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R2011-0276/1

December 27, 2011

**For meeting of
Board: Tuesday, January 17, 2012**

FROM: The Acting Corporate Secretary

**Indonesia - Jakarta Urgent Flood Mitigation Project
(Jakarta Emergency Dredging Initiative)**

Project Appraisal Document

Attached is the Project Appraisal Document regarding a proposed loan to the Republic of Indonesia for a Jakarta Urgent Flood Mitigation Project (Jakarta Emergency Dredging Initiative) (R2011-0276). This project will be discussed at a meeting of the Executive Directors on **Tuesday, January 17, 2012.**

Distribution:

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The World Bank

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Report No: 65973-ID

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF
US\$ 139.64 MILLION

TO THE

REPUBLIC OF INDONESIA

FOR THE

JAKARTA URGENT FLOOD MITIGATION PROJECT
(Jakarta Emergency Dredging Initiative)

December 22, 2011

Indonesia Sustainable Development Unit
Sustainable Development Department
East Asia and Pacific Region

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CURRENCY EQUIVALENTS
(Exchange Rate Effective December 22, 2011)

Currency Unit = Indonesian Rupiah (IDR)
IDR1,000 = US\$0.1103
US\$1 = IDR9,070
FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AMDAL	<i>Analisa Mengenai Dampak Lingkungan</i> -environmental impact assessments required by Indonesian law
ANDAL	<i>Analisa Dampak Lingkungan</i> -environmental impact assessment to formulate AMDAL
Bappenas	National Planning Agency
BBWSCC	<i>Balai Besar Wilayah Sungai</i> (Ciliwung Cisadane) – River basin management agency for Ciliwung and Cisadane Basins (under DGWR)
BPLHD	Local Level of Environmental Management Agency (including Provincial and Municipal Level)
CDF	Confined Disposal Facility
CPMU	Central Project Management Unit
CPIU	Central Project Implementation Unit, the successor to the PMU
CPS	The World Bank’s Country Partnership Strategy for Indonesia
DGCK or DGHS	Directorate General for Human Settlements, or <i>Cipta Karya</i> (MoPW)
DGWR	Directorate General for Water Resources (MoPW)
Dir. PLP	Directorate of Environmental Sanitation Development (<i>Penyehatan Lingkungan Permukiman</i>)
DKI	The Special Capital District of Jakarta
DKI Jakarta	Provincial Government of DKI Jakarta
DPRD	<i>Dewan Perwakilan Rakyat Daerah</i> (local parliament)
DPU-DKI	Jakarta Public Works office (Provincial)
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
ESWG	Environmental and Social Working Group
FMIS	Flood Management Information System
GOI	Government of Indonesia
GRS	Grievance Redress System
Jabodetabek	Greater Jakarta metropolitan area, comprising Jakarta, Bogor, Depok, Tangerang, and Bekasi
JFM	Dutch-funded Jakarta Flood Management project for Non-Structural Measures

JICA	Japan International Cooperation Agency
JUFMP	Jakarta Urgent Flood Mitigation Project
MoF	Ministry of Finance
MoPW	Ministry of Public Works (<i>Departemen Pekerjaan Umum</i>)
O&M	Operations and Maintenance
PAP	Project Affected Person
PIU	Project Implementation Unit
PMK	<i>Peraturan Menteri Keuangan</i> (MoF regulation)
PMU	Project Management Unit, which prepared the Project
POE	Panel of Experts
RP	Resettlement Plan
RPF	Resettlement Policy Framework
RKL/RPL	Environmental management and monitoring plans
SLA	Subsidiary Loan Agreement
TF	Trust Fund
WASAP	Water and Sanitation Program Trust Fund
WJEMP	Western Java Environmental Management Project

Regional Vice President:	James W. Adams
Country Director:	Stefan G. Koeberle
Sector Director:	John A. Roome
Sector Manager:	Franz R. Drees-Gross
Task Team Leader:	Fook Chuan Eng

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PAD DATA SHEET

REPUBLIC OF INDONESIA
JAKARTA URGENT FLOOD MITIGATION PROJECT
(Jakarta Emergency Dredging Initiative)

PROJECT APPRAISAL DOCUMENT

EAST ASIA PACIFIC REGION
Indonesia Sustainable Development Unit
Sustainable Development Department

Date: December 22, 2011 Country Director: Stefan G. Koeberle Sector Director: John A. Roome Sector Manager: Franz R. Drees-Gross Team Leader: Fook Chuan Eng Project ID: P111034 Lending Instrument: Specific Investment Loan	Sector(s): Flood protection Theme(s): Natural disaster management; Other urban development EA Category: A
Project Financing Data:	
Proposed terms: IBRD loan with a variable spread and a final maturity of 24.5 years including a grace period of 9 years. [x] Loan [] Credit [] Grant [] Guarantee [] Other:	
Source	Total Amount (US\$M)
Total Project Cost:	189.85
Counterpart Financing	49.71
Bilateral Grant:	0.50
Total Bank Financing (IBRD):	139.64

Borrower: Government of Indonesia

Responsible Agency: Ministry of Public Works; Provincial Government of DKI Jakarta

MoPW Contact Person: Mr. Pitoyo Subandrio

Director for River and Coast

Telephone No.: + 62-21-726 2366

Fax No.: + 62-21-726 1292

Email: suryaningsih25@hotmail.com

DKI Jakarta Contact Person: Mr. Tauchid Tjakra Amidjaja

Assistant Secretary for Development and Environment

Telephone No.: +62-21-382 2305

Fax No.: +62-21-381 2854

Email: dki@jakarta.go.id

Estimated Disbursements (Bank FY/US\$ m)

FY	FY12	FY13	FY14	FY15	FY16	FY17
Annual	0	20.0	35.0	35.0	35.0	14.64
Cumulative	0	20.0	55.0	90.0	125.0	139.64

Project Implementation Period: 5 years

Expected effectiveness date: May 15, 2012

Expected closing date: March 31, 2017

Does the project depart from the CAS in content or other significant respects?	No
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Does the project require any exceptions from Bank policies?	No
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Does the project meet the Regional criteria for readiness for implementation?	Yes
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Project Development objective

The Project Development Objective (PDO) is to contribute to the improvement of the operation and maintenance of priority sections of Jakarta's flood management system.

Project description:

Component 1. Dredging and rehabilitation of selected key floodways, canals and retention basins. This component will support the dredging and rehabilitation of 11 floodways / canals and four retention basins which have been identified as priority sections of the Jakarta flood management system in need of urgent rehabilitation and improvement in flow capacities. The dredge material will be transported and disposed into proper disposal sites. The 11 floodways / canals are estimated to have a total length of 67.5 km, while the four retention basins are estimated to cover a total area of 65.1 hectares. About 42.2 km of embankments are expected to be rehabilitated or constructed within these floodways, canals and retention basins. Where necessary, mechanical equipment (pumps, gates, etc) will be replaced or repaired.

Component 2. Technical assistance for project management, social safeguards, and capacity building. This component will support contract management, engineering design reviews, construction supervision engineers for the dredging and rehabilitation works and technical assistance for implementation of the project, including the Resettlement Policy Framework, Resettlement Plans and the Grievance Redress System. Technical assistance includes support to improve institutional coordination for operations and maintenance of Jakarta's flood management system as well as the establishment of a Flood Management Information System (FMIS). Provision has been made for the cost of implementing required Resettlement Plans, as well as the establishment and operations of a project Grievance Redress System and a Panel of Experts (POE).

Safeguard policies triggered?

Environmental Assessment (OP/BP 4.01)	Yes
Natural Habitats (OP/BP 4.04)	No
Forests (OP/BP 4.36)	No
Pest Management (OP 4.09)	No
Physical Cultural Resources (OP/BP 4.11)	No
Indigenous Peoples (OP/BP 4.10)	No
Involuntary Resettlement (OP/BP 4.12)	Yes
Safety of Dams (OP/BP 4.37)	No
Projects on International Waters (OP/BP 7.50)	No
Projects in Disputed Areas (OP/BP 7.60)	No

Conditions and Legal Covenants:		
Financing Agreement Reference	Description of Condition/Covenant	Date Due
Loan Agreement Section 5.01	<p><i>Effectiveness:</i> The Additional Conditions of Effectiveness consist of the following: (a) the Borrower has: (i) established the CPMU, CPIU and each PIU; and (ii) each of the CPMU, the CPIU and each PIU at each of DGWR, DGHS and DKI has each adopted the Project Operations Manual; and (b) the Subsidiary Loan Agreement has been executed on behalf of the Borrower and DKI, as the Project Implementing Entity for the DKI Parts of the Project.</p>	Prior to the Effectiveness Date
Loan Agreement, Schedule 2, Section I.C, paragraph 4(a) and (c); and Project Agreement Schedule, Section I.B paragraph 3 (a) and (c)	<p><i>Confined Disposal Facility:</i> The Borrower, acting through the CPIU, shall ensure that each PIU shall ensure that before each Works Contract is signed for each Project Site: (i) construction of the Ancol CDF has been completed and is being maintained in a manner fully consistent with the Ancol Environmental Safeguards Instruments; (ii) the Ancol CDF is completely and properly confined on all sides and intact; (iii) the Bank has received evidence satisfactory to it that the Jakarta Provincial Environmental Management Agency has determined that PJA is in compliance with the Ancol Environmental Safeguards Instruments; and (iv) each of the Bank and the Supervision Consultant has had an opportunity to visit, review and test the site and design of the Ancol CDF and found it satisfactory; the Borrower, acting through the CPIU, shall ensure that, and shall cause DKI to exercise its rights as a shareholder of PJA and under the Cooperation Agreement to ensure that, following deposit of Dredged Materials and all Sand and Laterite in the Ancol CDF: (i) DKI shall obtain from PJA and shall provide to the Borrower and to the Bank a copy of a written confirmation from PJA that filling of the Ancol CDF has been completed in accordance with the Ancol Environmental Safeguards Documents; and (ii) the Borrower and DKI shall ensure that all development on and use of the site of the Ancol CDF, whether industrial, commercial, residential or recreational or otherwise, shall be in accordance with a duly approved AMDAL and all other applicable legal and regulatory requirements of the Borrower and include, as necessary, land use restrictions and specific guidelines and covenants to protect the integrity of the site, provide proper foundations for buildings, guide installation of underground utilities, and to limit exposure of residents and site users to any adverse effects that may arise as a consequence of the use of the Dredged Material.</p>	<p>Prior to entering into each Works Contract</p> <p>Following deposit of Dredged Materials and all Sand and Laterite in the Ancol CDF</p>

<p>Loan Agreement, Schedule 2, Section I.C, paragraph 6; and Project Agreement Schedule Section I.B, paragraph 5</p>	<p>Testing and Dredging of Materials: The Borrower, acting through the CPIU, shall ensure that each PIU shall ensure that, prior to the commencement of any dredging or rehabilitation or related activities at any Project Site that is its respective responsibility, the Works Contractor, under the supervision of the Supervision Consultant, shall carry out testing, using mapped and identified Sections as required by the Project Operations Manual, to determine the quality of materials to be dredged and to identify any Hazardous Materials in each such section.</p> <p>Hazardous Materials: Any identified Hazardous Materials shall be handled solely in accordance with paragraph 6(c) of Section I.B of this Schedule 2, paragraph 9 of this Section I.C and the provisions of Section I.D, including paragraphs 8-9 of Section I.D of this Schedule 2.</p>	<p>Prior to commencing dredging or rehabilitation or related activities at each Project Site</p>
<p>Loan Agreement, Schedule 2, Section I.C, paragraph 12(b) and (c); and Project Agreement, Schedule, Section I.B, paragraph 11</p>	<p>Grievance Redress System: The Borrower, acting through the CPIU, shall, and shall cause DKI to,...(b) establish by no later than ninety (90) days after the Effective Date and in any event prior to the commencement of the first Works Contract and thereafter maintain until completion of the Project, the independent Project Grievance Redress System acceptable to the Borrower, acting through the CPIU, and the Bank...; (c) ensure that any complaints made through DKI's existing complaints handling systems are transferred to, reported as part of, and may be brought at any time to the Grievance Redress System.</p>	<p>No later than 90 days after the Effective Date and prior to commencing the first Works Contract</p>
<p>Loan Agreement, Schedule 2, Section I.C, paragraph 14(a) and Project Agreement, Schedule, Section I.B, paragraph 13</p>	<p>Panel of Experts: The Borrower, acting through the CPIU, shall (a) establish, prior to the commencement of any activities under the first Works Contract, and the and thereafter maintain until completion of the Project, the Panel of Experts to advise on all aspects of the Project, including, but not limited to the environmental and social safeguards requirements set out in Section I.D of this Schedule 2, comprising at least three experts, including an environmental expert, an engineer experienced in dredging and dredge disposal and an urban resettlement expert, in each case with expertise and under terms of reference acceptable to the Bank;</p>	<p>Prior to the commencement of any activities under the first Works Contract</p>
<p>Loan Agreement, Schedule 2, Section I.D paragraph 5(a) and (b); and Project Agreement, Schedule, Section I.C, paragraph 2</p>	<p>Environmental Safeguards Documents: The Borrower, acting through the CPIU, shall ensure that each of DGWR and DGHS, with respect to the MPW Parts of the Project, and DKI, with respect to the DKI Parts of the Project shall: (a) for each Phase 1 Project Site ... (ii) thereafter undertake dredging, rehabilitation and related activities in each Phase 1 Project Site in accordance with: the Phase 1 Environmental Impact Assessment, Management Plan and Monitoring Plan, the Environmental Impact Assessment Supplementary Report, the Environmental and Social Safeguards Management Framework, the Environmental and Social Safeguards Management Plan for each Project Site and the Traffic Management Plan for each Project Site; and implement all actions required to be taken by the Borrower, the CPIU or the respective PIU with respect to the foregoing until completion of the Project in a timely manner satisfactory to the Bank; and... (b) <i>The same covenant is included for each Phase 2 Project Site.</i></p>	<p>Preparation of all such documents applicable to each Project Site completed prior to commencing any activities under any Works Contract or otherwise carrying out any activities in any such Project Site</p>

<p>Loan Agreement, Schedule 2, Section I.D, paragraph 16(d) for Project Sites and paragraph 17(d) for Linked Sites; and Project Agreement Schedule, Section I.C paragraph 7(d) for Project Sites and paragraph 8(d) for Linked Sites</p>	<p><i>Resettlement Plans:</i> The Borrower shall ensure that DGWR and DGHS shall cooperate with DKI to, and shall cause DKI to... (d) with respect to each Project Site at which Project Affected Persons have been identified in accordance with the Resettlement Policy Framework, before commencing any land acquisition or resettlement or beginning any works or any preparation for works on any such Project Site which is a DKI Project Site, or before the Borrower shall permit DGWR or DGHS to begin any works or any preparation activities for works on any Project Site which is a DGWR Project Site or a DGHS Project Site, respectively: (i) prepare in accordance with the Resettlement Policy Framework, a draft Resettlement Plan with a timetable and budget, including adequate and timely provision of counterpart funds; (ii) carry out consultations on such draft Resettlement Plan in accordance with the Resettlement Policy Framework and take such consultations into consideration in finalizing such Resettlement Plan; (iii) submit such Resettlement Plan to the Bank for no-objection and receive from the Bank its written no-objection on such Resettlement Plan; (iv) provide a copy of such Resettlement Plan to the Supervision Consultant; (v) publicize such Resettlement Plan at the POSKO for the relevant Project Site and on the Project Website and the DKI Website; (vi) ensure that all Project Affected Persons shall have been fully compensated and provided with all applicable resettlement and rehabilitation benefits and other assistance in accordance with the provisions of such Resettlement Plan and the Resettlement Policy Framework and provide documentation thereof in each monthly and quarterly report on Resettlement Plans and each Project Report; and <i>The same covenant (except for sub-paragraph (iv) is included with respect to any Linked Site with Project Affected Persons during Project implementation.</i></p>	<p>Prior to commencing any land acquisition or resettlement or beginning any works or any preparation for works at each Project Site and any such Linked Site, as applicable in accordance with the Resettlement Policy Framework</p>
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I. Strategic Context

A. Country Context

1. **Macroeconomic Context.** Since the political, environmental and economic shocks that shook the nation during the Asian Financial Crisis of 1997/8, political and institutional reforms over the last decade have led to a stable and vibrant democracy in Indonesia. Political power is now broadly shared among the several branches of government, and widely decentralized to the levels of provincial and local governments under the 2001 regional autonomy laws. Indonesia's economy has also performed well, averaging five to six percent growth annually over the past decade despite the slowing world economy. Projections expect 6.4% growth in 2011, increasing to around 6.7% in 2012¹.

2. **Low infrastructure investments and poor maintenance.** A collapse in investments sparked by the 1997/98 financial crisis has led to a long backlog in infrastructure development. Furthermore, poor maintenance of existing infrastructure continues to deteriorate the capacity for providing sufficient public services. In recent years however, infrastructure investment has begun to recover, reaching 3.95% of GDP by 2008. This is not yet at pre-crisis levels and is inadequate to reverse the investment backlog and to meet the growing demand from existing infrastructure users, let alone satisfy the large population who lack access to basic services. Investments planned and underway also tend to prioritize new infrastructure development while operation and maintenance (O&M) is still neglected.

3. **Reversing lagging infrastructure development.** Inadequate infrastructure is a significant constraint to Indonesia's growth potential. The Government of Indonesia (GOI) has adopted an ambitious plan to rebuild and develop infrastructure. In the period from 2010-14, budget expenditure is expected to increase by more than thirty percent compared with the previous five year period. It is essential for Indonesia's infrastructure institutions to translate these resources into better development outcomes. However, they face significant constraints and challenges. The coordination amongst, and clarity of roles and responsibilities between, the various levels of government needs to be improved. The capacity of provincial and local governments charged with the responsibility of basic service delivery is still weak. Effective procedures and regulations for financial transfers from central to provincial and local governments have not been fully established.

4. **The need for improved social policies and better environmental oversight.** Land acquisition for public purposes is a frequent source of delay in infrastructure projects. Indonesia's standards of compensation for land acquisition, especially involuntary resettlement of informal communities does not yet meet international standards. In Jakarta, eviction has been a long-standing policy and practice for repossessing government land for the development of projects in the public interest. The implementation of evictions has evolved over time with a positive trend towards more equitable approaches. There have been recent efforts to improve and streamline social safeguards measures, including the recent enactment of a law on Land Acquisition for Public Interest Infrastructure Development² and the issuance of the Guidelines

¹ Indonesia Economic Quarterly, World Bank Working Paper Report No. 60152, March 1, 2011.

² Passed by the Parliament on December 16, 2011.

for Providing Compensation to Users of State Land by the Governor of DKI Jakarta³. The efforts to improve public sector governance, land acquisition, and environmental management which have in the past mired effective provision of infrastructure services need to be redoubled. On environmental oversight, while the policy framework for oversight appears sufficient, the implementation of environmental management and monitoring plans requires improvement.

B. Sectoral and Institutional Context

5. *The primacy of Jakarta.* Jakarta is the preeminent urban center of Indonesia. It is the main commercial hub of Indonesia and contributes about 25% of Indonesia's non-oil GDP (the non-oil GDP is estimated at about US\$571 billion in current terms in 2009). Regional urbanization has contributed to making Jakarta one of the largest metropolitan areas in the world. The Special Capital District of Jakarta (DKI)⁴ covers an area of approximately 650 km² with a population of about 9.6 million in 2010, while the population of Greater Jakarta⁵ (covering about 7,300 km²) stood at 27.9 million⁶. Population growth rates are far above the national average and are projected to exceed 35 million people by 2020. Up to 250,000 rural-urban migrants are estimated to move to Jakarta every year, contributing to the increase in informal settlements where people live without the benefit of public services (e.g., transportation, water supply, sanitation and waste management). Due to rapid growth and inadequate development of public services, the city has become known for a host of problems the most severe of which are manifested in disastrous perennial flooding. Any effort to improve and increase the access to basic public services and adequate flood mitigation for the population of Indonesia needs to include Jakarta as a focus area.

