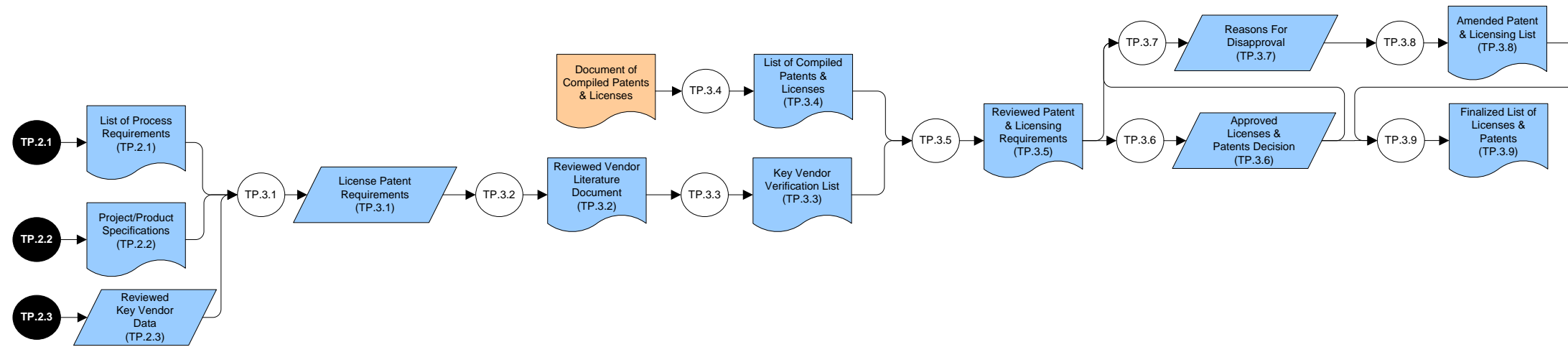
<b>Dwg</b>	IFD.TP.1	<b>Revision</b>	A	<b>Date</b>	1/5/07	<b>KEY</b>	
<b>Source</b>	CII RT-221	<b>Source Task</b>	TP.1			External	BP
<b>Title</b>	Conduct Technical Surveys & Process Analysis					SD	TP
<b>Description</b>						CS	PP
						Document	Data
Collection of initial technical information that may be in the form of drawings, engineering specifications, and other information formats that is used to define plant components and process requirements.						On-Page Connector	Off-Page Connector

# IFD.TP.2 INFORMATION FLOW DIAGRAM



<b>Dwg</b>	IFD.TP.2	<b>Revision</b>	A	<b>Date</b>	1/5/07	<b>KEY</b>	
<b>Source</b>	CII RT-221	<b>Source Task</b>	TP.2	External	BP	SD	TP
<b>Title</b>	Product Development/Identify Certification and Testing Procedures				CS	PP	
<b>Description</b>							
Collection of initial technical information that may be in the form of drawings, engineering specifications, and other information forms that is used to define plant components and process requirements							
				On-Page Connector	Off-Page Connector		

# IFD.TP.3 INFORMATION FLOW DIAGRAM



Dwg	IFD.TP.3	Revision	A	Date	1/5/07	KEY		
Source	CII RT-221	Source Task	TP.3			External	BP	
Title	Obtain License Agreements						SD	TP
Description								
Activities to secure appropriate patents and licenses for processes and products associated with the project's development and life-cycle operation. Procedures focused on ensuring that proprietary products and processes are secure.								
						CS	PP	
						Document	Data	
						On-Page Connector	Off-Page Connector	



# IFD.TP.4 INFORMATION FLOW DIAGRAM

