

APPENDIX 01 – DOCUMENT REVIEW CHECKLISTS

A. Intent of Document Review Checklists:

1. The following checklists have been developed as a guideline to present items that are required for document submittals. The lists are not all inclusive; some projects may require items that are not included, and other projects may not require all the items indicated. It is the AE's responsibility to verify inclusion of all required information for the project scope of work.

B. Contents:

1. Concept – Schematic Design Review Checklist
2. Design Development - Construction Documents Review Checklist

The following checklist has been developed as a guideline to present items that are required for document submittals. This list is not all inclusive; some projects may require items that are not listed below, and other projects may not require all the items indicated. It is the Design Professionals responsibility to verify inclusion of all required information for the project scope of work.

Verify the following are included on Drawings:		STD* Standard requirements for all project submittals, regardless of project scope of work, indicated with (x)	
ITEM		STD*	COMMENTS
1	University Standard Border/ Title Block		<ul style="list-style-type: none"> • Not required for Concept Submittal • Required for Schematic Design (typical for all sheets) Refer to: https://ipo.rutgers.edu/pdd/resources for link to .ZIP file
2	Complete Title Block including: -Firm Name / A/E Logo -Architect Name -Project Name -Building Name -Project/ Building Address -Bldg. No. -RU Project No. -Date	X	<ul style="list-style-type: none"> • Verify completion <u>and accuracy</u> • If project is Engineer only, then Engineer's name in Title Block • For Concept Submittals, information may be included on Cover Sheet without Title Block.
3	Project Name and Campus	X	Locate on Cover Sheet
4	Name, address and contact information of A/E and any consultants on the project	X	Locate on Cover Sheet
5	Location map, showing project location in its geographic area, with address	X	<ul style="list-style-type: none"> • For Concept Submittal, locate as applicable • For Schematic Design, locate on Cover Sheet
6	Key Plan	X	Locate in drawing set as applicable. (Cover Sheet)
7	Scope of Work Description	X	<ul style="list-style-type: none"> • For Concept Submittal, locate as applicable • For Schematic Design, provide narrative on Cover Sheet
8	Code Data	X	List New Jersey Code criteria and data as applicable to project scope of work. Refer to: https://www.state.nj.us/dca/divisions/codes/codreg/
9	Code Analysis	X	Refer 9.1 - 9.6 below
9.1	Construction Class	X	<ul style="list-style-type: none"> • For Concept Submittal, locate as applicable • For Schematic Design, locate on Cover Sheet
9.2	Use Group / Occupancy Classification	X	<ul style="list-style-type: none"> • For Concept Submittal, locate as applicable • For Schematic Design, locate on Cover Sheet
9.3	Sprinklered / Non Sprinklered Building	X	State if sprinklers are required, if exist building state if sprinklered or non-sprinklered.
9.4	Height Analysis; required for new buildings or additions		
9.5	Area of Modification calculations		
9.6	Identification of Mixed Use and Occupancy Classifications in buildings containing more than one occupancy group, if applicable		
10	Geotechnical Report		

ITEM	STD*	COMMENTS
11 Site Plan showing: -metes and bounds -orientation -roadways (on site) curbs, walks, parking areas, fire lanes and loading docks -building footprint (existing structures to remain and/or be demolished) -barrier free parking, accessible routes, curb cuts, drop-offs -vegetation (existing and new) -site survey showing existing utilities		
12 Architectural plans, elevations and sections including: -floor plans showing areas, functional uses and relationships of services to each other -actual or program occupancy for each space -accessibility provisions included in planning -simple vertical sections or space diagrams -transverse and longitudinal sections -if the project is an addition or alteration, new construction shall be shown in relationship to the existing building	X	All plans and elevations to be same scale - include enlarged plans/sections/details as needed.
13 Fire and Egress Plans of each floor showing: -exits (sign direction) -fire walls -rated corridors -horizontal exits -smoke barriers -sprinklered/ non sprinklered building		
14 Structural, Mechanical, Electrical and Plumbing Outline and Conceptual Design		

1. The following checklist has been developed as a guideline to present items that are required for document submittals. This list is not all inclusive; some projects may require items that are not listed below, and other projects may not require all the items indicated. It is the Design Professionals responsibility to verify inclusion of all required information for the project scope of work.