6. *Flood management infrastructure in Jakarta.* Greater Jakarta is surrounded by several dormant volcanoes whose slopes form the upstream catchment areas of the 13 major rivers that flow through DKI to the Java Sea. The rainy season begins in late November and ends in early April. DKI sits in the lowest lying areas of the basin. Forty percent of DKI lies below sea level, including most of North Jakarta, which is being severely threatened by acute land subsidence. The basic principle of flood management in Jakarta is to divert peak flows from upstream areas around the core of the city, directing flows to the East and West of Jakarta via two major flood canals emptying into Jakarta Bay. Within the city, the macro drainage system of DKI consists of 13 rivers and a large number of drainage channels⁷. The macro drainage system can be divided into several subsystems that are separated by floodgates. In low-lying areas there are polders, which are protective systems that utilize retention reservoirs at the lowest point and regulate excess water levels by pumping out of the system. However, the originally planned flood management system remains incomplete and does not function as a fully integrated system. The East flood (*banjir*) canal was recently completed but is not yet fully functional. Furthermore, the east-west canals are not yet connected into an integrated diversion system, which would allow better stormwater management and control. Poor condition of the system, severe under-

³ On November 12, 2010.

⁴ Jakarta is officially designated a province with special status as the capital of Indonesia i.e., DKI Jakarta (or 'Special Capital City District of Jakarta').

⁵ The area including DKI, and the urban region surrounding Jakarta consisting of the municipalities and regencies of Bogor, Depok, Tangerang and Bekasi (commonly abbreviated as 'Jabodetabek').

⁶ More than double the population of 11.9 million in 1980.

⁷ There are currently 49 channels considered to be major urban drainage channels (including natural and man-made channels), 16 retention basins of various sizes and innumerable micro drainage channels.

implementation of operations and maintenance (O&M), and inadequate local drainage management result in rapidly occurring inundations during rainfall conditions. Interventions are often introduced at the local level utilizing private funds, which result in flood water being transferred to and experienced most acutely by the poorest populations.

7. ***Incidences of flooding in Jakarta.*** Flood incidences are perennial occurrences and have been increasing in severity during the past decade. Flood incidences in January 1996, February 2002, and February 2007 were especially devastating. The February 2007 event inundated 235 km² (about 36%) of the city⁸, by up to seven meters in some areas. This event affected more than 2.6 million people and forced 340,000 people to flee their homes. Over 70 people died and outbreaks of disease affected over 200,000 people. The estimated financial and economic losses from this event amounted to US\$900 million⁹. Inundations continue to occur under any sustained rainfall conditions. In 2008 a flood event closed the airport toll road, cancelling over 1,000 flights and causing serious disruptions for the city. Flood incidences in 2009 also occurred at high intensity and have continued into 2010, which became the year without a dry season due to the La Niña effect.

8. ***Causes of flood in Jakarta.*** The overall urbanization trends are central to the causes of Jakarta flooding. This has led to the deterioration of several critical factors. The encroachment and/or development of critical catchment areas have resulted in both increased rainwater runoff and lack of natural stormwater retention areas both within the city and in upstream areas of the catchment. Increased generation and inadequate management of solid waste have contributed to waste choked canals and floodways, exacerbated by insufficient maintenance resulting in weakening structures and sediment build-up. Some canals are operating at less than a third of their original capacity. Land subsidence continues at increasingly alarming rates, principally caused by intensive deep groundwater abstraction. Recent studies have found typical subsidence rates of 7.5 - 10 cm a year. In localized areas of north Jakarta subsidence in the range 15 - 25 cm a year is occurring which, if sustained, would result in them sinking to 4 - 5 m below sea level by 2025. Land subsidence results in increased vulnerability to flooding due to the reduced gravitational capacity to channel storm flows to the sea and an increased risk of tidal flooding. The foregoing factors could be further combined with climate change effects of a rise in sea levels and an increase in both the frequency and intensity of rainfall resulting in even worse flood scenarios. Flood events in Jakarta are expected to become more frequent in coming years, with a shift from previously slow natural processes with low frequency to a high frequency process resulting in severe socio-economic damage.

9. ***Flood management institutions in Jakarta.*** Until recently, the institutional framework for the development and management of flood management infrastructure in Jakarta has been in a state of flux as it evolved during the country's transition towards regional autonomy. After a period of changing responsibilities between various agencies, the framework has settled into one where responsibility is shared between two central government agencies and the Provincial Government of DKI Jakarta (DKI Jakarta). The *Balai Besar Wilayah Sungai Ciliwung - Cisadane* (BBWSCC)¹⁰ under the Directorate General of Water Resource (DGWR) of the

⁸ Flood extent map, DKI Jakarta (Dinas-PU).

⁹ Estimated by Bappenas (*or Badan Perencanaan dan Pembangunan Nasional*), the National Development Planning Agency.

¹⁰ River basin management agency for the Ciliwung and Cisadane rivers, which is a Central Government institution designed to function as a river basin organization.

Ministry of Public Works (MoPW) is responsible for the major floodways of Jakarta. The Directorate General of Human Settlements (DGCK) of the MoPW is responsible for a set of canals considered of national importance i.e., with major impacts on critical national institutions. DKI Jakarta, through its provincial public works office (DPU-DKI)¹¹, is responsible for the remaining drains, floodways and retention basins. The DPU-DKI and MoPW agencies were very much oriented towards infrastructure development¹² and not operations and maintenance (O&M). The agencies have technical experience in the construction and maintenance of the infrastructure, however inter-agency coordination needs to be further improved especially for the operations and maintenance of the flood canals. Capacity, personnel and funding are still inadequate for regular maintenance. However, realizing the need for continual maintenance, both DKI Jakarta and MoPW in recent years have formed dedicated O&M divisions responsible for drainage and increased funding. The opportunity exists for the Bank and GOI's development partners to support and assist with improving the O&M of Jakarta's flood management system.

10. ***The challenge of flood mitigation and management in Jakarta.*** Jakarta's existing flood management system requires considerable rehabilitation, complemented by improved planning in flood management and appropriate routine maintenance to ensure optimum capacity. Given the worsening flooding situation affecting such large numbers of people in the primary political and economic center of Indonesia, the maintenance of the *status quo* is unacceptable. Yet the foregoing sections clearly show the enormity of the challenges. Any efforts to improve flood mitigation and management in Jakarta is mired simultaneously with the challenges of, and risks inherent in, (i) improving O&M, (ii) ramping up investments after a decade long investment backlog in a decentralized institutional structure that has yet to be fully functional, (iii) rehabilitating infrastructure amongst informal settlements with histories of controversial evictions and resettlement practices, and (iv) operating in an atmosphere of weak environmental management and monitoring. Added to these operational challenges are the urban planning and coordination challenges amongst the multiple local governments in the catchment area, and continuing land subsidence which effects on flood are expected to be made worse by climate change. A major intervention focused on maintenance could be a catalyst to develop the momentum for instituting the appropriate coordination arrangements, and increase the capacity to begin addressing the development challenges in a holistic manner.

C. Higher Level Objectives to which the Project Contributes

11. ***Consistency with and support to the CPS.*** The project is fully consistent with the Country Partnership Strategy¹³ (CPS). It will contribute towards the cross-cutting engagement areas identified in the CPS i.e., strengthening both central government and sub-national governments' institutions and systems. More specifically, the project will support (i) the CPS Core Engagement 2 – Infrastructure, by helping to increase the quantity and efficiency of national and sub-national governments spending on infrastructure, and (ii) the CPS Core Engagement 5 – Environmental Sustainability and Disaster Mitigation, by helping to improve the

¹¹ And further supported by its sub-*dinases* (or sub-departments at the municipal level). Administratively, DKI Jakarta is divided into five municipalities (i.e., North Jakarta, South Jakarta, West Jakarta, East Jakarta and Central Jakarta municipalities) and one regency (i.e., Kepulauan Seribu, a group of small islands located on the Java Sea).

¹² The BBWSCC recently completed the East Flood (*Banjir*) Canal.

¹³ Country Partnership Strategy for Indonesia FY2009-2012: Investing in Indonesia's Institutions for Inclusive and Sustainable Development.

flood management system in Jakarta, as well as establishing and demonstrating sound environmental and equitable resettlement processes and standards modeled on international good practices.

12. ***Support to decentralization.*** The key hindrance to the efforts at reviving infrastructure spending and reversing Indonesia's decade-long infrastructure backlog is the lack of effective procedures and processes for financial transfers, as well as the lack of support from central to provincial and local governments. This project is expected to help address this issue, being amongst the first to utilize the new revisions of two Government Regulations¹⁴ that provides for central government financial support to local governments for economically beneficial projects. By helping to operationalize this system (which would allow for future borrowing from local governments for economically beneficial projects that are not directly revenue generating), the project is contributing towards Indonesia's decentralization and regional empowerment efforts as enshrined in the 2001 regional autonomy laws.

II. Project Development Objectives

A. PDO

Project Development Objective.

13. The Project Development Objective (PDO) is to contribute to the improvement of the operation and maintenance of priority sections of Jakarta's flood management system. The PDO will be achieved through:

- a) Dredging sections of selected key floodways, canals and retention basins to improve their flow capacities, and disposing the dredge material in proper facilities;
- b) Rehabilitating and constructing embankment in sections of, and repairing or replacing mechanical equipment in, the same selected key floodways, canals and retention basins to sustain and improve their operations;
- c) Establishing institutional coordination between the three responsible agencies to encourage coordinated development, and operations and maintenance (O&M) of Jakarta's flood management system, and
- d) Strengthening the capability of the responsible agencies to improve the operations, maintenance and management of Jakarta's flood management system.

14. ***Key Project Activities.*** The project's aim is to support the dredging of the key floodways, canals and retention basins of Jakarta's flood management system and dispose the dredged material in a proper facility, using sustainable best practices (focusing on institutional coordination, and environmental and social sustainability).

15. ***Principles and Premises.*** It is clear that resolving the challenges of flood mitigation and management in Jakarta is a highly complex and ambitious undertaking (see para. 10). It requires efforts to resolve difficult issues on many fronts, each of which may be under the institutional responsibility of different stakeholders. The challenges cannot be surmounted within a limited

¹⁴ Regulation PP2/2006 concerning the procedure for the procurement of foreign loan and grant acceptance, which is now replaced by regulation PP10/2011; and regulation PP54/2005 concerning regional loans, which is now replaced by regulation PP30/2011.

short term effort. Yet a single overambitious, large and complex effort will also likely lead to implementation failure and seriously affect the long term will to address the problem. Thus, the proposed project objective is modest in scope and aims especially to support DKI Jakarta to begin addressing immediate flood management priorities. At the same time, its focus on supporting improvements in the four key areas of dredging, environmental, social and institutional practices by demonstrating sustainable mechanisms could help to strengthen critical operational, maintenance and institutional cooperation and coordination arrangements. This in turn could form the foundation towards larger and more ambitious undertakings in the future.

B. Project Beneficiaries

16. **Population in selected drainage subsystems.** Comprehensive simulations of the 2007 event predicted that effects on more than 1 million people, or 40% of the flood impact, could have been avoided if the existing system was operating at the original intended capacity. The project will provide relief to the population particularly within the project scope area by reducing flood events and their intensity within the relevant drainage subsystems. The project sites are located in 57 *kelurahans* (urban villages) as part of 19 *kecamatan*s (sub-districts) in four municipalities, i.e. North Jakarta, East Jakarta, Central Jakarta, and West Jakarta. About 1.8 million people live in these 57 *kelurahans*.

17. **Institutional Stakeholders.** A range of institutional stakeholders, from central government agencies to local government departments, will benefit from the demonstration of sound and sustainable institutional, funding, operations and maintenance arrangements for the flood management systems in Jakarta. The coordination structures between the BBWSCC / DGWR, DGCK and DKI Jakarta to implement the project would form the basis for longer term coordinated routine operations and maintenance.

C. PDO Level Results Indicators

18. **Key Performance Indicators.** Progress towards achieving the PDO will be monitored through a set of indicators linked to the PDO:

- (a) water level of inundated areas;
- (b) the number of hours of water logging in inundated areas; and
- (c) the extent of inundated areas;

III. Project Description

A. Project Components

19. The Project components are summarized as follows (see Annex 2 for details):

- (a) **Component 1.** *Dredging and rehabilitation of selected key floodways, canals and retention basins (US\$176.1m, including contingencies).* This component will support the dredging and rehabilitation of 11 floodways / canals and four retention basins¹⁵ which have been identified as priority sections of the Jakarta flood

¹⁵ See Annex 2 for the full list of floodways / canals and retentions basins, and a summary of their characteristics.

management system in need of urgent rehabilitation and improvement in flow capacities. The dredge material will be transported and disposed into proper disposal sites. The 11 floodways / canals are estimated to have a total length of 67.5 km, while the four retention basins estimated to cover a total area of 65.1 hectares. About 42.2 km of embankments are expected to be rehabilitated or constructed within these floodways, canals and retention basins¹⁶. Where necessary, mechanical equipment (pumps, gates, etc) will be replaced or repaired.

- (b) **Component 2. Technical assistance for project management, social safeguards, and capacity building (US\$13.4, including contingencies).** This component will support contracts management, engineering design reviews, construction supervision engineers for the dredging and rehabilitation works and technical assistance for implementation of the project, including the Resettlement Policy Framework, Resettlement Plans and the Grievance Redress System. Technical assistance includes support to improve institutional coordination for operations and maintenance of Jakarta's flood management system as well as the establishment of a Flood Management Information System (FMIS)¹⁷. Provision has been made for the cost of implementing required Resettlement Plans, as well as the establishment and operations of a project Grievance Redress System (GRS) and a Panel of Experts (POE).

20. **Disposal Sites.** All sections of project floodways / canals and retention basins will be tested for hazardous material prior to dredging¹⁸. Separate disposal sites have been identified for the disposal of non-hazardous material, solid waste material and hazardous material (if any) dredged from the project sites. The disposal sites are not financed by the project, however, they are considered an integral part of the project. Approximately 3.4 million m³ of sediment material and the approximately 95,000 m³ of solid waste will be removed from the project dredging works. Non-hazardous sediment material will be disposed of at the Ancol confined disposal facility (CDF)¹⁹. Hazardous sediment material (if any are found) will be disposed of at the PPLi Hazardous Waste Facility in Bogor, West Java²⁰. Solid waste will be disposed of at the Bantar Gebang Landfill in Bekasi, West Java.

21. **Sequenced project implementation.** A sequenced implementation design has been adopted as a key implementation risk management mechanism for the project. The major works funded by the project will be implemented in two sequenced batches. Phase 1 works (proposed 4 sites / 3 works contracts) are expected to commence during the first year of the project. Phase 2 works (proposed 11 sites / 5 contracts) are expected to begin from around 12 to 18 months after project approval. Details of Phase 1 and Phase 2 sites are described in Annex 2. This sequencing will avoid the implementing agencies and the supervision consultant from being overburdened during the first year when detailed actual implementation processes, procedures and routines are established and operationalized. The sequencing will also allow time for DKI

¹⁶ Consisting of corrugated pre-stressed concrete piles, bank protection, and collector drain works.

¹⁷ Expected to be financed under the WASAP-J Trust Funds.

¹⁸ The sediment material is unlikely to contain hazardous material (based on extensive sample tests during project preparation). Nevertheless, prior dredging tests will be done to mitigate against inadequate treatment of any hazardous material.

¹⁹ Part of an ongoing sea reclamation works at Ancol situated off the north coast of Jakarta.

²⁰ Note that specific proposed method to treat/dispose of any hazardous waste will follow national regulations on hazardous waste treatment and disposal and subject to the approval of the Ministry of Environment (MoE).

Jakarta to complete the necessary resettlement instruments and supporting arrangements for Phase 2 sites²¹, including the establishment of a project Grievance Redress System (GRS) and the appointment of a Panel of Experts (POE).

B. Project Financing

1. Lending Instrument

22. A self-standing Specific Investment Loan (SIL) has been identified as the appropriate lending instrument. The loan amounting to US\$139.64 million from the International Bank for Reconstruction and Development (IBRD) will be provided to the Government of Indonesia (GOI) as a variable spread loan²², with a total maturity of 24.5 years including a grace period of 9 years. Of the loan proceeds, GOI will (i) allocated US\$70.30 million to MoPW (DGWR and DGCK), and (ii) on-lend US\$69.34 million to DKI Jakarta through a Subsidiary Loan Agreement (SLA)²³. GOI will bear the foreign exchange risks of the on-lending to DKI Jakarta. The SLA will bear the same terms and conditions of the IBRD loan to GOI, except (i) the on-lending will be denominated in the local currency (Indonesia Rupiah), and (ii) the interest rates on outstanding loan will be equal to the IBRD loan interest rate, plus a maximum of 5.02%²⁴.

2. Project Cost and Financing

23. The total cost of the project is estimated at US\$189.85 million. Total counterparts funding of US\$49.71 million will be provided by DKI Jakarta, DGWR, DGCK and central government. A grant facility²⁵ from the Government of Netherlands will contribute in parallel US\$0.5 million towards the costs to establish the Flood Management Information System (FMIS). The breakdown of project costs by component and the project financing plan by sources of funding are summarized in Table 1 below.

²¹ Phase 1 sites do not involve involuntary resettlement.

²² Through a Loan Agreement between the IBRD and the Republic of Indonesia.

²³ This is one of the first examples of the on-lending arrangements for projects that do not provide direct revenue benefits. See discussions on this in para. 12.

²⁴ In accordance with the Regulation of the Minister of Finance No. PMK83/05 on Additional Interest on SLA to Regional Governments.

²⁵ The Water and Sanitation Sector Program (WASAP) Trust Fund, administered by the Bank.

Table 1 – Project Financing by Component and Sources of Funding

Item		Total	Counterpart Funding	IBRD	Bilateral Grant
		(US\$ million)			
COMPONENT 1					
1.	Dredging and rehabilitation of selected key floodways, canals and retention basins.				
	a. DGWR	53.20	10.80	42.40	
	b. DGCK	22.40	4.60	17.80	
	c. DKI Jakarta	100.50	31.16	69.34	
Subtotal Component 1		176.10	46.56	129.54	
COMPONENT 2					
2.	Supervision Consultant (contracts management, engineering design reviews and construction supervision, support to project GRS and implementation of RPs)	9.60		9.60	
3.	Flood Management Information System (FMIS)	0.50			0.50
4.	Panel of Experts	0.50		0.50	
5.	Resettlement Costs (DKI Jakarta)	2.80	2.80		
Subtotal Component 2		13.40	2.80	10.10	0.50
Total Project Cost		189.50	49.36	139.64	0.50
	Front End Fee (0.25%)	0.35	0.35		
Total Financing Required		189.85	49.71	139.64	0.50

24. A substantial portion of the upfront cost associated with project preparation, including detailed engineering design, environmental and social impact assessments and the preparation of related documents, project preparation institutional coordination, training and capacity building was supported by grant facilities²⁶ from the Government of Netherlands in the amount of about €6.15 million²⁷.

C. Lessons Learned and Reflected in the Project Design

25. The key lessons learned and taken into account in the design of the project are drawn from a pilot dredging project carried out through a Government of Netherlands bilateral program²⁸, the Bank's experience in Indonesia in projects involving multiple government agencies including local governments, as well as experience in complex urban development projects:

- i) *Sectors with simultaneous challenges stemming from their sheer scale, long-term or multi-institutional nature of physical and institutional problems, are best addressed through a gradual and sustained effort.* The project will adhere to the principle of

²⁶ The Water and Sanitation Sector Program (WASAP) Trust Fund, administered by the Bank.

²⁷ Netherlands has been a key partner supporting DKI Jakarta on issues of flood management. Technical assessments under the Jakarta Flood Management 2 Project (JFM2) were key in DKI Jakarta arriving at the decision to focus on restoring its existing flood management infrastructure. Currently, the Dutch-financed Jakarta Coastal Defense Strategy (JCDS) project is helping to formulate a strategic plan to improve the coastal defense of Java and in particular the northern coast of Jakarta. Rotterdam is a sister city of Jakarta cooperating on various issues including flood prevention. Another key development partner is the Japan International Cooperation Agency (JICA) which had previously financed various flood infrastructure in Jakarta. Currently, JICA has an ongoing Capacity Development of Jakarta Comprehensive Flood Management (JCFM) project and is supporting the development of sewerage infrastructure in Jakarta.

²⁸ The Pilot Dredging Project, initiated in November 2008 as a component of the Government of Netherlands supported Jakarta Flood Management 2 Project (JFM2).

addressing issues in realistic scopes and timeframes to encourage the maintenance of sustained efforts and long term partnership towards the resolution of Jakarta's flood management challenges. A key aim is to support GOI and DKI Jakarta to begin addressing immediate priorities and to demonstrate sustainable and sound mechanisms for the development, and operations and maintenance, of the flood management system in Jakarta.

- ii) *Early successes are critical to maintain the commitment to, and the momentum of, long term institutional strengthening and reform processes.* The implementation of various aspects of the project will be sequenced, undertaking a modest magnitude of activities at the implementation startup stage and addressing less complex activities²⁹ first. The importance of early successes will also be considered to mitigate the risk of loss of support and institutional reform momentum that can result from any early setbacks.
- iii) *Early engagement to obtain long term commitment and support from institutional stakeholders from all levels of government is critical.* The ultimate success of an efficient flood management system in Jakarta depends on the readiness of all the relevant responsible institutions to work together on a long term and sustained basis. Early engagement of relevant institutions from all levels of government, including the Ministry of Finance (MOF), Bappenas, MoPW and DKI Jakarta, has been a hallmark of project preparation. Active dissemination of information and discussions related to Jakarta's flood problems and flood management³⁰ were undertaken from prior to project identification, culminating in a joint decision to proceed with project preparation and the use of the National Steering Committee for Water Resources (NSCWR), with DKI Jakarta's participation, to guide preparation and implementation. The scope of the project was also confirmed to include floodways, canals and retention basins that encompass the jurisdictions of DKI Jakarta, DGWR and DGCK enabling the use of project preparation and implementation arrangements to form a platform to create long term coordination in operations and maintenance.
- iv) *The lack of adequate laws and operational regulations governing project funding mechanisms between central and local governments can delay or stop project implementation.* An agreed pre-requisite for the project was the revisions of key on-granting and on-lending regulations³¹ to enable the on-lending of funds from MOF to DKI Jakarta for the purposes of carrying out JUFMP activities.
- v) *Slow procurement process can significantly contribute to implementation delays.* Experience has been gained during project preparation for the procurement of consultants. The pooling of scarce experienced procurement staffing resources into coordinated procurement committees has been agreed between the three Project Implementing Units (PIUs). Designs and draft bidding documents for major works have been prepared, in readiness for sequenced implementation.

²⁹ For example, proceeding with works in floodways, canals and retention basins without Project Affected Persons (PAPs), or sequencing implementation of Resettlement Plans (RPs) to begin in less complex settings.

³⁰ Including a study visit to observe flood management arrangements in the Netherlands.

³¹ See discussions on this in para. 12.

IV. Implementation

A. Institutional and Implementation Arrangements (*see Annex 3 for details*)

26. ***Project Financed Activities.*** The project will be implemented through the appropriate existing institutions in line with the institutional structure for flood management in Jakarta. There are three Project Implementing Units (PIUs) at both central and local government levels: (i) the Directorate General for Water Resources (DGWR), (ii) the Directorate General for Human Settlements (DGCK), and (iii) the Provincial Government of DKI Jakarta (DKI Jakarta). Each will be responsible for carrying out the dredging and rehabilitation works in the selected key floodways, canals and retention basins that come under their respective institutional and legal responsibilities. In line with its responsibility mandate for social issues in the Jakarta municipalities³², DKI Jakarta will be responsible for all project social safeguards arrangements. Overall coordination is provided by DGWR. A Project Management Unit (PMU) established by DGWR oversaw and coordinated the overall preparation of the project. For the project implementation phase³³, the DGWR will establish a Central Project Management Unit (CPMU) to oversee and coordinate the overall implementation reporting, planning and oversight functions. The PMU will be redesignated with the same composition as the Central Project Implementation Unit (CPIU) to implement and manage common project activities, including (i) the Supervision Consultant (SC), (ii) the Panel of Experts (POE), (iii) the Flood Management Information Systems (FMIS), and (iv) support to DKI Jakarta related to involuntary resettlement and the project's Grievance Redress System (GRS). Beyond the sector institutions, the National Steering Committee for Water Resources (NSCWR), a high level advisory committee led by Bappenas³⁴ will provide coordination and advisory support at the policy level.

27. ***Project Material Disposal Activities.*** The three JUFMP dredge material disposal locations are operated by separate entities independent of the JUFMP. Ancol CDF is operated by the concessionaire and operator of the reclamation project, PT. Pembangunan Jaya Ancol (PT. PJA). The Bantar Gebang landfill is managed by the sanitary service department of DKI Jakarta through a private operator, while PPLi secure landfill is a private commercial provider (i.e. PT. PPLi) of hazardous waste disposal services.

B. Results Monitoring and Evaluation

28. ***Monitoring and evaluation (M&E) of project outcomes.*** The DGWR will be responsible for the overall monitoring of the project implementation. The Supervision Consultant (SC) will play a key role in assisting the CPIU and PIUs to supervise, monitor, evaluate and report on the achievement of project outcomes, including project construction and disposal activities, environmental and social safeguards activities. The SC will provide monthly as well as quarterly progress reports. The PIU DKI Jakarta, with the support of the *walikotas*

³² Jakarta is officially designated a province with special status as the capital of Indonesia i.e., DKI Jakarta (or 'Special Capital City District of Jakarta'). Administratively, DKI Jakarta is divided into five municipalities (i.e. North Jakarta, South Jakarta, West Jakarta, East Jakarta and Central Jakarta municipalities) and one regency (i.e., Kepulauan Seribu, a group of small islands located on the Java Sea).

³³ The establishment of the CPMU, the redesignation of the PMU to CPIU and the updated reestablishment of the PIUs to align with the overall revised arrangements will be done prior to project effectiveness.

³⁴ For the purposes of JUFMP, committee meetings will at least include representatives from Ministry of Finance, MoPW, Ministry of Home Affairs (MOHA) and DKI Jakarta.

(mayors) of the relevant municipalities, will be responsible for monitoring and evaluating the implementation of the Resettlement Plans.

C. Sustainability

29. ***Consistency with GOI and DKI Jakarta priorities.*** Flood events have increased in intensity and frequency in Jakarta over the last decade. The major flood events of 1996, 2002 and 2007 caused huge economic and social losses. Shorter but more frequent flood events that severely disrupt daily life are common issues faced by the citizens of Jakarta especially during the annual rainy seasons from November to April. These have generated lively debates and calls for swift actions. Flood mitigation and management is now a critical economic, social and political issue of the highest priority in Jakarta. The normalization of rivers and channels forms a key plank of DKI Jakarta's medium term flood management program³⁵ (see Annex 3 for further descriptions of DKI Jakarta's long term flood management strategy). Consequently, the commitment of both the central government and the local government - both to the project and its longer term sustainability - is assured.

30. ***Core institutional issue.*** The sustainability of project investments and improvement in flood management in Jakarta in the longer run is dependent on the ability and efficiency of the responsible institutions to operate and maintain the flood system infrastructure – including putting in place fiscal arrangements for operations and financing – that will allow DPU-DKI to manage and operate the city's flood control system in a sustainable manner. At present, coordination between these institutions is largely related to construction projects rather than operations and maintenance (O&M). The coordination structures between the BBWSCC / DGWR, DGCK and DKI Jakarta to implement the project would form the basis for longer term coordinated routine O&M. Insufficient data and ability to analyze the available data hampers the development of clear programs of action for operations and maintenance³⁶. The FMIS will begin to remedy these data and analytical shortcomings. DPU-DKI is also being proactive in creating a specific unit for managing IT and databases.

31. ***Environmental and social sustainability.*** The continued internalization and implementation by DKI Jakarta and GOI of the environmental and social management practices introduced by the project would help to establish and strengthen good practices for environmental and social safeguards, such as consultations and participation from different stakeholders. Careful sequencing of implementation activities i.e., beginning dredging works in project sites with the least potential environmental and social impact and showing success before proceeding to more complicated sites will allow for continuous reviews and feedback, enhancing the chances of success at every part of the sequence and reducing the risk of unsustainable investments.

V. Key Risks and Mitigation Measures

32. The key risks of the project and their associated mitigation measures are assessed and discussed in the Operational Risk Assessment Framework (ORAF) in Annex 4. At the project level, the main risks identified are related to social and environmental risks; the inter-agency

³⁵ Per DKI Jakarta's Medium Term Development Plans 2007-2012.

³⁶ Reducing operations to reactive activities in response to specific incidences.

coordination challenges; procurement and financial management risks; and the risks related to fraud and corruption. An INT investigation in 2010 substantiated allegations of systematic fraud in a contract under a project executed by the Directorate General of Water Resources of the Ministry of Public Works, one of the implementing agencies of this project. The investigation resulted in negotiated settlements debarring an international firm and six of its local joint venture partners, and restitution payment by the international firm. Significantly, the Government has also taken action with investigations and ongoing prosecutions by the Attorney-General's Office.

33. Key social and environmental risks include involuntary resettlement to be carried out in a dense urban setting, the supervision and enforcement arrangements at the main dredge material disposal site (Ancol CDF), as well as the possibility from the inadvertent association of the project by the public to any substandard practices or problems in unrelated projects at or near the JUFMP sites, or in unrelated reclamation activities. Social and environmental risk management measures are discussed further in Annex 7.

34. The arrangements for financial management and procurement include risk mitigation actions that provide for specific control systems for financial management and procurement during project implementation. Financial management and procurement risks management measures are discussed further in Annex 3. In addition, a project Anti-Corruption Action Plan (ACAP) has been developed to identify risks of corruption and mitigation measures beyond these standard control systems. The ACAP is discussed further in Annex 8.

35. Notwithstanding risk minimization measures adopted and mitigation measures designed, various uncertainties remain, in particular stemming from (i) untested implementation institutional arrangements, (ii) the introduction of new involuntary resettlement and environmental safeguards practices, and (iii) the uncertainties with respect to the sustainability of project outcomes. Considering these uncertainties, risk during implementation is rated *High* at this time. The management of risks during implementation and careful sequencing of project activities to demonstrate success at each step will be critical. As the new approaches and arrangements are demonstrated, implementation risks should reduce over time.

VI. Appraisal Summary

A. Economic and Financial Analysis

36. **Economic Analysis.** The impact of the project is estimated based on socio-economic losses resulting from the 2007 flood disaster, adjusted for the project scope area. The main benefits accrue from avoided damages to infrastructure and disruption in economic activities. Direct benefits accrue to the local government budget either by the avoidance of allocation for flood rehabilitation or the avoidance of losses from business taxes and other income. Indirect benefits accrue from the avoidance of other economic costs to the society, e.g., health costs, economic opportunity losses, labor and school days lost. The Economic Rate of Return (EIRR) for the project is very high at about 381%, and the net present value (NPV) of incremental benefit is positive at about Rp29.7 trillion at an 8% discount rate.

37. **Financial Analysis.** The improvement to the drainage systems is not an endeavor linked to direct financial returns; instead large economic and social benefits are expected from the

project investments. Nevertheless, the operational sustainability of DKI Jakarta as a whole is important to ensure that it remains capable of operating and maintaining the infrastructure and providing adequate services in the longer term. The financial performance of DKI Jakarta has been assessed and financial projections made by GOI, including its recent financial status, its continuing financial viability during the loan period, and its ability to service its financing obligations. In the last three years (2008 – 2010), DKI Jakarta has maintained significant operating surpluses (ranging from Rp3.7 to Rp4.9 trillion, or about US\$417m to US\$545m). Projections taking into account the expected project loan and DKI Jakarta counterpart funding obligations show continuing significant positive surpluses. DKI Jakarta's debt service coverage ratio (DSCR) is high and projected to remain healthy throughout the period.

B. Technical

38. **Choice of floodways, canals and retention basins.** Hydraulic simulation studies have recommended the rehabilitation of the city's flood management system to its original design capacity and a routine maintenance system as the most beneficial first step for flood mitigation in Jakarta. The sections of the Jakarta flood management system included in the project have been identified by GOI as in priority need of urgent rehabilitation and improvement in flow capacities (see Annex 2 for the full list of floodways / canals and retentions basins, and a summary of their characteristics). Other considerations affecting the choice of project scope are discussed in more detail in the Analysis of Alternatives section of Annex 7.

39. **Design for dredging and rehabilitation.** Dredging will increase the water carrying capacity of the floodways and drains, as well as increase the retention capacity of the floodways, drains and retention basins. Engineering design focused on minimum designs required to restore the sections to appropriate operational levels, and methodologies that can dredge around existing structures, minimize the required construction space. Various mechanical dredging options and methodologies to reduce impacts associated with these types of activities were considered. Floating pontoon-based dredging has been identified as the preferred technology as the majority of construction activity can be restricted to the waterway itself, rather than having to disturb a wide strip along the length of the waterway. Annex 2 provides more details of the dredging and transportation methods. Engineering specifications and designs have been prepared. Draft bidding documents for all packages have been prepared.

40. **Choice of disposal facilities for dredge material.** Various options were considered for the disposal of non-hazardous dredge material from the project, considering sediment test results, past experiences, technical and financial reasons and opportunistic project development works. These are discussed in more detail in the Analysis of Alternatives section of Annex 7.

41. **Design for Ancol CDF disposal facilities.** The proposed design and specifications of the Ancol Confined Disposal Facility (CDF) has been assessed as satisfactory during appraisal. This CDF design consists of a confining dyke roughly 2 km long and 800 m wide formed by (i) on the east side, an existing reclaimed land mass, (ii) on the south and west sides, a dyke construction of soil with slope protection of rocks to protect the dyke against waves and currents, and (iii) on the north side, a sand dune structure with a gentle slope that dampens the waves to

prevent breaching of the confinement³⁷. This confining structure acts to isolate and retain material solids and allow the discharge of clean process water from the confined area. The material solids to fill the CDF will consist of non-hazardous dredge material from JUFMP. This will be augmented with sand and finally an approximate 40 cm cap of laterite (red clay). This design has been reviewed and approved by BPLHD. The Ancol CDF facility has a capacity to receive about 12 million m³ of fill material. This is more than adequate to receive the estimated 3.4 million m³ dredge material from JUFMP sites. At the time of appraisal, the east, south and west confinements have been constructed. It was assessed that the northern confinement will be completed, and the CDF area physically enclosed during the first quarter of calendar year 2012. This timeline suits the expected procurement of the Phase 1 works contracts under JUFMP. (The Bank's 'no objection' to the award of any given JUFMP dredging contract is subject to satisfactory completion of the confined facility and its compliance with all environmental requirements – see para. 55).

42. **Bantar Gebang Landfill.** A site visit conducted by the Bank team³⁸ showed that the Bantar Gebang landfill has the capacity to receive the solid wastes expected from the project and that the site has a valid operating permit³⁹ and is in compliance with local regulations. The facility was designed to handle 19 million m³ of waste and since its opening approximately 10 million m³ of waste had been disposed of at Banter Gebang. Current disposal is about 5,000t/day (about 20,000 m³)⁴⁰. The total amount of solid waste estimated from project is about 95,000 m³. Over a four year project period, this amounts to less about 0.3% of the normal average existing solid waste receipt.

43. **PPLi Hazardous Waste Facility.** The PPLi secure landfill in Bogor is a 50 hectare landfill with a total capacity of over 3 million tons and capacity to process 22,000 tons of waste annually. A site visit conducted by the Bank team⁴¹ showed that only 2 hectare of the landfill had been utilized. A double composite liner, constructed of bentonite clay and high-density polyethylene (HDPE), lines the landfill's base, which prevents any leachate from contaminating the surrounding environment. New waste is covered with soil or a synthetic material on a daily basis. Once an area of the landfill fills to capacity, it is capped with clay and a HDPE liner to prevent water from seeping into the closed landfill cell. The facility meets the national and sub-national regulation, and is adequate provision to accommodate any reasonable amount of hazardous material which may be found at JUFMP sites.

C. Financial Management

44. The purpose of the project's financial management assessment is to determine whether the financial management systems of the executing agencies, the DGWR, DGCK within MoPW and DKI Jakarta are capable of producing timely, relevant and reliable financial information on project activities, and whether the accounting systems for the project expenditures and underlying internal controls are adequate to meet fiduciary objectives, satisfy the Bank's OP/BP

³⁷ This northern side design is a change from the original design of soil with slope protection. The proposed change was also reviewed by the World Bank, whose recommendations was acknowledged and adopted prior to the approval of BPLHD.

³⁸ In December 2010.

³⁹ West Java Governor Number 593.82/SK/282.P/AGK/DA/86 dated on 25 January 1986 *jo.* 593.82/ SK.116.P /AGK/DA/26-1987.

⁴⁰ Calculated using typical weight of household wastes.

⁴¹ In December 2010.

10.02 and allow the Bank to monitor compliance with agreed implementation procedures, and evaluate progress towards its objectives.

45. The main risks associated with the project arise from the disclaimer audit opinions on the FY 2010 financial statements of both DOISP⁴² and WASAP-J⁴³ projects. Both projects are implemented by DGWR. The auditor issued disclaimer opinions due to the unavailability of sufficient documentation to enable the auditor to conduct an examination of project expenditures. Furthermore, there was a case of substantiated INT investigation involving a DGWR-executed project in 2010. Another risk is the limited experience of DKI Jakarta in implementing Bank-financed projects. On the other hand, DGCK has extensive experience in implementing Bank-financed projects. The auditor has lifted the disclaimer opinions (after an in-depth audit was completed) and an action plan has been agreed on the audit findings. To help mitigate FM risks, the following arrangements will be implemented: (i) the Project Operations Manual (POM) for JUFMP implementation should cover strengthened internal control through (a) inclusion of internal audit of the project activities by the MoPW Inspector General (IG) and DKI Jakarta Inspectorate, and (b) improvement in the project recordkeeping policy, including responsibility and facilities for recordkeeping; (ii) training on payment verification should be provided to all PIUs; and (iii) financial management specialists should be hired as part of the Supervision Consultant, which will help augment financial management capacity.