Verify the following are included on Drawings:		STD* Standard requirements for all project submittals, regardless of project scope of work, indicated with (x)	
SHEET	ITEM	STD*	COMMENTS
ALL SHEETS	Typical for all sheets, Architectural and all Consultants		Refer to: CAD Standards Manual (current version)
	1 University Standard Border/ Title Block	X	Refer to (typical for all sheets): https://ipo.rutgers.edu/pdd/consultants-cad-standards Page 3 link to .ZIP file
	2 Complete Title Block including: -Firm Name / A/E Logo -Architect Name, License Number and Date -Project Name -Building Name -Project/ Building Address -Bldg. No. -RU Project No. -Date	X	Verify completion <u>and accuracy</u> If project is Engineer only, then Engineer's name and license number in Title Block
TITLE SHEET	Provide Title Sheet/ Cover Sheet	X	Use RU Std Cover Sheet Template Refer to: CAD Standards Manual (current version)
	1 Project Name and Campus	X	In large font, centered on sheet (sample included in AutoCAD file)
	2 Name, address and contact information of A/E and any consultants on the project	X	
	3 Sheet Index	X	All drawings included in the Contract Documents
	4 Location map	X	Show project location in its geographic area, with address
	5 Key Plan	X	Locate on Cover Sheet and as applicable in drawing set
	6 North Arrow	X	Identify true north and project north on Location Map and Key Plan
	7 Scope of Work Description	X	
	8 Code Data	X	List New Jersey Code criteria and data as applicable to project scope of work Refer to: https://www.state.nj.us/dca/divisions/codes/codreg/
	9 Code Analysis	X	Refer 9.1 - 9.11 below
	9.1 Project Definition for Rehabilitation Projects		Per NJAC 5:23:6 - Define if Repair, Renovation, Alteration, Reconstruction, Change of Use or Additions and applicable requirements
	9.2 Construction Class	X	
	9.3 Use Group / Occupancy Classification	X	
	9.4 Occupancy Count	X	Required for new construction. In existing buildings, if occupancy count is unchanged, state so. If count changes, provide plumbing fixture count
	9.5 Plumbing Fixture Count		Required for new construction. For Rehabilitation Projects, required only if occupancy count changes or if there is a change of use.
	9.6 Sprinklered / Non Sprinklered Building	X	In new construction, state if sprinklers are required For Rehabilitation Projects, state if exist building is sprinklered or non-sprinklered.

SHEET	ITEM	STD*	COMMENTS
	9.7		Height of New Construction Per NJ IBC 504 - provide height analysis; required for new buildings or additions
	9.8		Area of Modification Calculations Per NJ IBC 506 - provide as required
	9.9		Identification of Mixed Use and Occupancy Classifications in buildings containing more than one occupancy group Per NJ IBC 508 - Identify defined areas for separated and non-separated occupancies, accessory occupancies and incidental uses - and required fire separations and
	9.10		Risk Category based on Use Group Per NJ IBC 1604.5 - if required for project scope of work
	9.11		Comcheck Documents Show compliance with Energy Subcode if required for Scope of Work
	10		General Notes As determined by A/E for Scope of Work
	11	X	Symbols and Abbreviations As used in the Contract Documents
	12		List of Alternates Describe Alternates with drawing numbers, if applicable
	13		Construction Notes including Solid Waste & Recycling Requirements and Renovation Solid Waste & Recycling Requirements Per University Design Standards, refer to Division 01 or standard notes provided by Rutgers PM.
	14	X	Cloud all revisions with written response to review comments For all submittals until Signed For Bid/ Permit Set, then remove all previous clouds
CIVIL/ SITE	Provide Civil/ Site Drawings		As required for Scope of Work
	1		Application
	2		3 sets SESC Plans
	3		Fee
	4		Overall Plan (site plan)
	5		Sealed Plans
	6		Key Map
	7		Title
	8		North Arrow
	9		Limit of Disturbance
	10		Sequence of Construction
	11		Structures (proposed/existing)
	12		Contours/Spot Elevations
	13		Over 1 acre of disturbance RFA
	14		Inlet Protection and Detail
	15		Silt Fence and Detail
	16		Stone Entrance and Detail
	17		Freehold or applicable SCD notes
	18		Perm Seeding Specs
	19		Temp Seeding Specs
	20		Non Growing Season Specs—Mulching
	21		Stockpiles and Detail
	22		Foundation drain and site specific details
	23		Foundation drain connection - specific to the civil set as well as coordinated on the MEP set
	24		Soil compaction notes and specs
	25		Geotechnical report with correct number of borings/test
	26		Porosity test results
	27		Site survey with correct CAD version and adherence to Rutgers Design Standards
	28		Footing and foundation waterproofing design and site specific specs and sections

SHEET	ITEM	STD*	COMMENTS
SITE PLAN	Provide Architectural Site Plan		As applicable to the Scope of Work
	1 Lot lines, street grades, finish grades and areas of demolition		Provide for new construction or addition/ alterations with exterior work
	2 Safety fence protection during construction		If required because of Scope of Work
	3 Location for mock -up		If required because of Scope of Work
	4 Accessible parking space/s with parking count and location of accessible ramp to entrance of building		New construction with parking or addition/ alterations where parking is affected
	5 Dumpster location	X	May be shown on Key Plan if site plan not provided due to Scope of Work
	6 Details of penetrations at all grade and below grade penetrations through structural slabs and walls on a separate point of entry drawing.		All disciplines are to be collected and dimensioned on this drawing and penetration waterproofing details shown.
LIFE SAFETY	Provide Life Safety Drawings including Egress Plan and Accessibility Requirements.		As applicable to the Scope of Work
	1 Egress plan including number of occupants, rooms and spaces	X	Per University Design Standards.
	2 Fire extinguishers and cabinets (show exist and new)	X	Show on Egress Plan
	3 Emergency lights	X	Show on Egress Plan
	4 Exit signs	X	Show on Egress Plan
	5 Fire rated walls and openings in fire rated floors and walls	X	Show on Egress Plans and coordinate onto wall, door and frame schedules
	6 One fire rated stair extension to roof level on new construction projects		Show on Egress Plan
	7 Locations for fire box and audible and visible alarms and warnings for automatic sprinkler systems, if applicable		Show on Egress Plan
	8 Accessible clear space diagrams	X	Per Barrier Free Subcode NJAC 5:23-7; provide all diagrams as required for project scope of work (include clear spaces at doors , turning radii, restrooms etc.)
	9 Designated accessible seating		Per Barrier Free Subcode NJAC 5:23-7; provide seating locations as required for project scope of work
	10 Provide Fire Alarm, Detection, CO and Smoke Control Systems Drawings		All projects where exist systems are impacted or new systems are to be installed
DEMOLITION	Provide Demolition Drawings		As applicable to the Scope of Work
	1 Demolition Floor Plan		For all existing buildings and/ or interiors demolition
	2 Demolition Reflected Ceiling Plan		All existing building rehabilitation projects that involve ceiling demolition
	3 Temporary partition protection during construction		Consider for projects involving existing buildings; show location on Demolition Floor Plan or on Site Plan
	4 Statement regarding Hazardous Materials Assessment		Based on existing conditions, a hazardous material assessment may be required. The need for such assessment to be determined by REHS
PLANS	Provide Floor Plans for all projects		For all projects
	1 Provide all new and existing room numbers	X	Project Manager to confirm with RU Space Management Department
	2 Adequate dimensions for estimating	X	Provide dimensions for Contractor's material take offs. Contractor may not scale drawings for pricing. These dimensions should be clearly noted Verify in Field (V.I.F.)
	3 If the project includes offices or workstations, PM verifies that these areas are in accordance with RU guidelines.		If square footage is greater than 10% different from guidelines, then full variance report is to be sent to Assistant University Architect requesting approval.
	4 Provide full dimensions as required for Construction Documents	X	