D. Procurement

46. **Procurement capacity.** A procurement assessment was carried out on the PMU, which will be re-designated, as the CPIU (per para. 26), and three PIUs that will implement the project. The assessment concluded that the PMU has the capacity to carry out procurement activities under its responsibilities. The PMU has already demonstrated successful and timely procurement of two large project preparation consultancies and it is expected that the same team will carry out PMU procurement during project implementation. The assessments of the three PIUs however point to limited capacity and experience of the PIUs in carrying out large works contracts under International Competitive Bidding (ICB) procedures. It has been agreed that the three agencies will pool their resources of qualified staff selected from within the three PIUs. Each PIU will nominate three qualified staff members to serve on a common Procurement Committee⁴⁴. The common Procurement Committee will consist of seven members – for any given contract, the contracting PIU will have three members on the committee while the other two PIU will contribute two members. The Procurement Committee will be assisted by experienced consultants. The draft Procurement Plan for the project has been prepared. The agreed Procurement Plan will be disclosed on the MoPW website and on the Bank's external website. The Procurement Plan will be updated at least annually (or as required) to reflect the actual project implementation needs. A summary of the procurement capacity assessment and the procurement arrangements is provided in Annex 3. The complete procurement capacity assessment is available in the project files.

47. **Procurement strategy.** The selection of the construction supervision consultancy, which is instrumental in the project implementation setup process, is in progress. This consultancy is

⁴² Dam Operational Improvement/Safety Project (FY09).

⁴³ Water and Sanitation Program (J) Trust Funds

⁴⁴ Procurement training will be provided to this pool of nine nominated members of the Procurement Committee.

expected to be mobilized soon after project effectiveness. The main project activities for the dredging and rehabilitation of selected key floodways, canals and retention basins have been divided into eight works packages. Three of the packages include project sites that are not expected to have project affected persons (PAPs) and are expected to begin implementation during the first year of the project. Advance procurement for these contracts is expected to begin prior to project approval. Draft bidding documents for the other works packages have been prepared. In line with the sequencing of implementation (see para. 21), these contract packages will begin at a later stage. These include several contracts that encompass sites where construction works will occur only after the relevant Resettlement Plans (RPs) have been satisfactorily implemented.

48. **Procurement risks.** Procurement risks identified include uncertain and slow budget mechanisms that delay procurement; inexperience in procuring, administering and monitoring large complex contracts; and dependence on the resolution of social safeguards issues at some project sites leading to uncertainties in contract packaging and supervision requirements. Corrective measures agreed include: (a) review of project design and defined Anti-Corruption Action Plan; (b) code of conduct for the Procurement Committee members addressing conflicts of interest; (c) experienced consultant to support the procurement committee; and (d) use of MoPW website to publicize procurement information. The agreed mitigation measures are expected to minimize procurement risks. However, considering the fact that limited numbers of experienced contractors have worked on large dredging projects in Indonesia, and the implementing agencies also may not have the experience in dealing with ICB procedures, the overall project risk for procurement remains *High*.

E. Social (including safeguards)

49. **Social impacts of the project.** The project is expected to have significant positive social impacts. In particular, the reduction of flood events will reduce the disruptions to communities in project areas, as well as reduce public health issues caused by overflowing and stagnant flood waters. Beneficiaries will be predominantly poor communities living in flood-prone areas within the project scope. However, there are potential adverse impacts including resettlement-related and non-resettlement related impacts. Involuntary resettlement has been identified as required in six of the 15 project sites. Significant efforts have been made to minimize the number of cases of involuntary resettlement (see Annex 7 for details). Non-resettlement related impacts include potential disturbances to the living environment during construction, such as damage on local roads, dusts, bad odors, spilled dredged materials, increased traffic congestion and noise from the equipments and trucks. Construction works could also temporarily affect about 19 operators / owners of canal crossing boats.

50. **Safeguards policies triggered.** For the reasons above, the project triggers the Involuntary Resettlement (OP 4.12) policy. The provisions of OP 4.12 will also apply to any linked activities if they are carried out in 10 linked sites, which have been identified on the basis of their hydraulic connections to the project sites (see Annex 2 for details of linked sites).

51. **Social safeguards.** Project works contractors will be required to consult with the community periodically to inform the community of works plans and discuss ways to minimize unavoidable impacts, such as the temporary impact from traffic disruptions, reduction in air

quality and construction noise. Contractors will also enter into discussions with boat crossing operators to arrive at mutually agreeable arrangements for the dredging schedule to avoid as much as possible disturbance to the operators' activities. In order to address involuntary resettlement issues and to ensure that implementation of project activities (including linked activities) will be carried out in a socially sustainable manner, DKI Jakarta has prepared a Resettlement Policy Framework (RPF) which will govern the preparation of Resettlement Plans (RPs). The policy framework addresses the entitlements of Project Affected Persons (PAPs) who are occupants of state or government land as well as entitlements of PAPs affected by the acquisition of privately owned land, the rationale for compensation for lost assets at replacement cost, specific measures to address vulnerable groups, and assistance for livelihood restoration. During project implementation a project grievance redress system that is open, approachable, and also provides timely feedback to concerns, as well as mediation options for disputes will be in place to address any complaints that arise from the project. A Panel of Experts (POE) consisting of independent and internationally recognized experts will be mobilized to advise on technical issues (dredging and disposal), environmental and social management monitoring, and resettlement practices. Annex 7 provides more details of the social safeguards issues, baseline information, assessments and impact management measures adopted for the project (including the rationale for the disclosure arrangements adopted).

52. **Disclosure arrangements.** The completed RPF has been disclosed by GOI in-country and the Bank at the Bank's Information Center in Washington D.C. No involuntary resettlement is expected at Phase 1 sites. RPs will be completed during project implementation. Given the sequencing of project implementation, the various Phase 2 works are only expected to begin approximately 12 to 18 months after project approval. All RPs will be approved by the Bank, publicly disclosed and will be implemented (except elements in the RPs related to post-resettlement activities) prior to any works commencing at the associated site.

F. Environment (including safeguards)

53. **Environmental Impacts of the Project.** The project is expected to yield positive environmental outcomes for the following reasons; (i) alleviating seasonal flooding in the densely populated area of Jakarta will reduce the environmental impact and public health issues caused by overflowing and stagnant flood waters, (ii) removal of solid waste and sediments from the selected drains would also prevent these materials from being flushed uncontrolled into the estuary and bay area and out into the open sea, and (iii) over the longer term the flood information management system that is being introduced by the project would provide DKI Jakarta with the information based planning tool needed to sustainably manage the network and to continue to reduce the incidence of flooding in the area. These environmental benefits are in addition to the socio-economic benefits that would also be realized from alleviating seasonal flood. Notwithstanding, negative environmental impacts are likely from the dredging and embankment works and the handling, storing, stockpiling, sorting, transportation and disposal of the sediment material and solid waste generated. These include potential adverse impacts from the dredge sediment, traffic disruption, reduction in air quality due to dust and foul odor emissions, increased noise levels, and reduction in water quality during ongoing works. Hazardous material (if any are found) also poses potential environmental and health hazards if

improperly handled⁴⁵. At the Ancol CDF disposal site, potential impact may stem from changes in sea current patterns, sedimentation, reduction in water quality during ongoing works, and disturbances to sea life. There is also the potential for adverse off site impact at the source locations and transport route of sand and laterite required for the construction of the CDF⁴⁶.

54. Safeguards Policies Triggered. For the reasons above, the project triggers Environmental Assessment OP 4.01 and has been assigned an EA category of “A”, consistent with the severity and nature of the potential adverse environmental impacts.

55. Environmental Safeguards. The PMU, which will be re-designated as the CPIU (per para. 26). has prepared the Environmental Impact Assessments (EIAs), Environmental Management Plans (EMPs) and Environmental Monitoring Plans (collectively known as the AMDAL) applicable for the Phase 1 activities. A Phase 1 Supplementary Report has also been prepared, containing further measures to address the impacts during Phase 1 activities⁴⁷. PT. PJA has prepared the AMDAL applicable for the activities at the Ancol CDF (including off site activities). Similar to the Phase 1 arrangements, a supplementary report has also been prepared, containing further measures to address the impacts at Ancol CDF (and off site locations). The AMDALs and respective supplementary reports, together, meet the Bank’s safeguards requirements. An Environmental and Social Management Framework (ESMF) has been prepared, which will guide the preparation of Phase 2 related environmental and social safeguards instruments. Annex 7 provides more details of the environmental safeguards issues, baseline information, assessments and impact management measures adopted for the project (including the rationale for the disclosure arrangements adopted).

56. Disclosure arrangements. The EIAs, EMPs and supplementary plans for Phase 1 works and Ancol CDF, and the ESMF, have been disclosed by GOI in-country and the World Bank at the Bank’s Information Center in Washington D.C. GOI has prepared a Consolidated Summary of the environmental impact assessment which serves to describe a consolidated picture of the environmental and social safeguards impact assessments and mitigation design for the JUFMP project as a whole. This has also been similarly disclosed. Phase 2 EIAs and EMPs will be completed during project implementation. Given the sequencing of project implementation, the various Phase 2 works are only expected to begin approximately 12 to 18 months after project approval. All EIAs and EMPs will be approved by the Bank and publicly disclosed prior to any works commencing at the associated site.

⁴⁵ This risk is assessed to be low. It is unlikely that hazardous material will be found, since extensive testing of the sediment in the project floodways, canals and retention basins and in surrounding drainage systems during project preparation have not shown the presence of any hazardous dredged material. Nevertheless, this precautionary measure has been adopted and in the unlikely event that any hazardous dredged material is found, an existing hazardous waste landfill has been identified to serve as the disposal site for these hazardous dredged materials.

⁴⁶ Although the use of JUFMP dredge material to part replace sand material requirement – thus reducing sand requirement from 12 million m³ to 8.6 million m³ - is in itself a measure to reduce potential off site impacts

⁴⁷ During project preparation, the AMDAL documents were reviewed by the Bank. The comments and recommendations from the Bank reviews were incorporated into the supplementary report.

Annex 1: Results Framework and Monitoring

Results Framework

Project Development Objective (PDO): The Project Development Objective (PDO) is to contribute to the improvement of the operation and maintenance of priority sections of Jakarta's flood management system.												
PDO Level Results Indicators*	Core	Unit of Measure	Baseline	Cumulative Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR5				
Indicator One: Water level of inundated areas (see Note 1)	<input type="checkbox"/>	cm	70	NA	NA	31	15	11	Annual	Post flood surveys	PIUs, CPIU,	Indicates local reduction in flooding frequency or intensity
Indicator Two: The number of hours of water logging in inundated areas (see Note 1)	<input type="checkbox"/>	hours	> 1 x 24	NA	NA	<1 x 24	< 1 x 24	< 1 x 24	Annual	Post flood surveys	PIUs, CPIU,	
Indicator Three: The extent of inundated areas (see Note 1)	<input type="checkbox"/>	%	100%	NA	NA	65%	36%	20%	Annual	Post flood surveys	PIUs, CPIU,	
INTERMEDIATE RESULTS												
Intermediate Result (Component One): Dredging and rehabilitation of selected key floodways, canals and retention basins												
<i>Intermediate Result indicator One:</i> Volume of dredge material removed from the floodways, canals and retention basins (including solid waste)	<input type="checkbox"/>	Million m ³	0	0.5	1.8	2.3	2.8	3.4	Annual	Project progress reports	CPIU	Gauge to determine the degree of returning floodways, canals or retention basin to original capacities
<i>Intermediate Result indicator Two:</i> Additional storage added to retention basins	<input type="checkbox"/>	Million m ³	0	94,480	497,540	545,740	596,740	596,740	Annual	Project progress reports	CPIU	
<i>Intermediate Result indicator Three:</i> Length of embankment repaired or constructed	<input type="checkbox"/>	km	0	5	13	22	32	42.2	Annual	Project progress reports	CPIU	
Intermediate Result (Component Two): Technical assistance for project management, social safeguards, and capacity building												
<i>Intermediate Result indicator One:</i> Number of km canal maintained / cleaned (minimum).	<input type="checkbox"/>	km	11	11	11	25	25	25	Annual	DKI Dinas PU reports	PIU-DKI	Indicator of operations and maintenance of canals.

Note 1: Baseline for water level, number of hours of water logging and the extent of inundated areas is the average value taken from the flooding in 22 *kelurahans* affected by the Project, using 2002 baseline data, that needs to take into account land subsidence, land use, sea water level and rainfall data. Performance indicators are expected to be reviewed and adjusted as necessary during Mid-Term Review.

Annex 2: Detailed Project Description

1. **Component 1. Dredging and rehabilitation of selected key floodways, canals and retention basins (US\$176.1m, including contingencies).** This component will support the dredging and rehabilitation of 11 floodways / canals and four retention basins which have been identified as priority sections of the Jakarta flood management system in need of urgent rehabilitation and improvement in flow capacities. The 11 floodways / canals are estimated to have a total length of 67.5 km, while the four retention basins estimated to cover a total area of 65.1 hectares. The main project activities for the dredging and rehabilitation of selected key floodways, canals and retention basins have been divided into eight works packages. The detailed description of the selected key floodways, canals and retention basins are provided in Table A2.1 below.

Table A2.1: Description of Floodways, Canals and Retention Basins under Project

Contract Works Package	Location ^{Note 3}	Location Coordinates (WGS 84) ^{Note 4}	Description of Drains (Estimated)		
			Length (m)	Width (m)	Area (m ² or ha.)
1 (DKI)	Ciliwung-Gunung Sahari Floodway	from 48M 702 674 m E, 931 7919 m S to 48M 702 501 m E, 932 2469 m S	5,100	21.50 ~ 45.90	171,870 m ²
	Waduk Melati (Kali Gresik & Cideng Hulu)	48M 701 173 m E, 931 4570 m S	(2,004) (1,260)		4.90 ha.
2a (DGWR)	Cengkareng Floodway (including sea side)	from 48M 693 543 m E, 931 7587 m S to 48M 693 748 m E, 932 5466 m S	7,840 (540)	38.00 ~ 87.00	490,000 m ²
2b (DGWR)	Lower Sunter Floodway ^{Note 1}	from 48M 709 909 m E, 931 6807 m S to 48M 711 015 m E, 932 4383 m S	9,980	20.20 ~ 47.40	338,320 m ²
3 (DGCK)	Cideng Thamrin Drain (Round Road drain)	from 48M 701 462 m E, 931 5022 m S to 48M 700 392 m E, 931 7488 m S	3,840 (1,960)	10.00 ~ 19.00	55,680 m ²
4 (DKI)	Sentiong-Sunter Drain (including Ancol Canal)	from 48M 704 933 m E, 931 7153 m S to 48M 705 163 m E, 932 2503 m S	5,950 (400)	16.10 ~ 31.20	161,240 m ²
	Waduk Sunter Utara (Outlet drain)	48M 706 757 m E, 932 2450 m S	(570)		33.00 ha.
	Waduk Sunter Selatan	48M 706 552 m E, 932 0062 m S			19.20 ha.
	Waduk Sunter Timur III	48M 709 879 m E, 932 2542 m S			8.00 ha.
5 (DGCK)	Tanjungan Drain	from 48M 690 497 m E, 9324161 m S to 48M 691 024 m E, 9324644 m S	600	9.20 ~ 26.00	10,560 m ²
	Lower Angke Drain	from 48M 695 478 m E, 931 8801 m S to 48M 696 390 m E, 932 2730 m S	4,050	31.00 ~ 51.00	166,050 m ²
6 (DGWR)	West Banjir Canal (sea side)	from 48M 696 390 m E, 932 2730 m S to 48M 695 518 m E, 932 5394 m S	3,060 (590)	33.00 ~ 141.00	266,220 m ²
	Upper Sunter Floodway ^{Note 1}	from 48M 709 754 m E, 931 2931 m S to 48M 709 909 m E, 931 6807 m S	5,150	15.00 ~ 36.00	131,320 m ²

7 (DKI)	Grogol – Sekretaris Drain	from 48M 697 787 m E, 931 7987 m S to 48M 695 478 m E, 931 8801 m S	2,970	21.00 ~ 51.00	106,920 m ²
	Pakin – Kali Besar – Jelakeng Drain	from 48M 700 332 m E, 932 0615 m S to 48M 699 421 m E, 932 2643 m S	4,910	13.00 ~ 31.00	108,020 m ²
	Krukut Cideng Drain ^{Note 2}	from 48M 700 392 m E, 931 7488 m S to 48M 700 332 m E, 932 0615 m S	3,250	15.00 ~ 29.00	71,500 m ²
	Krukut Lama Drain ^{Note 2}	from 48M 701 053 m E, 931 6349 m S to 48M 700 389 m E, 931 9084 m S	3,490	7.00 ~ 29.00	62,820 m ²
			67,514		2,140,520 m² 65 ha.

Note 1 For contracting purposes, the Sunter Floodways has been divided into two sub-packages – Upper Sunter Floodway and Lower Sunter Floodway.

Note 2 For contracting purposes, the Krukut Drain has been divided into two sub-packages – Krukut Cideng Drain and Krukut Lama Drain.

Note 3 Approximate length, width, area and coordinates may vary without an amendment to this Agreement provided that the variance is within and in accordance with the terms of a Works Contract for which the Bank has issued a no-objection letter. See also the map in Annex 9.

Note 4 WGS 84 refers to World Geodetic System 84, a reference coordinate system.

2. **Choice of priority floodways, canals and retention basins.** The rationale for the choice of the above priority sites are discussed in para. 38 in the main section of the document and Annex 7. It should be noted that two other floodways sections (Kamal and Cakung drains) included earlier as priority canals have been excluded. Kamal drain (located in the westernmost area of Jakarta) is excluded at this time because GOI is undertaking a review for the redesign of the drainage system in the area, which would affect the overall hydrology of the area. The Cakung drain (the furthest eastern drain in DKI Jakarta) was excluded because GOI's recent completion of the East Banjir Canal has reduced its importance to the overall system from a floodway to local drainage.

3. **Volume of works.** Surveys of the selected key floodways, canals and retention basins carried out during project preparation estimated the total volume of dredge material to be dredged to be about 3.4 million m³ (of which about 95,000 m³ are estimated to be solid waste). About 42.2 km of embankments are expected to be rehabilitated or constructed within these floodways, canals and retention basins. Details are provided in Table A2.2 below.

Table A2.2: Description of Volume of Works

Package	Location	Dredging Estimates			Embankment Works (m)
		Dredging Depth (m)	Volume Dredge Material (m ³)	Volume of Solid Waste (m ³)	
1 (DKI)	Ciliwung-Gunung Sahari Floodway	1.90 ~ 2.70	156,970	3,140	4,832
	Waduk Melati (Kali Gresik & Cideng Hulu)	2.20 ~ 3.10	99,490	1,250	1,905
2a (DGWR)	Cengkareng Floodway (including sea side)	1.50 ~ 3.50	1,225,500	22,510	4,600
2b (DGWR)	Lower Sunter Floodway ^{Note 1}	1.60 ~ 2.30	399,250	19,970	1,800
3 (DGCK)	Cideng Thamrin Drain (Round Road drain)	0.60 ~ 2.30	33,230	810	2,570
4 (DKI)	Sentiong-Sunter Drain (including Ancol Canal)	0.50 ~ 2.10	140,150	7,010	3,865
	Waduk Sunter Utara (Outlet drain)	1.30 ~ 2.10	413,400	10,340	5,000
	Waduk Sunter Selatan	1.00 ~ 2.10	48,200	1,210	3,057
	Waduk Sunter Timur III	0.70 ~ 3.30	51,000	1,280	305
5 (DGCK)	Tanjungan Drain	1.10 ~ 1.90	11,500	290	1,092
	Lower Angke Drain	2.00 ~ 3.60	248,000	6,200	821
6 (DGWR)	West Banjir Canal (sea side)	1.70 ~ 2.50	350,080	8,760	1,190
	Upper Sunter Floodway ^{Note 1}	1.80 ~ 3.40	82,000	4,100	1,850
7 (DKI)	Grogol – Sekretaris Drain	0.70 ~ 2.30	40,500	1,020	2,391
	Pakin – Kali Besar – Jelakeng Drain	0.60 ~ 1.60	100,000	5,000	2,882
	Krukut Cideng Drain ^{Note 2}	0.70 ~ 0.80	28,700	1,440	1,658
	Krukut Lama Drain ^{Note 2}	0.50 ~ 0.80	14,900	750	2,400
			3,441,870	95,080	42,218

^{Note 1} For contracting purposes, the Sunter Floodways has been divided into two sub-packages – Upper Sunter Floodway and Lower Sunter Floodway.

^{Note 2} For contracting purposes, the Krukut Drain has been divided into two sub-packages – Krukut Cideng Drain and Krukut Lama Drain

4. **Dredging Methods.** Dredging and disposal of dredged materials includes excavation, transportation and disposal of all the sediment⁴⁸. The specifications for dredging works under the project have been prepared to improve on and taking into account the lessons from current practices (see box immediately following this paragraph for a summary of current practices). The sediment to be dredged consists mainly of soft soils (silt and clay), mixed with garbage and various solid waste⁴⁹. The dredging takes into account the removal of under-water obstacles, such as rubble and piles from old structures or old embankments, especially under bridges. Also trunks and branches of trees can be found in the water. All sediment from under the bridges and other obstacles including sediment on the embankment will be removed as well. Dredging will start upstream working downstream. All dredging works will be executed from the water, except the truck loading works. All equipment used for the removal (excavation) of the sediment must be able to position themselves in the water during dredging operations with spuds. This is to guarantee that each section of the drains, floodways and *waduks* are dredged. Damage of embankments, obstacles or any other assets before, during and after the dredging works will be repaired. At a minimum, the equipment used will include land-based excavator for truck

⁴⁸ The exact methodology and equipment for dredging will be proposed by the works contractor, subject to the approval of the Supervision Consultant. The bidding document specifies the minimum parameters to be adhered to by the contractor.

⁴⁹ Solid wastes larger than 30 cm x 30 cm will be separated from the dredge material and disposed of separately.

loading, floating excavator with spuds, barges, push / tug boats together with hydraulic suction dredger and/or floating pump.

5. **Transportation Methods.** All transport of sediment should avoid leakage or spills and dump trucks will be 100% watertight⁵⁰. Any leakage of the dump trucks on the truck loading location and along the route to the disposal sites will be cleaned immediately. Each truck movement will be registered. In particular for disposal at Ancol CDF, this will include daily reports mentioning type of truck, license plate number, time of truck departure from the loading location, and time of arrival at the deposit area in Ancol CDF. If other dredging and transporting methods are used (e.g., to pump the sediment through a 100% closed pipeline directly to the deposit area at Ancol CDF), the garbage and solid waste will first be separated from the sediment before pumping due to the expected high garbage and solid waste content of 10% - 15% within the sediment. Any leakage occurring in the pipeline route to the disposal area will be repaired immediately.

Box: Current Dredging Practices

The dredging method mostly used currently is a floating pontoon with an excavator on top (floating excavator). These floating excavators excavate the dredged materials and place them on the embankment. Dump trucks then bring the dredged materials to a disposal site. In most canals, land-based excavators can only be positioned at a few selected spots, due to constricted space along the embankment (e.g., land use or housing along the embankment). The floating excavator works towards the land-based excavator, and excavating the sediment over and over again until it reaches the land-based excavator. This method results in the sediment that is mixed with the water, and the increasing fluidity causes part flow back to the already excavated area. Significant amounts of sediment also remain suspended in the water and flow downstream where it will settle again and thus cause problems in that area.

In the wider canals with more access from the embankment, the floating excavators excavate in the center of the canals and deposit the dredged material along or on the embankment. A land-based excavator is then used to excavate from the embankment, placing the sediment onto dump trucks. Along the West Banjir Canal, the sediment had been put high on the embankment and then let dry for several months before final excavation. This method results in a high re-entry of sediment into the canal, either during placement of the sediment on the embankment or between the time of placement and final excavation due to erosion.

The present floating excavators do not have spuds - they are free floating in the water. This means that they cannot position themselves during the excavation of the sediment, especially in the wider canals. This results in inaccurate excavation causing some areas to be missed. In order to compensate, excavation is often done deeper than the design depth in the hope that the surrounding sediment evens out to the desired level. This practice can lead to embankment instability. During the dredging works, it is also observed that the floating excavator is pulled on or against the embankment and damages the embankment. All excavators used by contractors for the dredging works are of the track-type. For land-based excavators loading dump trucks, these tracks have caused road damage where protective measures like steel or wooden sheets have not been used.

6. **Sequenced project implementation.** As described in para. 21 of the main text, a sequenced implementation design has been adopted as a key implementation risk management mechanism for the project. Table A2.3 below summarized the Phase 1 and Phase 2 sites.

⁵⁰ The exact methodology and equipment for transportation will be proposed by the works contractor, subject to the approval of the Supervision Consultant. The bidding document specifies the minimum parameters to be adhered to by the contractor.

Table A2.3 Sequencing of Project Construction Works

Sequencing	Contract Package and Implementation Responsibility
Phase 1	1 (DKI Jakarta - Provincial Government of DKI Jakarta)
	2a (DGWR - Directorate General of Water Resource)
	2b (DGWR)
Phase 2	3 (DGCK – Directorate General of Human Settlement)
	4 (DKI Jakarta)
	5 (DGCK)
	6 (DGWR)
	7 (DKI Jakarta)

7. **Linked Sites.** Ten additional sites were identified as hydraulically and directly connected with the canals/waduks under JUFMP. Details of these linked sites are provided in Table A2.4 below:

Table A2.4 Description of Linked Sites

Linked Sites	Approximate length (m) / area (ha)*	Location Coordinates (WGS 84)**
<i>Linked to the Sentiong Sunter Drain:</i>		
1. Kali Item	780 m	from 48M 705 214 m E, 932 2354 m S to 48M 704 486 m E, 932 2317 m S
2. Kalibaru	1,450 m	from 48M 704 199 m E, 931 7101 m S to 48M 704 985 m E, 931 8244 m S
3. Sunter Kemayoran	2,730 m	from 48M 708 138 m E, 931 8453 m S to 48M 705 692 m E, 931 9264 m S
<i>Linked to Ciliwung-Gunung Sahari:</i>		
4. Ancol Kampung Bandan	1,330 m	from 48M 701 232 m E, 932 1892 m S to 48M 702 548 m E, 932 2037 m S
5. Ancol Long Storage	1,550 m	from 48M 704 114 m E, 932 2314 m S to 48M 702 594 m E, 932 2045 m S
<i>Linked to the Upper Sunter Floodway:</i>		
6. Canal along Jalan Kayu Putih Timur	2,950 m	from 48M 708 158 m E, 931 5540 m S to 48M 710 141 m E, 931 6666 m S
<i>Linked to Pakin-Kali Besar-Jelakeng Drain:</i>		
7. Anak K. Ciliwung Utara	2,075 m	from 48M 701 201 m E, 932 0954 m S to 48M 700 242 m E, 932 2322 m S
8. Canal along Jalan Tubagus Angke	1,780 m	from 48M 698 302 m E, 932 0676 m S to 48M 700 057 m E, 932 0811 m S
9. PHB Bandengan Utara	1,530 m	from 48M 698 437 m E, 932 1296 m S to 48M 699 995 m E, 932 1436 m S
10. Waduk Pluit	80 ha.	48M 699 144 m E, 932 3577 m S

*Approximate length, area and coordinates may vary without an amendment to this Agreement, subject to prior written concurrence of the Bank. See also the map in Annex 9.

** WGS 84 refers to World Geodetic System 84, a reference coordinate system.

GOI currently has no specific plans for rehabilitation works in these linked sections. However, any such activities in these sections will be expected to impact the operations of the floodways, canals and retention basins sections under JUFMP. Due to this reason, these 10 sections have been designated as project linked sites. Two of these project linked sites (Ancol Kp. Bandan and Ancol Long Storage)⁵¹ are linked to Phase 1 work sites, while the remaining eight are linked to Phase 2 work sites. In the event that linked activities are carried out in these sites, the RPF (and all associated provisions) will apply to such sites.

⁵¹ Rapid assessments carried out during project preparation indicated that no involuntary resettlement is expected in the event that linked activities are carried out at these two sites.

8. **Disposal Sites.** The disposal sites are not financed by the project, however, they are considered an integral part of the project. The approximately 3.4 million m³ of sediment material and the approximately 95,000 m³ of solid waste that will be removed from the floodways, canals and retention basins that are being dredged by this project will be disposed of in the following manner.

- Non Hazardous Sediment Material - will be transported and disposed of at the Ancol Sea Reclamation Works, known as the Ancol confined disposal facility (CDF). The project will not incur any charges for disposing the material at the CDF (see Annex 3 para. 9).
- Hazardous Sediment Material (if any are found) - will be disposed of at the PPLi Hazardous Waste Facility in Bogor, West Java⁵². Disposal at PPLi is subject to a disposal fee, funding for which is included in the JUFMP dredging contract.
- Solid Waste - will be transported and disposed of at City of Jakarta's landfill in Bekasi, West Java, known as the Bantar Gebang Landfill. Disposal at Bantar Gebang Landfill is subject to a landfill tipping fee, funding for which is included in the JUFMP dredging contract.

See Annex 3 for further discussions on the management and operations of the disposal sites.

9. **Component 2. Technical assistance for project management, social safeguards, and capacity building (US\$13.4, including contingencies).** This component will support contracts management, engineering design reviews, construction supervision engineers for the dredging and rehabilitation works and technical assistance for implementation of the project, including the Resettlement Policy Framework, Resettlement Plans and the Grievance Redress System. Technical assistance includes support to improve institutional coordination for operations and maintenance of Jakarta's flood management system as well as the establishment of a Flood Management Information System (FMIS)⁵³. Provision has been made for the cost of implementing required Resettlement Action Plans, as well as the establishment and operations of a project Grievance Redress System and a Panel of Experts (POE).

10. **Construction Supervision Consultant.** This is the key consultancy supporting the PMU, which will be re-designated as the CPIU (per para. 26 of the main text), and PIUs overall management, oversight and monitoring of the project. Where there are assessed weaknesses in capacity, particularly in the areas of the supervision of project environmental plans, the implementation of Resettlement Plans (RPs) and the project Grievance Redress System (GRS), this consultancy has been tasked to provide the necessary expertise to support the CPIU and PIUs during project implementation. The scope of this technical assistance services include (i) supervising the implementation of the various dredging and construction works contracts under the project, (ii) supervising the implementation of the Environmental Management and Monitoring Plan (RKL/RPL) by the works contractors, (iii) supporting the CPIU and DKI Jakarta in the implementation of Resettlement Plans (RPs), and (iv) developing and implementing the grievance / complaint handling mechanism of the project with DKI Jakarta. A summary of the detailed scope of activities of the SC is provided in the box immediately following this paragraph.

⁵² Note that specific proposed method to treat/dispose of any hazardous waste will follow national regulations on hazardous waste treatment and disposal and subject to the approval of the Ministry of Environment (MoE).

⁵³ Expected to be financed under the WASAP-J Trust Funds.

Box: Key Scope of Activities of the Supervision Consultant

Supervision of Construction Works

- 1.1 Review / check final contracts with contractors.
- 1.2 Review / check Detailed Engineering Designs and drawings, method statements, specifications, and activity schedules, carry out additional survey and investigation as required, as well as conduct any revisions deemed necessary and to obtain their approval by the CPIU
- 1.3 Supervise the testing of all sections of each project site for hazardous material prior to dredging works.
- 1.4 Supervise the implementation of the works, including (but not limited to):
 - Dredging (including the separation of solid waste from dredge material, and their transportation and disposal at approved landfill and Ancol CDF respectively), embankment and rehabilitation of canals, pumps, rack repairs and maintenance.
 - Provide assistance to the CPIU for processing of payment requests made by the contractors as required.
 - Maintain site records and prepare detailed monthly progress reports.
 - Prepare work as executed drawings and records, and operation manuals and hand over the completed works to the CPIU.
 - Prepare a Practical Completion and Outstanding Defects Report for each construction contract supervised.
 - Prepare a Final Completion and Handover Report for each construction contract supervised.
- 1.5 Supervise and monitor the construction activities at the Ancol CDF site during project implementation, and at all its off-site locations such as the source locations for the sand and the laterite soils.
- 1.6 Provide CPIU with technical assistance as needed from time to time. This may include the provision of support and advice to the CPIU regarding implementation of Project works, particularly on the technical, overall planning and procurement aspects of the Project.

Environmental Management

- 1.7 Monitor (including preparation of quarterly RKL/RPL implementation report) and supervise the environmental protection measures undertaken to mitigate environmental impairment due to construction and disposal activities, consistent with
 - The Environmental Management and Monitoring Plan (RKL/RPL) of each work site including all disposal sites.
 - The Environmental and Social Management Framework (ESMF) of the Project.

Resettlement Plans (RPs)

- 1.8 Supervise and support the implementation of Resettlement Plans (RPs), consistent with
 - The Resettlement Plan (RP) of each site where involuntary resettlement is required, including RPs for linked activities, if any.
 - The Resettlement Policy Framework (RPF) of the Project.
- 1.9 Provide technical and administration assistance in land acquisition and resettlement process

Project Grievance Redress System (GRS) / Complaint Handling Mechanism

- 1.10 Develop and operate the project Grievance Redress System (GRS), which will include but will not be limited to administering complaints from Project Affected Persons (PAPs) in a systematic way on a day to day basis;
- 1.11 Update complaints on the website, informing those who complain on the status of their complaint as well as providing feedback or follow up actions;
- 1.12 Assist DKI Jakarta in providing acceptable follow-up actions on complaints, ensuring that decisions are made based on transparent, fair, independent, and accountable processes through Grievance Redress or Complaint Handling Advisory;
- 1.13 Provide recommendations to DKI Jakarta authorities on status of complaints, from the on-site unit through the provincial level processes.

Others

- 1.14 Monitor and report on any non-project activities at the project sites, and activities in project linked sites and sites adjacent to the project.
- 1.15 Design, develop, and operate a web-based project communications and reporting system.

11. **Flood Management Information System (FMIS).** The Flood Management Information System (FMIS), when established as a GOI and DKI Jakarta -owned and managed system, is expected to become an instrumental monitoring and assessment tool for GOI and DKI Jakarta with respect to flood management in Jakarta. The management capacity for monitoring and

controlling flood will be developed through a database that is continually updated. The monitoring of changes in the state of the drainage system will then form the basis for expansion into a comprehensive FMIS. As the project is implemented, the works, changes, and upgrades to the flood management system will be input into the FMIS. The FMIS is expected to provide guidance on managing flood events as they occur, as well as identifying areas that require improvements. The effort to develop the FMIS will include the institution of:

- a) flood forecasting for DKI with built-in early warning during flood events;
- b) monitoring of long-term change of the DKI river basin areas, including monitoring of subsidence, mitigating measures, land-use change; and
- c) capacity building to improve the management of flood control systems, communication during flood events, the preparedness by understanding how flood propagate through the city, as well as the technical skills to evaluate proposed mitigation measures.

12. Under the FMIS effort, an investigation is expected to be carried out on the critical issue of land subsidence. Drainage functions, particularly in West Jakarta, are becoming less effective because land subsidence has reduced the gravitational capacity of channelling flows to the sea. Therefore renewed mechanisms for drainage may be necessary. The current impacts and expected future changes of land subsidence will be investigated. Options for interventions will be developed based on the FMIS hydraulic models (and mapping), including preliminary recommendations of engineering options and expected costs. Building on and combining with the land subsidence study, a comprehensive flood mitigation program can be modelled. This could then identify and recommend critical next steps after dredging.

13. **Panel of Experts (POE).** A Panel of Experts (POE) consisting of three independent, internationally recognized specialists will be mobilized to provide advice on all aspects of the project. It is expected that the POE will be established at the start of project implementation⁵⁴ and fully operating especially before the Phase 2 period begins. The specialists are expected to comprise an environmental expert, an engineer experienced in dredging and dredge disposal, and an urban resettlement expert. The POE's main responsibilities will include monitoring and evaluating the preparation and implementation of various safeguards instruments (RPF, RPs, EMPs and the project grievance redress procedures) and advising the PMU, which will be re-designated as the CPIU (per para. 26 of the main text), on actions to be taken to improve compliance. If required, the POE may be enlarged on a temporary or permanent basis by the addition of specialists to provide expertise for specific, unplanned or critical issues or needs, which may arise during project implementation. These additional experts, if any, may be mobilized with terms of reference agreed among the CPIU, the Bank, and the three initial experts that will comprise of the POE. The POE will convene at regular intervals to review the status of work in progress. However, special extraordinary meetings may also be called to review particular critical stages of technical, environmental, and social activities.

14. **Resettlement Costs.** DKI Jakarta has provisioned for an amount of funding⁵⁵ to be utilized for the implementation of involuntary resettlement activities, including compensation and other assistance to Project Affected Persons (PAPs) as required under the various

⁵⁴ Soon after the project loan agreement becomes effective and prior to commencing activities under the first works contract.

⁵⁵ Funding estimates calculated from conservative estimates of likely PAPs based on surveys done during project preparation.

Resettlement Plans (RPs). DKI Jakarta will also establish and maintain three working groups (*Pokjas*): (i) Environmental and Social Working Group (ESWG), (ii) Project Management and Quality Assurance Working Group, and (iii) Monitoring and Reporting Working Group, to prepare, review, implement, monitor and report on project-related resettlement activities.

15. **Details of Activities to be Financed.** The details of the specific activities to be financed are summarized in Table A2.5 below.