SHEET	ITEM	STD*	COMMENTS	
	5	Accessible clearances provided at all doors	X	Per Barrier Free Subcode NJAC 5:23-7
	6	Accessible turning radii and clearances shown with dashed line on plans	X	Per Barrier Free Subcode NJAC 5:23-7
	7	Accessible slopes for walks and ramps; handrails if required		Per Barrier Free Subcode NJAC 5:23-7
	8	Identification of all new partitions		Verify accurate partition tags
	9	Detail tags for all enlarged plan details		Verify accuracy
ROOF DRAWINGS	Provide Roof Plans and Details:			For projects with new roofing or new roof penetrations
	1	Roofing Cover Sheet incl: -symbols legend (all symbols clearly identified) -Code info -General roofing notes		Specific to Roofing Drawings
	2	Roofing Demolition Plan incl: -roofing demolition notes -existing roof assembly notes -clear well noted existing roof assembly/ assemblies from all roofing areas		
	3	Roof Plan -roof plan notes clearly identified on plan -overall dimensions of roof areas -all roofing details clearly marked with detail number and detail sheet -detail symbol legend if needed -roof walkway plan on this sheet or a separate sheet		
	4	Roof structural support incl. structural design for all roof top MEP structures, stairs, screens etc.		Note: Underside of structure for any roof top structures to be 36" min. above roof finish for future roof maintenance. Note: Top of first stair tread for any stairs to be min. 7" above roof finish.
	5	Roofing slopes and parapet heights		For new roofing work
	6	Access to roof		Provide, plans and sections as needed
	7	Details for new pipes/ ducts through exist roof installation without damage to exist roof membrane		If applicable to Scope of Work
	8	All roof penetrations		If applicable to Scope of Work, all roof penetrations must be constructed in accordance with manufacturer's written instructions for existing roof warranty
	9	Specific listing of all roofing components as part of a Factory Mutual (FM) tested & approved roof system assembly		For new roofing work or if existing roof is FM approved roof system assembly
	10	Provide FM Global Data Sheet 1-28 'Wind Design' & FM Global data Sheet 1-29 'Roof Decks Securement and Above-Deck Components' (latest version(s) as provided by FM)		For new roofing work or if existing roof is FM approved roof system assembly
	11	Roofing and waterproofing consultants (including Architects preparing roofing drawings and specifications) are required to have demonstrated experience designing to FM Global Standards.		
ELEVATIONS SECTIONS	Provide Elevations and Sections for all projects			As applicable to the Scope of Work
	1	All floor, ceiling, soffit, roof and exterior paved area heights, floor to floor dimensions, heights of low height walls, counters etc	X	
	2	Identification of all exterior and interior finishes	X	
	3	Detail tags for all enlarged elevation and section details		Verify accuracy

SHEET	ITEM	STD*	COMMENTS
REFLECTED CEILING PLANS			For all projects with new ceiling work or with ceiling rehabilitation work
	Provide Reflected Ceiling Plans		
	1 All Ceiling and soffit heights	X	
	2 Ceiling grid mount to structure detail		For any new acoustical ceiling tile ceilings
	3 Light fixtures to be independently supported to structure above ceiling with minimum of two hanger wires		Provide detail or note
	4 Exit signs, emergency lighting, sprinkler heads, occupancy sensors, smoke detectors, CO detectors as required	X	
	5 Supply and return air registers		
	6 Coordination of all MEP systems		As applicable to reflected ceiling plans
DETAILS	Provide Details		As required for Scope of Work
	1 Fire stop details with UL Numbers		If required for Scope of Work
	2 Toilet Room Accessories Schedule		Provide all toilet room accessories per University Design Standards; toilet accessories must comply with University Design Standards if the building is owned by Rutgers. Show mounting heights and structural support as required.
	3 Door Schedule		For all new doors and/ or frames; indicate fire rated doors and frames with UL numbers as required for Scope of Work
	4 Hardware Schedule		Verify in compliance with University Design Standards and Approval of Rutgers Security Technology Dept.
	5 Finish Schedule and Plans		Identify all new finish materials
	6 Interior wall and ceiling finish requirements and interior floor covering requirements		Per IBC 803 and 804
	7 Verification of all accessible clearances		Per Barrier Free Subcode NJAC 5:23-7; show all required dimensions for Scope of Work (including turning radii, counter heights, reach dimensions etc.)
	8 Provide all secure to structure details, with all materials and methods of attachment including dimensions		
	9 If project includes Delegated Design or deviations from RU Design Standards, then PM is required to submit a letter from A/E to Assistant University Architect listing the items and requesting approval.		
SIGNAGE	Provide Signage Drawings		Most projects require signage drawings
	1 Signage drawings		According to the Scope of Work and as per 'University Wayfinding and Signage Manual'
STRUCTURAL	Provide Structural Drawings		As required for Scope of Work
	1 Geotechnical and Soil Report		
	2 Provide floor live load, roof live load, roof snow load, wind factors & earthquake design criteria		All projects with new floor or roof construction
	3 Design Criteria for concrete, masonry, steel, wood & glass		All projects where these materials are used in new construction
	4 All structural connection details		