Table A2.5 – Project Financing by Component and Sources of Funding

Item		Total	Counterpart Funding	IBRD	Bilateral Grant
COMPONENT 1					
1.	Dredging and rehabilitation of selected key floodways, canals and retention basins.				
a.	Package 1 (Ciliwung-Gunung Sahari Floodway, Waduk Melati)	30.80	9.52	21.28	
b.	Package 2a (Cengkareng Floodway)	31.10	6.30	24.80	
c.	Package 2b (Lower Sunter Floodway)	8.10	1.60	6.50	
d.	Package 3 (Cideng Thamrin Drain)	7.00	1.40	5.60	
e.	Package 4 (Sentiong-Sunter Drain, Waduk Sunter Utara, Waduk Sunter Selatan, Waduk Sunter Timur III)	39.50	12.28	27.22	
f.	Package 5 (Tanjungan Drain, Lower Angke Drain)	15.40	3.20	12.20	
g.	Package 6 (West Banjir Canal, Upper Sunter Floodway)	14.00	2.90	11.10	
h.	Package 7 (Grogol – Sekretaris Drain, Pakin – Kali Besar – Jelakeng Drain, Krukut Cideng Drain, Krukut Lama Drain)	30.20	9.36	20.84	
Subtotal Component 1		176.10	46.56	129.54	
COMPONENT 2					
2.	Supervision Consultant (contracts management, engineering design reviews and construction supervision, support to project GRS and implementation of RPs)	9.60		9.60	
3.	Flood Management Information System (FMIS)	0.50			0.50
4.	Panel of Experts	0.50		0.50	
5.	Resettlement Costs (DKI Jakarta)	2.80	2.80		
Subtotal Component 2		13.40	2.80	10.10	0.50
Total Project Cost		189.50	49.36	139.64	0.50
Interest During Construction					
Front End Fee (0.25%)		0.35	0.35		
Total Financing Required		189.85	49.71	139.64	0.50

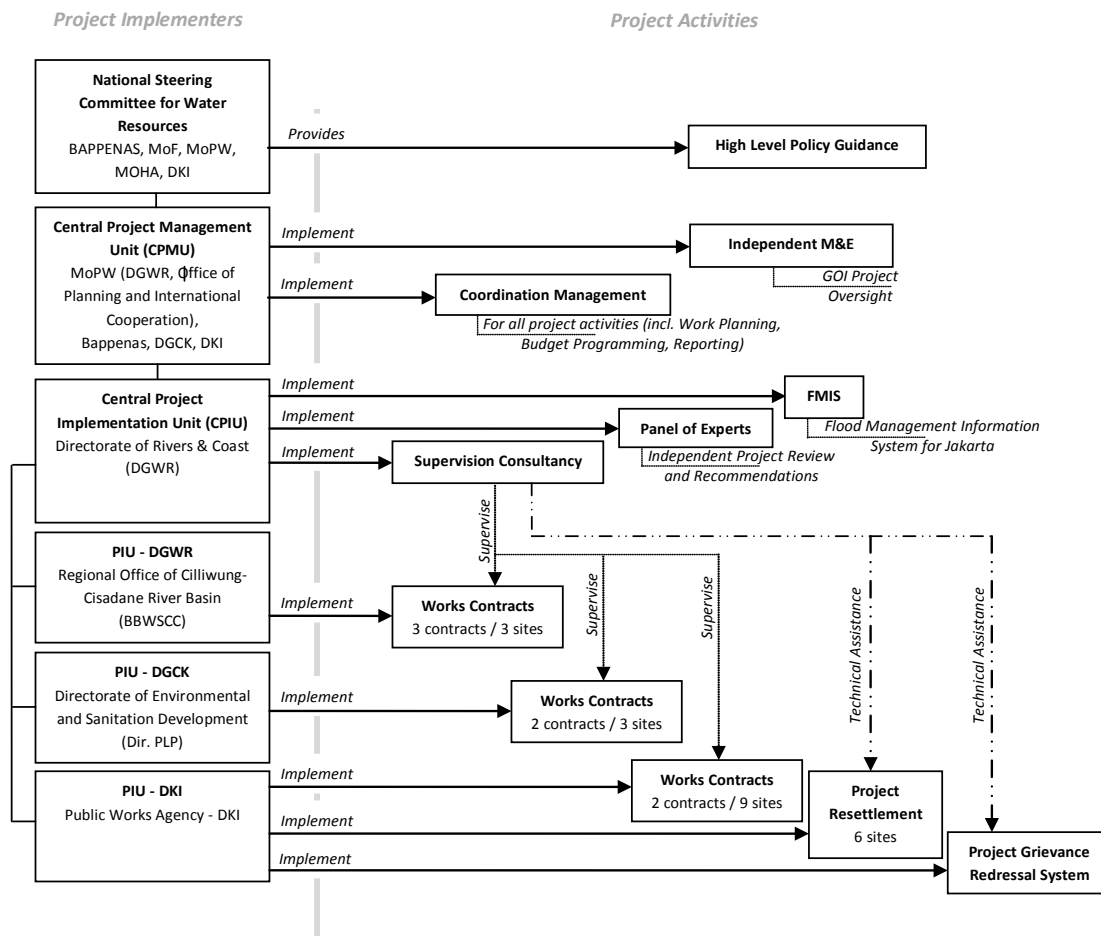
Annex 3: Implementation Arrangements

Project Implementation Arrangements

Project Financed Activities

1. The project implementation responsibilities will be aligned with the existing institutional and sector responsibilities to help ensure the long term sustainability. This will require close cooperation and coordination between various responsible institutions. Figure A3.1 summarizes the project implementation arrangements. It shows the key institutions responsible for implementing the various key activities and contracts financed under the project, as well as the relationships between the key activities and contracts.

Figure A3.1: Summary of the Implementation Arrangements



2. **Project Implementation Units (PIUs).** DKI Jakarta (through its DPU-DKI⁵⁶) will be responsible for nine canals and retention basins under its jurisdiction. DGWR (through the

⁵⁶ The PIU in DPU-DKI has been formally established under the Decision of Governor of DKI Jakarta Province No. 1256/2008.

BBWSCC⁵⁷) will be responsible for the dredging and rehabilitation works in three floodways and canals under its jurisdiction. DGCK (through the Directorate PLP⁵⁸) will be responsible for three canals under its jurisdiction. The actual dredging and construction will be carried out through works contracts to be procured by the respective responsible PIU. The environmental safeguards and mitigation measures required at each project site will be embedded into the respective works contracts. Since DKI Jakarta is the institution responsible for social issues in the Jakarta municipal area, it will be responsible for all social safeguards aspects of JUFMP including project related involuntary resettlement activities and the project grievance redress mechanisms. The implementation of the resettlement plans under JUFMP will be carried out by the appropriate agencies of DKI Jakarta. The staffing resources for the operations of the PIUs are borne by the respective institutions, and could be augmented by consultant services if necessary.

3. ***Project Management Unit (PMU)***. The Project requires close coordination among the three implementing agencies at both central and local government levels: DGWR and DGCK of MoPW, and DKI Jakarta. DGWR will play the role of the Executing Agency. A Project Management Unit⁵⁹ (PMU) established by DGWR oversaw and coordinated the overall preparation of the project. The PMU comprised three staff from DGWR, three from DGCK, three from DKI Jakarta and one from MoPW's Office of Planning and International Cooperation. The PMU is supported by a secretariat of five staff from DGWR.

4. ***Central Project Implementation Unit (CPIU) and Central Project Management Unit (CPMU)***. For the project implementation phase⁶⁰, the DGWR will establish a Central Project Management Unit (CPMU) which will oversee and coordinate the overall project implementation reporting and planning functions, including the review and integration of project reports, Annual Work Programs and Annual Budget Plans. The PMU will be redesignated with the same composition as the Central Project Implementation Unit (CPIU) will oversee the implementation of the project by the three PIUs as well as undertake to implement common project activities. These activities will include the Supervision Consultant (SC) which will supervise all the dredging and rehabilitation contracts (including the environmental mitigation activities) under the project, as well as provide technical assistance support to DKI Jakarta to establish and implement the involuntary resettlement and grievance redress systems for the project. The CPIU will establish a Panel of Experts (POE) which will operate for the duration of the project to review and provide advice and recommendations on all aspects of the project. The CPIU will also implement the Flood Management Information System (FMIS) to further strengthen Jakarta's capacity to anticipate and manage flood events as they occur. The staffing resources for the operations of the CPIU are borne by the respective institutions, and could be augmented by consultant services if necessary. The coordination amongst the PIUs during preparation and implementation presents an opportunity to evolve into a joint operations and management group for future coordinated management of the Jakarta flood management system.

⁵⁷ The PIU in BBWSCC has been formally established under the Decision of Head of BBWSCC No. 64/KPTS/BBWS.CC/2009.

⁵⁸ The PIU in Dir. PLP has been formally established under the Decision of Director General of Human Settlements No. 29/KPTS/DC/2009.

⁵⁹ Under Minister of Public Works' decree No. 459/KPTS/M/2008, updated under decree No. 49.1/KPTS/M/2011.

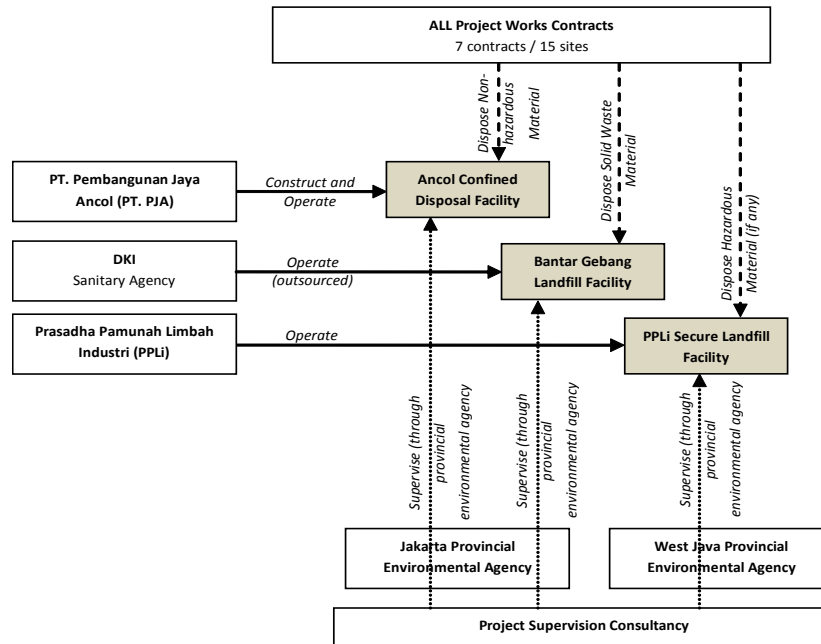
⁶⁰ The establishment of the CPMU, the redesignation of the PMU to CPIU, and the updates of PIU establishment letters to align with the revised arrangements will be done prior to project effectiveness.

5. **National Steering Committee for Water Resources (NSCWR).** Beyond the sector institutions, the National Steering Committee for Water Resources (NSCWR), a high level advisory committee led by Bappenas will provide coordination and advisory support at the policy level⁶¹. For the purposes of JUFMP, committee meetings will at least include representatives from Ministry of Finance, MoPW, Ministry of Home Affairs (MOHA) and DKI Jakarta. The committee met regularly during project preparation and has proven instrumental in providing advisory support and as a forum for high level decision making. The committee will continue to provide high level oversight during the implementation of the project.

Project Material Disposal Activities

6. **Disposal of Material.** Three disposal sites have been identified for the project dredge material, i.e., Ancol CDF (for non-hazardous material), the Bantar Gebang Landfill (for solid waste), and PPLi Hazardous Waste facility (for hazardous material, if any are found). Figure A3.2 summarizes the implementation arrangements for the disposal of dredge material and solid waste generated by the project. It shows the institutions responsible for operating the disposal sites, as well as the project management and supervision arrangements for the various sites.

Figure A3.2: Summary of the Disposal Arrangements



7. **Disposal of non-hazardous dredge material.** Non-hazardous dredge material will be disposed of at the Ancol Confined Disposal Facility (CDF) and utilized as material for land reclamation purposes. The Ancol CDF is a specific reclamation area set within a large and ongoing long term reclamation effort in the Ancol area of north Jakarta. The project does not

⁶¹ The NSCWR was set up by Bappenas in 2009 to provide high level policy advice support for the water resources sector in general. The NSCWR was established under the Bappenas Minister’s Decision No. Kep. 18/M.PPN/HK/01/2009.

financed nor is it related to the Ancol reclamation effort⁶². Instead, the project is working cooperatively and in a mutually beneficial manner with the developer of the Ancol CDF (i.e., PT. PJA) to demonstrate safe disposal and utilization of dredge material. Disposal activities will only begin once the confined facility is satisfactorily constructed. The JUFMP construction supervision consultancy will support the CPIU to supervise and monitor the operations at Ancol CDF (including the environmental mitigation activities); however these will be conducted cooperatively and jointly through the Jakarta Provincial Environmental Agency (BPLHD)⁶³. GOI will retain responsibility for future development at Ancol.

8. ***Disposal of solid waste and hazardous material (if any)***. Solid waste material dredged from the project sites will be disposed of at the existing Bantar Gebang landfill. This existing facility is located in satellite city of Bekasi and is owned by the Provincial Government of DKI Jakarta. It is operated by the sanitary service department of DKI Jakarta (*Dinas Kebersihan*) through a private operator⁶⁴. In the unlikely event that any hazardous material is found, an existing hazardous material landfill (i.e., the PPLi hazardous landfill in Bogor) has been identified to serve as the disposal site of this material. PPLi is a private commercial concern licensed to provide disposal services for hazardous waste. Using similar arrangements as per Ancol CDF, the JUFMP construction supervision consultancy will support the CPIU to supervise and monitor the operations at Bantar Gebang and PPLi.

Inter-institutional Agreements

9. The Loan Agreement between the IBRD and the Republic of Indonesia will govern the project financing and implementation relationship between the Bank and GOI. The Subsidiary Loan Agreement between GOI and DKI Jakarta will govern the project financing and implementation relationship between the two parties. DKI Jakarta⁶⁵ will also enter into a separate Project Agreement with IBRD. DKI Jakarta has a Cooperation Agreement (i.e., *the PKS*) with PT. PJA which sets out the transfer protocol of non-hazardous JUFMP dredge material to PT. PJA. Under the *PKS*, JUFMP contractors can transport the material to Ancol CDF and dispose them within the confined facility at no cost. The Bantar Gebang landfill is owned by DKI Jakarta and the JUFMP contractors will dispose of solid waste at the site in accordance with the existing disposal terms and practices. Disposal of hazardous material (if any are found) at PPLi will be carried out by JUFMP contractors⁶⁶ and will be in a manner acceptable to the Bank and in accordance to the existing commercial terms of PPLi (which also includes the transfer of responsibility to PPLi).

Key Project Institutions

⁶² In relative terms, the project dredge material will contribute only a very small percentage of the total overall Ancol reclamation.

⁶³ The JUFMP project does not have direct legal relationship with PT. PJA (the developer of Ancol CDF). However, the supervision and monitoring (especially related to environmental safeguards) of PT. PJA comes under the jurisdiction of BPLHD.

⁶⁴ Exclusively for solid waste generate within the DKI Jakarta area.

⁶⁵ Unlike the CPMU/CPIU and the two PIUs under the MoPW, DKI is a provincial government autonomous from the central government in line with the regional autonomy laws. While not every Bank project with some implementation responsibility at the Project level requires a project agreement, the particular role of DKI in this project, both as the entity responsible for dredging and rehabilitation of floodways, canals and retention basins under its jurisdiction, and as the entity responsible for land acquisition and resettlement for the entire project, warrants the direct agreement.

⁶⁶ In accordance with Indonesia regulations, the handling of any hazardous material (if found) is also subject to the prior-approval of the Ministry of the Environment.

10. The following discussions provide more details of the PIU agencies and the operators of the disposal locations.

DKI Jakarta

11. The most important and intensive O&M responsibility for the floodways, canals and retention basins in Jakarta falls under the Jakarta Provincial Public Works Agency (DPU-DKI). DPU-DKI is responsible for maintaining the waterways in Jakarta including numerous drains, canals and waduks (including O&M for pump operations and dredging activities).

12. **DKI Jakarta Structure.** DKI Jakarta is directly administered as a Province by a Governor. The Governor's plans are conveyed through the provincial planning agency (Bapeda), who in turn creates proposals to be approved by the local elected legislature (DPRD). The Bapeda then coordinates with the appropriate implementing departments / agencies.

13. DKI Jakarta is subdivided into 5 municipalities – including West Jakarta, North Jakarta, Central Jakarta, East Jakarta, and South Jakarta. The municipalities (*kotamadya*) are administered by a mayor (*walikota*) who is appointed by the Governor.

14. **O&M of DKI canals.** All canals (and *waduks*) are the management responsibility of DKI Jakarta. Prior to 2008, there was a division under DPU-DKI responsible for implementation, including O&M activities. In December 2008, a reorganization created a division dedicated to O&M. There are two Technical Units (UPT) – one in charge of operations of heavy equipment and the other in charge of survey, investigation and laboratory services.

15. DPU-DKI has 1,226 staff (2007 figures), including staff working in the five municipalities. Of those, 540 work on water resources and management, excluding those working under UPT for equipment. The routine canal cleaning work is carried out by contractors. The UPT for equipment is staffed with 52 personnel, operating 9 excavators, 27 dump trucks, a double cabin truck, and a large number of field offices. In the last three years (2006-2008), DPU-DKI has spent Rp 14.2 billion, Rp 27.4 billion and Rp 38.0 billion respectively for dredging. In 2009, DPU-DKI allocated a major increase in budget at Rp199.5 billion for pump rehabilitation and canal cleanings in the five municipalities. These consist of rehabilitation of 129 units of drainage pumps and cleaning 50 canals (there is a duplication of canal name as it passes different municipalities, but the works do not overlap). While the budgetary allocation has increased significantly, DPU-DKI's efforts are more to remove garbage and floating debris from the canals rather than focusing on dredging/normalization of the waterways.

16. Within DKI Jakarta, there is another division of tasks between DPU DKI and the municipal public works divisions, or Suku Dinas PU (SDPU)—located in each municipality (West, Central, East, North and South municipalities), where each municipality is authorized an annual budget for O&M activity for micro drains. The allocated budget for 2009 amounts to Rp 250 billion. While DPU DKI Jakarta carries out dredging and maintenance on main canals, SDPU in each municipality maintains a myriad of much smaller canals and ditches.

17. There are coordination issues among various local institutions, demonstrated by weak communication among related municipal agencies - such as, with the city cleansing agency for garbage collection and disposal (Dinas Kebersihan), with the spatial planning agency for illegal settlements along the river banks, and other related agencies. Improvements in trash collection within DKI would help because nearly 20% of solid waste entering the canals becomes DPU – DKI’s responsibility for removal.

18. **DKI Jakarta’s flood mitigation strategy.** Given the increasing severity of flood incidences in Jakarta, flood management is a key developmental issue for the city. Per DKI Jakarta’s Medium Term Development Plans (2007-2012), the immediate focus is the completion of the long overdue East Banjir Canal (which forms the major flood canal for the east part of the city) and the normalization of rivers, channels and retention ponds. In the longer term, DKI’s spatial plans⁶⁷ calls for increasing the capacity of rivers and channels, based on the following directions:

- Development of retention basins to reduce river discharge rates;
- Normalization of rivers, channels and retention basins;
- Implementation and extension of polder systems in low lying areas;
- Increasing the flow capacity of the West Banjir Canal and Cengkareng Drain, and the development of a second Cengkareng Drain, to serve the western part of the city;
- Increasing the flow capacity of Cakung Drain, Sunter Floodway and the development of the East Banjir Canal to serve the mid and eastern part of the city;
- Development the drainage infrastructure to increase the capacity of micro drainage channels to a 5-year rain event;
- Development and maintenance of river and channels inspection roads;
- Construction of sea dykes;
- Widening and deepening of river mouths;
- Increasing surface rain absorption rates;
- Synchronization of reclamation development in Jakarta Bay to the water management system of North Jakarta municipality; and
- Increase the participation of society in flood management efforts through the development of community-based polder systems.

Balai Besar Wilayah Sungai Ciliwung dan Cisadane (BBWSCC)

19. Prior to decentralization, flood mitigation in Jakarta was managed by the Jakarta Flood Control Project (KOPRO BANJIR), which was a subset of MoPW. In 2006, following Law 7/2004 on Water Resources, this agency was renamed Balai Besar Wilayah Sungai Ciliwung Cisadane (BBWSCC), to oversee water resources management for the Ciliwung and Cisadane river basins under the MoPW.

20. Administratively the working area of BBWSCC covers the overall Jabodetabek metropolitan region. The agency is led by a Head of Balai (equivalent to Echelon 2 rank) assisted by one Administrator and three Division heads, each in charge of planning and

⁶⁷ DKI Jakarta Spatial Plan 2030 (draft)

programming, implementation and O&M. The agency also functions as a working unit (*Satuan Kerja* or *Satker*), equivalent to the project management units. The Head of Balai, which acts as Head of *Satker* holds three main activities with eight PPKs (*Pejabat Pembuat Komitmen* – the officer directly in-charge for project management and implementation). These PPKs are for administration, planning and programming, O&M, Rivers and Coasts, Infrastructure and the East Banjir Canal. The JUFMP will likely be attached to the PPK for Rivers and Coasts (*PPK Sungai dan Pantai*).

21. BBWSCC has about 180 regular and non-regular employees (2008 figures). BBWSCC also maintains a number of heavy equipment (e.g., arm-roll trucks and backhoe/excavators), which are reported to be in good condition. In addition, a number of equipment for regular flood response was also maintained, such as rubber inflated boats, radio for communication, plastic bags, filling sand, mobile pumps, etc. For flood control-related activities, BBWSCC has implemented a number of rehabilitation works since 2007, including dike reinforcement works. BBWSCC's annual budget increased markedly from 2008 (Rp236 billion) to 2009 (Rp935 billion).

Directorate of Environmental Sanitation Development (Dir. PLP)

22. Within MoPW, the Directorate General of Human Settlements, or *Cipta Karya* (DGCK), through the Directorate of Environmental Sanitation Development (*Penyehatan Lingkungan Permukiman*, or Dir. PLP) are also involved in overseeing the management of urban drainage and environmental sanitation (including sanitation and solid waste management) for cities throughout Indonesia. Their management responsibility falls under areas for urban redevelopment, or settlements deemed of national importance.

Ancol confined disposal facility (CDF)

23. Non-hazardous dredge material will be disposed of at the Ancol Confined Disposal Facility (CDF) and utilized as material for land reclamation purposes. PT. Pembangunan Ancol Jaya (PT. PJA) is the developer and concessionaire / owner of the Ancol CDF. PT. PJA Ancol is a publicly listed company engaged various activities, including tourism, hotel, golf field, land development consultancy, land reclamation, real estate development and general contracting. DKI Jakarta is the majority shareholder. Approximately ten percent of PT. PJA's shares are publicly owned. The primary objective of PT. PJA in constructing the CDF is to reclaim about 119 hectares of land in Jakarta Bay for future commercial and residential developments. PT. PJA is responsible for building and operating the CDF in compliance with, inter alia, all Indonesia environmental requirements. The Ancol CDF site is the fourth reclamation effort / phase for PT. PJA within the context of the overall long term reclamation effort in the Ancol area of north Jakarta that started in the early 1960's. The JUFMP does not finance nor is it related to the Ancol reclamation effort⁶⁸. Instead, the Project is working cooperatively and in a mutually beneficial manner with the developer of the Ancol CDF (i.e., PT. PJA) to demonstrate safe

⁶⁸ In relative terms, the project dredge material will contribute only a very small percentage of the total overall Ancol reclamation.

disposal and utilization of dredge material. GOI will retain responsibility, including with respect to any potential liabilities, for future development at Ancol.

PPLi hazardous waste landfill

24. Extensive testing of the sediment in the project floodways, canals and retention basins and in surrounding drainage systems have not shown the presence of any hazardous dredged material. In the unlikely event that any hazardous dredged material is found⁶⁹, an existing hazardous waste landfill, known as the PPLi secure landfill, located in Cileungsi sub-district, Bogor, West Java, has been identified to serve as the disposal site for these hazardous dredged materials. PPLi landfill is a private entity licensed to provide disposal and treatment services for hazardous waste and has been operating since 1994. It is partly (approximately 5%) owned by the Government of Indonesia through Ministry of State Owned Enterprises while the rest is owned by Dowa Eco System Co. Ltd., Japan. PPLi is the first facility in Indonesia that provides a complete range of hazardous waste management services (payable tipping fee applied) including transportation, treatment processes, and disposal in a secure and modern landfill compliant with international waste management standards including those of the EU, and US-EPA.

Bantar Gebang landfill facility

25. The Bantar Gebang Landfill facility which has been operating since 1989 is the largest landfill in Indonesia, in terms of volume of solid waste received and disposed of. It is located just outside the city limits of Jakarta, within vicinity of the satellite City of Bekasi, approximately 35km east of Jakarta. The landfill which is owned by the Provincial Government of DKI Jakarta has been in operation since 1989 and it covers an area of 110.3 hectares. The site exclusively receives domestic solid waste from DKI which is approximately 5,000t/day, of the total of 6,000 ton solid wastes generated per day in DKI. For each ton of garbage, DKI pays Rp. 100 000 tipping fee to the site operator (information as of December 2010). The site is managed by a private company, i.e. a joint venture of PT Godang Tua Jaya and PT Navigat Organic Energy Indonesia under the supervision of the sanitary service department of DKI Jakarta (Dinas Kebersihan). Within two years of its 15 yrs contract (contract ends 2023), the site operator has added few new facilities, these include (i) Garbage-methane power generation plant (design for 23 megawatt), (ii) Composting facility (capacity of 500 ton garbage per day; and (iii) new sanitary landfills.

Financial Management, Disbursement and Procurement

Financial Management

26. The purpose of the project's financial management assessment is to determine whether the financial management systems of the executing agencies, the DGWR, DGCK within MoPW and DKI Jakarta are capable of producing timely, relevant and reliable financial information on project activities, and whether the accounting systems for the project expenditures and underlying internal controls are adequate to meet fiduciary objectives, satisfy the Bank's OP/BP

⁶⁹ During project implementation, sediments in each work site section will be tested again before dredging works is authorized

10.02 and allow the Bank to monitor compliance with agreed implementation procedures, and evaluate progress towards its objectives.

27. The main risks associated with the project arise from the disclaimer audit opinions on the FY 2010 financial statements of both DOISP and WASAP J projects. Both projects are implemented by DGWR. The auditor issued disclaimer opinions due to the unavailability of sufficient documentation to enable the auditor to conducting an examination of project expenditures. Furthermore, there was a case of substantiated INT investigation involving DGWR executed project in 2010. Another risk is the limited experience of DKI Jakarta in implementing Bank-financed projects. On the other hand, DGCK has extensive experience in implementing Bank-financed projects. The auditor has lifted the disclaimer opinions (after an in-depth audit was completed) and action plan has been agreed on the audit findings. To help mitigate FM risks, the following arrangements will be implemented: (i) the Project Operations Manual (POM) for JUFMP implementation should cover strengthened internal control through (a) inclusion of internal audit of the project activities by the MoPW Inspector General (IG) and DKI Jakarta Inspectorate, and (b) improvement in the project recordkeeping policy, including responsibility and facilities for recordkeeping; (ii) training on payment verification should be provided to all PIUs; and (iii) financial management specialists should be hired as part of the Supervision Consultant, which will help augment financial management capacity.

28. Overall, the assessed project financial management risk is considered High Risk before mitigation and remains High Risk after mitigation. The assessment concluded that with the implementation of the action plan, the risk will be substantially mitigated and the proposed financial management arrangements will satisfy the Bank's minimum requirements under OP/BP 10.02.

29. **Budgeting.** The Project will adhere to the government budgeting mechanism based on the issuance of budget warrants (DIPA). The project activities will be included in the DIPAs of all the PIUs (DGWR, DGCK and DKI Jakarta). In the particular case of the DKI Jakarta, project activities will also be budgeted in the MoF's SLA DIPA.

30. A failure to include all activities in the respective PIU DIPAs will delay project implementation in the relevant year. To minimize this risk, DGWR will need to coordinate with DGCK, DKI Jakarta and MoF to ensure that project activities are included in the respective PIU DIPAs for the relevant year. Each PIU should also coordinate closely with their respective planning units.

31. In addition to the above, DKI Jakarta should coordinate with DG Treasury MoF to ensure there is no delay in the issuance of the SLA DIPA for the project. The budgeting process will be described in greater detail in the POM.

32. **Accounting and Reporting.** All PIUs adhere to the government accounting system (SAI). However, since there are no specific codes for donor / loan project implementation, there is a risk that project expenditures will not be able to be differentiated from government's own expenditures. The PIUs' finance units apply the Government Accounting Standards (Government Regulation No. 24 of 2005) and SAI (Minister of Finance Regulation No. 59/PMK.06/2005). Government accounting software is used to record all transactions. Manual

- d) Dir SMI reviews the SP2D-D and its supporting documentation and issues an SPM. SPMs eligible for direct payment are forwarded directly to the Bank by the KPPN.
- e) Based on the SPM, the KPPN then checks the budget availability of funds and issues an SP2D to the KPPN's operational bank.
- f) The operational bank transfers the funds directly to contractor's / consultant's account.
- g) On a quarterly basis, each PIU (through the CPIU) and the CPIU should contribute to the IFR prepared by the CPMU.

36. **Internal Control.** Project internal control will adhere to the government internal control mechanism.

- a) Improvement in the project recordkeeping policy. Responsibility and facilities for recordkeeping should be clarified and agreed with the Bank. Detailed recordkeeping methods shall be discussed in detail in the POM.
- b) Training on project verification for all PIUs to strengthen the current verification process based on agreed ToR (roles and responsibilities) of the PIUs.
- c) The POM will document the financial management system and procedures to be followed by DGWR, DGCK and DKI Jakarta so as to ensure they are based on sound financial management practices. The POM will cover aspects such as: Organizational structure, job descriptions, implementation and project requirements as regards recordkeeping and documentation, budgeting, procurement, financial record management, asset management, flow of funds, payment verification – with additional verification processes for Bank-financed expenditures, simple accounting for the project, reporting (IFR format, how to prepare IFRs, and timeline for preparation at each level), annual audit arrangements (internal and external), supervision plan, governance / anti-corruption and disclosure requirements, sanctions & remedy procedures, audit report publication and complaints mechanisms, and monitoring and evaluation mechanisms (including training and supervision plan) for project implementation.

37. Training on the POM will be provided to CPMU, CPIU and all PIUs so as to ensure better coordination and project implementation.

38. **Internal Audit.** Internal audits are to be systematically undertaken at regular intervals at the central and local levels based on TOR acceptable to the Bank. DGWR, DGCK and DKI Jakarta should issue letters to their respective IGs requesting them to conduct internal audits on the project. Copies of the audit reports should be provided / made accessible to the Bank.

39. **External Audit.** Annual special purpose project financial statements will be audited by the BPK. DGWR, with input from DGCK and DKI Jakarta, shall prepare the annual consolidated project financial statements and submit these to the BPK for audit. The annual audit reports shall be furnished to the Bank not later than six months after the end of the government fiscal year (June 30 of the following year). Audits will be conducted in accordance with audit terms of reference acceptable to the Bank and agreed by negotiation. The project will make the annual project audit reports available on its website.

40. **Disbursement Arrangement.** The applicable disbursement methods are (i) advance, (ii) reimbursement and (iii) direct payment. When the advance method is authorized, the Designated Account (DA) will be used to finance eligible project expenditures. The DA will be under the

name of the DG Treasury at the Ministry of Finance. The CPIU will be responsible for reconciling the DA and preparing applications for the withdrawal duly approved by DG Treasury, before their submission to the Bank. Copies of the designated bank account statements will be provided to the CPIU by the Directorate for Cash Management at the DG Treasury, MOF. The ceiling for advance(s) to DA is US\$5 million.

41. DG Treasury will authorize its relevant Treasury Offices (KPPNs) located nearby the implementation units to authorize payments of eligible project expenditures by issuance of SP2D (remittance orders) charging the DA. For this purpose, DG Treasury shall issue a circular letter to the relevant KPPN Offices providing guidelines and criteria for eligible project expenditures in accordance with the Loan Agreement.

42. Applications for reporting of the use of DA funds will be supported by: (i) list of payments together with records evidencing such expenditures, against contracts that are subject to the Bank's prior review; or (ii) statement of expenditures (SOEs) for all other expenses, and (iii) DA reconciliation statement. Reporting of use of DA funds and application for an advance to DA may be submitted in a single application. Applications for Reimbursement will be supported by the same documentation (i) and (ii) referred to earlier and (iii) evidence that payments were made, such as bank statements. Applications for Direct Payment will be supported by records evidencing eligible expenditures, e.g., copies of receipts, supplier invoices. Frequency of application reporting expenditures paid from the DA will be on monthly basis. The minimum size of an application for reimbursement and direct payment is US\$500,000.

43. The PMU, CPIU and PIUs will prepare and submit quarterly Interim Financial Reports (IFRs). The project will start with transaction based disbursement and will switch over to IFR based disbursement once the IFRs are received timely and are of good quality. The Bank will notify MoF of this change as appropriate.

44. All documentation for expenditures submitted for disbursement will be retained by the implementing unit and be made available to the auditors for the annual audit, and to the Bank and its representatives if requested.

45. The project funds will be disbursed against eligible expenditures as in the Table A3.1 below:

Table A3.1: Disbursement Table

Category	Allocated Loan Amounts (expressed in USD)	Percentage of Expenditures to be financed
(1) Works under Part 1 of the Project		
(1)(a) Works under Part 1 of the Project for the DGWR Project Sites	42,400,000	80%
(1)(b) Works under Part 1 of the Project for the DGHS Project Sites	17,800,000	80%
(1)(c) Works under Part 1 of the Project for the DKI Project Sites	69,340,000	67%
(2) Consultants Services, Goods and Non-Consulting Services under Part 2 of the Project	10,100,000	100%
TOTAL AMOUNT	139,640,000	

Procurement

46. **Procurement arrangements.** Three Project Implementing Units (PIUs), comprising DGWR, DGCK and DKI Jakarta will be responsible for procuring the dredging and rehabilitation of the selected key floodways, canals and retention basins under their respective responsibility. There will be a pool of qualified procurement staff from each PIU, who will serve as the procurement committee for the Project. During project implementation, the CPIU will oversee the overall implementation of the project by the three PIUs.

47. **Risk assessments.** As noted in the main section of this PAD, the PMU (to be redesignated the CPIU during implementation) has already demonstrated successful and timely procurement during project preparation, while the limited capacity and experience of the PIUs in carrying out large works contracts will be mitigated by pooling their resources of qualified staff into a common procurement committee for the three PIUs. With these arrangements, most of the residual procurement risks under the project have been identified to include the following:

- In general, the government records for preparing the initial budget allocation are slow, which is an impediment to the advance procurement as well as timely procurement process. The on-lending to DKI Jakarta is a new instrument within the government system. There is no prior experience even within the government system how timely the government ensures the availability of the budget within the particular fiscal year. This availability of budget document has a downstream impact to contributing to procurement delay as no agency would be willing to start the procurement work without official budget document in place.
- The procurement arrangement for works at sites involving PAPs is dependent on the readiness of the site locations from any social issues. This risk has an impact on the scope and phasing of services of the technical assistance for supervision of

construction works, which if not managed properly would contribute to non proper repetitive contract amendment.

- There is a possibility of delays in issuing the decree for establishing the procurement committee and the fact that the committee operates on an ad-hoc basis as they are busy with their daily routine jobs.
- There is the systemic issue of collusive practices and corruption risk in the country (not specific to this project). Fraud and corruption are major concerns in the infrastructure sector. There was a recent case of substantiated INT investigations involving a DGWR-executed project. There were also several cases of collusive practices in the Directorate General of Highway of the Ministry of Public Works, including one case of misprocurement.

48. **Risks mitigation.** The corrective measures which have been agreed are as follows:

- Most of the risks above involve actions beyond procurement and mitigation involves the overall review of the project design. Risk of collusive practices and corruption is mitigated in a separate Anti-Corruption Action Plan described in Annex 8.
- A Project Operation Manual (POM) will be developed to clarify the procurement and contracting arrangement, so that it will be clear to all PIUs and the PMU as well as auditors.
- The existing MoPW website (www.pu.go.id) or other well known government's electronic portal with free access will be used to publicize the procurement notice, contract award, and the status of complaint/handling.
- The provision of experienced consultant to support the procurement committee.

49. **Applicable guidelines and thresholds.** Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004 (Rev October 1, 2006, May 1, 2010); and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 (Rev October 1, 2006, May 1, 2010), and the provisions stipulated in the Legal Agreements. Procurement methods that may be used for Goods, Works and Non-Consulting Services under the Project include International Competitive Bidding (ICB), National Competitive Bidding (NCB), Shopping, and Direct Contracting. Selection methods for Consultant Services include Quality and Cost Based Selection, Quality Based Selection, Least Cost Selection, Selection Based on Consultants' Qualifications, Single Source Selection, and Selection of Individual Consultants. For each contract to be financed by the Loan, the applicable procurement methods or consultant selection methods, estimated costs, prior review requirements, and time frame will be specified in the agreed Procurement Plan. The Procurement Plan will also specify the thresholds for the different procurement methods and consultant selection methods as well as for the Bank's prior review. The Bank's Standard Prequalification and Bidding documents and Bid Evaluation Forms shall be used for all procurement of Goods, Works and Non-Consulting Services procured through ICB procedures, and the Bank's Standard Request for Proposal (RFP)

document and Evaluation Form shall be used for selection of all consultant services. However, Goods, Works and Non-Consulting Services procured through NCB procedures may be procured in accordance with the methods as set forth in the GOI's Presidential Regulation No. 54/2010, with the modifications set out in the Legal Agreement and also to be included in the POM in order to ensure economy, efficiency, transparency, and broad consistency with the provisions of the Bank's Procurement Guidelines.

50. **Procurement Plans.** The Procurement Plan for project implementation which provides the basis for the procurement methods and review requirements by the Bank has been developed. This plan has been agreed between the Borrower and the Bank and will be made available on the MoPW website (www.pu.go.id) or other well known government's electronic portal with free access. It will also be available in the Project's database and in the Bank's external website. The Procurement Plan will be updated in agreement with the Bank annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

51. The Procurement Plan at appraisal is summarized as follows:

Table A3.2: Procurement Plan - Goods, Works, and Non Consulting Services

Ref No.	Contract Description	Estimated Cost ('000 US\$)	Selection Method	Prequalification (yes/no)	Domestic Preference (yes/no)	Review By Bank (Prior/Post)	Expected Bid Opening Date	Comments
JUFMP -1	Package 1 (Ciliwung-Gunung Sahari Drain, Waduk Melati)	30800	ICB	Yes	No	Prior	Apr 2012	DKI Pre-Q start Feb 2012
JUFMP -2A	Package 2a (Cengkareng Floodway)	31100	ICB	Yes	No	Prior	Apr 2012	DGWR Pre-Q start Feb 2012
JUFMP -2B	Package 2b (Lower Sunter Floodway)	8100	ICB	Yes	No	Prior	Apr 2012	DGWR Pre-Q start Feb 2012
JUFMP -3	Package 3 (Cideng Thamrin Drain)	7000	ICB	Yes	No	Prior	Apr 2012	DGCK Pre-Q start Feb 2012
JUFMP -4	Package 4 (Sentiong-Sunter Drain, Waduk Sunter Utara, Waduk Sunter Selatan, Waduk Sunter Timur III)	39500	ICB	Yes	No	Prior	Sep 2012	DKI Pre-Q start Apr 2012
JUFMP -5	Package 5 (Tanjungan Drain, Lower Angke Drain)	15400	ICB	Yes	No	Prior	Jul 2012	DGCK Pre-Q start Feb 2012
JUFMP -6	Package 6 (West Banjir Canal, Upper Sunter Floodway)	14000	ICB	Yes	No	Prior	Jan 2013	DGWR Pre-Q start Aug 2012
JUFMP -7	Package 7 (Grogol – Sekretaris Drain, Pakin – Kali Besar – Jelakeng Drain, Krukut Cideng Drain, Krukut Lama Drain)	30200	ICB	Yes	No	Prior	Sep 2012	DKI Pre-Q start Apr 2012

(a) Each contract for Goods estimated to cost US\$500,000 or more, Works estimated to cost US\$5 million or more, and all contracts to be procured through Direct Contracting irrespective of value, will be subject to prior review by the Bank.