SHEET	ITEM	STD*	COMMENTS
MECHANICAL	Provide Mechanical Drawings		All projects with HVAC work
	1 All existing and new mechanical ducts and HVAC work		All projects with HVAC work
	2 Location of supply and return air diffusers		Also show on architectural reflected ceiling plans
	3 Air Balance Report		All projects with HVAC work
	4 CFM for supply and return registers		All projects with HVAC work
	5 Duct and insulation specification		
	6 Specification of approved testing, adjusting and balancing contractors		Per University Design Standards
	7 Ventilation Schedule		Provide as dictated by Scope of Work
	8 Schedule COP/EER, boiler efficiency values, etc.		Supply energy calculations for larger projects
	9 Airflow Diagrams		Provide as dictated by Scope of Work
	10 Schematic/details for hazardous exhaust		Provide as dictated by Scope of Work
	11 Piping plans, details & specifications		All projects with piping work
	13 Show Locations of all fire dampers		All projects with ductwork
	14 Kitchen exhaust hood, duct and hood fire suppression system drawings/details including information required by mechanical subcode & fire protection subcode		Provide as dictated by Scope of Work
	15 Provide details, specifications & calculations (building volume, air change, riser diagram) for smoke exhaust/control, stair pressurization, etc., per building & fire protection subcodes.		Provide as dictated by Scope of Work
	16 Show details of all hydronic, gas and fuel piping including fire-stopping requirements		Provide as dictated by Scope of Work
	17 Include combustion air calculations		Provide as dictated by Scope of Work
	18 Chimney & vent details		Provide as dictated by Scope of Work
	19 Machinery layout plan, equipment schedule & details of processes involved		Provide as dictated by Scope of Work
	20 Show/note height of all mechanical controls for compliance with barrier free subcode		All projects with HVAC work
	21 Code compliance of equipment, piping & wiring located in return air plenum		All projects with return air plenum
	22 Specification of approved chemical treatment vendor		Per University Design Standards
	23 Minimum laboratory air change rate		Based on REHS requirements for project
	24 Laboratory Controls		Per University Design Standards
	25 Minimum laboratory fume hood face velocity		Per University Design Standards
	26 Minimum hazardous exhaust fan discharge velocity		Per University Design Standards
	27 Laboratory fume hood specification		Coordinate with Architectural per University Design Standards
	28 High temperature hot water piping specifications		Per University Design Standards
	29 Hazardous exhaust wind wake analysis		Provide as dictated by Scope of Work
	30 Redundant pumps, fans, etc. for critical systems		Provide as dictated by Scope of Work
	31 Hanger/support details/specifications		All projects with HVAC work
	32 Freeze protection for hydronic systems		As dictated by Scope of Work in conformance with University Design Standards
	33 Metering requirements		As dictated by Scope of Work in conformance with University Design Standards
	34 Location of outdoor air intakes and exhaust terminations in conformance with Code		All projects with HVAC work
	35 Acoustic design considerations		All projects with HVAC work
	36 Minimum duct/piping/equipment clearance above roof		All projects with HVAC work
	37 Control zone configuration		All projects with HVAC work

SHEET	ITEM	STD*	COMMENTS
	38	Mechanical room refrigerant purge system	Provide as dictated by Scope of Work
	39	Compliance with NJAC requirements for licensed boiler operators	Coordinate with Rutgers Utilities Department
ELECTRICAL	Provide Electrical Drawings		All projects with Electrical work
	1	Provide electrical fixture specifications	All projects with new electrical fixtures
	2	Electrical panel and load calculations	All projects with electrical work
	3	Occupancy sensors	Determine if required
	4	Enlarged plan of electrical room showing all equipment and clearances	
	5	Electrical riser showing existing and new equipment	
	6	Point by Point foot-candle levels for new lighting (interior and exterior)	
	7	Short circuit / coordination study and arc - flash analysis	
PLUMBING	Provide Plumbing Drawings		All projects with Plumbing work
	1	Plumbing plans showing all existing and new piping and fixtures	All projects with plumbing work
	2	Sanitary drain & vent diagram indicating pipe sizes and drainage fixture units	All projects with plumbing work
	3	Hot & cold water piping diagram indicating pipe sizes and water supply fixture units	All projects with plumbing work
	4	Fixture schedule listing each fixture, description, trap sizes, vent sizes, hot/cold water connection sizes, etc.	All projects with plumbing work
	5	Storm water piping system noting square foot area served by each roof drain, pipe size and pitch	All projects with new roof drains
	6	Site plan showing plumbing lines (sanitary, water & storm) into and out of the building to a distance of five feet from the building line. Indicate storm piping pitch from building to approved discharge outfall, public storm sewer, or site drainage system	All projects with plumbing site work
	7	Include material specifications or reference on the drawings for piping materials	All projects with plumbing work
	8	Cleanouts must be indicated and labeled on all drainage lines	All projects with plumbing work
	9	Wall penetration sleeves should be indicated and details shown	Provide as dictated by Scope of Work
	10	Floor/Wall pipe penetration details noting fire- stopping requirements	Provide as dictated by Scope of Work
	11	Plumbing fixtures, elevations & details shall conform to the barrier-free subcode...specifically fixture heights, spacing, etc. Coordinate with Architectural drawings	All projects with plumbing work
	12	Commercial kitchen plumbing design shall include three compartment sink, grease interceptor, prep sink, handwashing sink, floor sinks, backflow prevention for appliance supply/drain, etc. per Code requirements	Provide as dictated by Scope of Work
	13	Provide trap primer for infrequently used floor drains. Include trap primer manufacturer/model in fixture schedule or provide dedicated schedule	Provide as dictated by Scope of Work

SHEET	ITEM	STD*	COMMENTS
	14	Locate floor drains in conformance with NSPC Sections 7.16.4, 7.24.i and as required to suit project requirements	Provide as dictated by Scope of Work
	15	For multi-story building, water supply riser diagram must correspond in format and contain information shown in Appendix B of the plumbing subcode	Provide as dictated by Scope of Work
	16	Provide mixed water temperature control for hand washing facilities, showers and baths in conformance with NSPC Section 10.15.6. Thermostatic mixing valve manufacturer/model shall be included in the plumbing fixture schedule	Provide as dictated by Scope of Work
	17	Provide backflow protection in conformance with Code. Include manufacturer/model of backflow prevention device in plumbing fixture schedule or provide dedicated schedule	All projects with plumbing work
	18	Pipe hanger & support details/specifications	All projects with plumbing work
	19	Provide tempered water for emergency showers & eyewashes in conformance with NSPC Section 7.24	Provide as dictated by plumbing scope
	20	Water consumption for plumbing fixtures shall conform with requirements of the University Design Standards	All plumbing projects
	21	Laboratories in new buildings shall utilize a combined sanitary/acid waste system unless otherwise directed by REHS	All laboratory projects
	22	Provide emergency safety showers & emergency eyewashes in conformance with University Design Standards and as required by REHS. Include emergency plumbing fixtures in plumbing fixture schedule	Provide as dictated by Scope of Work
	23	Wall hydrants shall be located in conformance with University Design Standards	Provide as dictated by Scope of Work
	24	Commercial type laundries shall be equipped with lint interceptors	Provide as dictated by Scope of Work
	25	Drinking water coolers with self-contained refrigeration shall be equipped with bottle filler	Provide as dictated by Scope of Work