Table A3.3: Procurement Plan - Consulting Services

Ref No.	Contract Description	Estimated Cost ('000 US\$)	Selection Method	Review By Bank (Prior/ Post)	Expected Proposal Submission Date	Comments
JUFMP-CS1	Project Management Consultancy (Supervision Consultant)	9600	QCBS	Prior	Jan 2012	Ongoing (shortlisting)
JUFMP-CS2	Panel of Experts	500	IC	Post	Feb 2012	

(a) Consultancy services estimated to cost above US\$ 200,000 and single source selection will be subject to prior review by the Bank.

(b) Short lists composed entirely of national consultants: Short lists of consultants for services estimated to cost less than US\$ 400,000 equivalent per contract, may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

52. **Frequency of Procurement Supervision.** In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the implementing agencies has recommended at least annual supervision missions to identify hurdles and provide the necessary assistance on procurement.

Results Monitoring and Evaluation

53. **Monitoring and evaluation (M&E) of project outcomes.** The project will, as much as possible, utilize the sector institution reporting and monitoring mechanisms with necessary oversight and safeguards to be agreed with GOI, in particular in the areas of transparency, governance and risk management. An Annual Work Program (AWP) and associated budget will be prepared by the CPMU (with inputs from the PIUs and CPIU) and agreed to by the Bank prior to the end of the fiscal year. Quarterly monitoring reports prepared by the CPMU (with inputs from the PIUs and CPIU) will monitor and evaluate progress in the implementation of both project components. Information in the Quarterly Reports will include: (i) Progress reports on the Annual Work Program (AWP) of each CPIU and PIUs; (ii) Procurement; (iii) Challenges, proposed solutions and assistance required; (iv) Updated project cost estimates, procurement plan and implementation schedule; and (v) Updated estimates of Performance Indicators included in the Results Framework and Monitoring in Annex 1. The PIU DKI Jakarta will provide quarterly reports on the implementation of the Resettlement Plans to the CPIU.

54. **Flood Management Information System (FMIS).** The FMIS, when established as a GOI and DKI Jakarta -owned and managed system, is expected to become an instrumental monitoring and assessment tool for GOI and DKI Jakarta with respect to flood management in Jakarta. As the project is implemented, the works, changes, and upgrades to the flood management system will be input into the FMIS. The FMIS will thereafter simulate and analyze the levels of success of JUFMP structural works and help determine the levels of achievement in flood mitigation.

55. **Publication of information.** The CPIU will develop its website for public communications and information dissemination purposes. Subsequently, project procurement and contracting activities, would be made public in accessible forms, including on the CPIU website.

56. **Project reviews.** Apart from normal project implementation reviews, a mid-term review of project performance will be carried out jointly by the CPMU, CPIU, PIUs, GOI and the Bank about two years after project effectiveness. Prior to this review, the CPMU will carry out a review of the project progress and implementation performance that would include proposals for immediate and/or longer term remedy of issues, if needed. An Implementation Completion Report (ICR) will be prepared within six months of the project closing. The CPMU, CPIU, PIUs, and GOI will contribute their own evaluation of the project.

Environment (including safeguards)

{See Annex 7}

Social (including safeguards)

{See Annex 7}

Anti-Corruption Action Plan (ACAP)

{See Annex 8}

Annex 4
Operational Risk Assessment Framework (ORAF)

Project Development Objective(s)				
The Project Development Objective (PDO) is to contribute to the improvement of the operation and maintenance of priority sections of Jakarta's flood management system.				
PDO Level Results Indicators:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">1. Water level of inundated areas</td> </tr> <tr> <td style="padding: 2px;">2. The number of hours of water logging in inundated areas</td> </tr> <tr> <td style="padding: 2px;">3. The extent of inundated areas</td> </tr> </table>	1. Water level of inundated areas	2. The number of hours of water logging in inundated areas	3. The extent of inundated areas
1. Water level of inundated areas				
2. The number of hours of water logging in inundated areas				
3. The extent of inundated areas				

Risk Category	Risk Rating	Risk Description	Proposed Mitigation Measures
Project Stakeholder Risks	Low	<p>There is a general support from central government, local government and citizens for any efforts related to flood mitigation in Jakarta, particularly given the increasingly worsening flooding situation over the last decade.</p> <p>However, given the high profile of the project and the number of interested stakeholder groups (multiple levels of central and government agencies, NGOs, affected communities, etc.) there is a potential for specific groups who may feel negatively affected.</p>	<p>There has been considerable consultation and information dissemination through various ways during project preparation to increase awareness about the project.</p> <p><i>(See also specific measures related to Project Affected Persons – PAPs in the social risk section)</i></p>

Implementing Agency Risks	High	DGWR and DGCK are generally familiar and experienced in managing Bank-financed projects. However, there may be limited experience within each PIU.	The CPIU will develop a Project Operations Manual (POM) to clarify and guide project implementation, including the procurement, contracting and financial management arrangements (including reporting arrangements). The construction supervision consultant will play a significant role to support the CPIU and PIUs to implement the project satisfactorily.
Project Risks			
<ul style="list-style-type: none"> Design 	Moderate	<p>Potential ongoing changes to floodways, canals and retention basins due to seasonal flooding may change optimality of design of works.</p> <p>If the scope of project is not chosen correctly, the impact of works on PDO will be less than optimal.</p> <p>Implementation arrangements may be complex as it requires close coordination between 3 PIUs.</p>	<p>Extensive surveys of floodways, canals and retention basins embankments and dredge sections prior to design. Works are simple (dredging and embankment repairs) lending to ease to adapt to any changing situation.</p> <p>Choice of project scope taken after hydraulic analysis and consideration for including all responsible agencies, in line with project targets.</p> <p>Implementation arrangements follow sector institutional responsibility to enhance buy-in. A PMU and a high level multi-stakeholder Steering Committee forms will oversee the implementation by the PIUs. A specific construction supervision consultancy will be retained to support all three PIUs.</p>
<ul style="list-style-type: none"> Social and Environmental 	High	<p><i>Social:</i> There is a lack of experience in implementing consistent and equitable resettlement practices within DKI Jakarta.</p>	<p>The Resettlement Policy Framework (RPF) will apply to all project and project-linked sites. The RPF has been socialized at all levels of central and local government, as well as external stakeholders. DKI Jakarta has formed an Environmental and Social Working Group (ESWG) to be responsible for RPF implementation. The construction supervision consultant will support the implementation of the RPF and RPs. RPs are planned for implementation in careful sequence commencing with less complex</p>

		<p>The implementation of RPs may be challenging in a dynamic urban setting, with transient or constantly / fast changing communities.</p> <p>In a dense city, contemporaneous but unconnected involuntary resettlement / evictions in close proximity to the project site may be associated with the project. There is a risk to misunderstanding particularly if these non-project activities conform to a different involuntary resettlement framework.</p> <p><i>Environmental:</i></p> <p>The works will occur amongst a very dense urban environment, increasing the impact associated with the risks of construction traffic and traffic disruptions, material spillage, construction noise, foul odor, and temporary decrease in surface water quality.</p> <p>In the past, excavated material was not disposed of in a sound and sustainable manner e.g., dumped on any government owned vacant land or simply left on embankments.</p>	<p>scenarios to demonstrate processes and procedures. A Panel of Experts (POE) will be established.</p> <p>A framework approach with RPF provides a consistent guide of the principles of equitable resettlement practices. Design and construction methodology options utilized to reduce PAPs. RPs to be developed with full consultation with communities. A project Grievance Redress System provides avenue for complaints and resolution.</p> <p>Project and project-linked sites have been clearly identified. The construction supervision consultant is specifically tasked to monitor resettlement activities at these sites. The Bank will work closely for DKI Jakarta to keep the Bank informed of activities close to project sites, to allow for potential issues to be managed and careful community communication and consultation to be carried out. The construction supervision consultant is also tasked with monitoring for and reporting on any activities adjacent to project sites.</p> <p>Contractors are required to have Environmental and Social Management Plans (ESMPs) which are subject to the approval and supervision of the construction supervision consultant during implementation. The ESMPs will include a Traffic Management Plan, regular contractor-community consultations, workplace sanitation, safety, spillage prevention, emissions control, noise management, etc.</p> <p>Disposal sites for non-hazardous material, solid waste, and hazardous material (if any are found) have been identified and assessed to be satisfactory during preparation. The main disposal</p>
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		<p>The method of disposal of dredge material and the management and future use of disposal sites are dependent on the quality of the material disposed. In particular, improper disposal of hazardous material (if any are found) will pose long term environmental contamination, health, and land use issues.</p> <p>There is significant implementation challenges posed by the supervision and enforcement arrangements at the main dredge material disposal site (Ancol CDF), operated by a third party entity (PT. PJA), as well as off-site locations where other significant reclamation material (8.6 million m³ of sand) are being sourced.</p>	<p>site (for non-hazardous material) will be subjected to review and assessment of adequacy of capacity and confinement before project dredging is allowed to commence.</p> <p>The quality of material in project sections extensively tested during preparation, confirming no presence of hazardous material. During implementation, each section will be pre-tested prior to dredging to ensure that no hazardous material is inadvertently disposed of in an improper manner.</p> <p>Agreement with PT. PJA and local environment agency (BPLHD) for project to supervise and monitor Ancol CDF environmental requirements, including off-site locations. Project provisions to limit the Bank's liability with respect to activities at Ancol CDF.</p>
<ul style="list-style-type: none"> • Program and Donor 	Moderate	<p>The Flood Management Information System activity will be funded through donor (grant) trust funds. This funding (Dutch TF) is already confirmed but TF may close prior to the project closing.</p>	<p>Trust fund funding has been extended and reconfirmed with the donor.</p>
<ul style="list-style-type: none"> • Delivery Quality 	Moderate	<p>Poor quality construction or incomplete dredging poses risks to full intended project impact.</p> <p>Lack of long term operations and maintenance pose issues of sustainability.</p>	<p>Works design is simple and flexible. Construction supervision consultancy will be retained to carefully supervise the works.</p> <p>The coordination structures between the BBWSCC / DGWR, DGCK and DKI Jakarta to implement the project would form the basis for longer term coordinated routine in operations and maintenance. Technical assistance will also be provided to improve institutional coordination for operations and maintenance of Jakarta's flood management system as well as the establishment of a Flood Management Information System (FMIS).</p>

Overall Risk Rating at Preparation	Overall Risk Rating During Implementation	Comments
Substantial	High	<p>The project scope is limited and its technical design relatively simple. However, the project is set within a very complex sector and overall flood mitigation efforts with simultaneous and multiple challenges from various angles. During project preparation, considerable efforts have been made to reduce implementation risks. However, there are various uncertainties going forward, including (i) untested implementation institutional arrangements, (ii) the introduction of new involuntary resettlement and environmental safeguards practices, and (iii) the uncertainties with respect to the sustainability of project outcomes. Considering these uncertainties, implementation risk is rated High at this time. The management of risks during implementation and careful sequencing of project activities to demonstrate success at each step will be critical. As the new approaches and arrangements are demonstrated, implementation risks should reduce over time.</p>

Annex 5: Implementation Support Plan

Strategy and Approach for Implementation Support

1. **Risk minimization through design.** The strategy for implementation support is based on the design of the project and its identified risk profile. During project preparation, considerable efforts have been made to identify key risks. Key project design decisions were made in order to reduce risks going into project implementation. These include limiting the project scope⁷⁰, reduced complexity in technical design, utilizing project conditions and covenants to ensure that agreed risks control measures are carried out prior to implementation, and adopting a careful sequencing of activities implementation focusing on demonstrating implementation processes and approaches – many of which are new to the implementing agencies - at a manageable rate.
2. **Risks during Implementation.** Notwithstanding these risk minimization measures adopted and mitigation measures in project design, significant residual risks will remain during implementation, in particular stemming from (i) untested implementation institutional arrangements, (ii) the introduction of new involuntary resettlement and environmental safeguards practices, and (iii) the uncertainties with respect to the sustainability of project outcomes. The Bank's implementation oversight activities will need to meet the Bank's own fiduciary obligations. In addition, the Bank's implementation support approach will focus on providing technical support to the CPIU and PIUs to support their efforts to (i) successfully carry out the project activities, (ii) meet the fiduciary, environmental and social safeguards compliance requirements of Indonesia and the Bank, and (iii) strengthen inter-agency cooperation and coordination.
3. The implementation support approach includes the following:
 - (a) **Technical Guidance and Supervision.** This aspect of implementation will be much aided by the limited scope of the project, the relatively simple technical works (dredging and embankment repairs), and the packaging of these works into a manageable number of contracts (eight). However, given the setting within which the project works will be implemented (i.e., in a dense urban space subject to constant and dynamic change), it is likely that unforeseen technical changes to design and ongoing works will be required during implementation. On the other hand, the limited geographical spread of the works⁷¹ will aid closer and continuous construction supervision. The focus of engineering implementation support will be on (i) working closely with the CPIU/PIUs and their construction supervision consultant to review and provide technical advice on designs and specifications (including the normal reviews of bidding documents), (ii) working closely with the CPIU/PIUs and the construction supervision consultant to review

⁷⁰ While ensuring that at the sectoral level the scope remains adequate to begin addressing selected immediate priorities to meet the project objective to contribute to the improvement of the operation and maintenance of priority sections of Jakarta's flood management system.

⁷¹ All within the Jakarta metropolitan area.

ongoing works and provide technical advice on technical issues arising (including reviewing proposals for technical changes and works variations). Construction supervision implementation support will also be provided by the Bank, both to provide the Bank with a direct construction supervision oversight capacity and to support the efforts of the CPIU/PIUs and the construction supervision consultant in managing the various works contracts.

- (b) **Environmental Safeguards.** This aspect of project implementation for JUFMP funded works (i.e., the Phase 1 and Phase 2 activities) will adhere to the requirements of the approved AMDALs and any required supplementary EMPs. The approved AMDALs and supplementary EMPs for Phase 1 works have been reviewed and incorporated into the project. The AMDALs for Phase 2 works (expected to be implemented at a later sequence of project implementation) will be prepared in conformity to the Environmental and Social Management Framework (ESMF)⁷². The focus of environmental safeguards implementation support will be on working with the CPIU/PIUs and the construction supervision consultant to (i) review and provide advice on the Phase 2 AMDALs and supplementary EMPs (if any), and liaising with Bank internal safeguards oversight for their clearances, and (ii) review and supervise the implementation of the EMPs to ensure compliance with Bank safeguards requirements. For JUFMP disposal sites, implementation will adhere to their respective approved AMDALs. In particular for the Ancol CDF disposal site for non-hazardous dredge material, implementation risks are minimized by (i) the requirement for confirmed adequate disposal facility prior to the signing of JUFMP dredging contracts, (ii) the cooperation agreement between DKI Jakarta and PJA spelling out disposal arrangements, and (iii) the prior-dredging testing of JUFMP sites to prevent hazardous material from being mistakenly disposed of at Ancol CDF. The focus of environmental safeguards implementation support will be on (i) monitoring and inspecting the completion of adequate confined facility at the Ancol CDF site (prior to the Bank providing approval for JUFMP dredging contract signing), and (ii) working with the BPHLD in its supervision and oversight of the construction and operations of the disposal sites. During project implementation, the Bank team will liaise closely with BPHLD to build a cooperative relationship with BPHLD, aiming at joint supervisions of the Ancol CDF site and providing technical advice and support to BPHLD where necessary.
- (c) **Social Safeguards.** This aspect of project implementation will adhere to the requirements of the Resettlement Policy Framework (RPF) and site specific Resettlement Plans (RPs). The RPF has been agreed and disclosed. The RPs will be finalized during project implementation and their satisfactory implementation are required prior to the start of JUFMP works at the associated site. The focus of social safeguards implementation support will be on working with DKI Jakarta and the construction supervision consultant to (i) provide advice on the screening of all JUFMP sites, (ii) review and provide advice on the preparation and

⁷² In practice and at a minimum, the Phase 2 AMDALs (together with any required supplementary EMPs) will be expected to meet the requirements as set out in the Phase 1 AMDALs and its supplementary EMPs.

finalization of RPs, and liaising with Bank internal safeguards oversight for their clearances, (iii) review and supervise the implementation of RPs to ensure compliance with Bank safeguards requirements, including assessing their satisfactory implementation prior to the start of any associated JUFMP works, (iv) monitor project linked sites.

- (d) **Procurement.** The bulk of the project activities have been grouped into a relatively manageable number of main contracts i.e., eight works contracts and one construction supervision consultancy. While there are four agencies involved in implementing project-financed activities (CPIU and three PIUs), procurement implementation is aided by (i) the location of agencies within DKI area, and (ii) the agreement to limit the number of procurement committees – i.e., one procurement committee for the CPIU, and one shared committee for the PIUs staffed from a pool of defined and experienced staff contributed by each PIU. The focus of procurement implementation support will be on working with the CPIU/PIUs and their procurement committees to (i) review bid documents, (ii) review evaluations of bids / proposals, (iii) facilitate the provision of training to the procurement and management staff of the CPIU and PIUs, (iv) provide ongoing guidance on the Bank’s Procurement and Consultant Guidelines to the procurement staff of the CPIU and PIUs, (v) monitor procurement progress against agreed procurement plans.
- (e) **Financial Management.** Financial management implementation support will be provided to support DGRW, DGCK and DKI in implementing the project. Such support will be provided using a risk-based approach. The financial management implementation support will review the project’s financial management system, including but not limited to accounting, reporting and internal control, and reviews of contract invoices and key expenditures.
- (f) **Anti-Corruption Action Plan.** This aspect of project implementation will adhere to the Anti-Corruption Action Plan (ACAP). Regular reviews and monitoring of the implementation of the agreed action plans in the ACAP will be carried out. The focus of the implementation support will be to provide advice and guidance to resolve any issues identified.

Implementation Support Plan

4. **The Bank team.** The Bank’s implementation review and support team members for the project will be primarily based in the Bank’s Indonesia country office in Jakarta. This will ensure rapid and effective response to the needs of GOI, the CPMU, CPIU and the PIUs for implementation support as well as facilitate continuous monitoring and supervision of the project implementation. Formal supervisions (and field visits) are expected to be conducted semi-annually. However, given the location of all project activities as well as implementing agencies in Jakarta, continuous contacts with the implementing agencies as well as close and frequent implementation oversight activities are expected. Planned inputs from the Bank team are outline in Table A5.1.

Table A5.1 – Skills Mix and Resources Required

Skills Needed	Number of Staff Weeks (SWs)	Number of Field Visits	Location
Task Team Leader	6 SWs annually	2 formal field visits; Other field visits as required	Country office
Operations Officer	6 SWs annually	2 formal field visits; Other field visits as required	Country office
Project Engineer	6 SWs annually	Frequent field visits expected	Country office
Construction Supervisor	8 SWs annually	Frequent field visits expected	Country office
Dredging Expert	2 SWs annually	2 field visit trips during the first year, annual visits thereafter	Regional or International
Project and Bank Environmental Specialists (2 nos)	8 SWs and 2 SWs annually	2 formal field visits; Other field visits as required	Country office
Environmental Expert	2 SWs annually	2 field visit trips during the first year, annual visits thereafter	Regional or International
Project and Bank Social Safeguards Specialists (2 nos)	12 SWs and 2 SWs annually in first two years, 4 SWs and 1 SW thereafter	2 formal field visits; Other field visits as required	Country office
Social Expert	2 SWs annually	2 field visit trips annually during the first year, annual visits thereafter	Regional or International
Procurement Specialist	4 SWs in first two years, 2 SWs thereafter	Field visits as required	Country office
Financial Management Specialist	3 SWs annually	Field visits as required	Country office
Bank Communications Specialist (1 no)	6 SWs annually	Field visits as required	Country office
Operational Support	4 SWs annually	Field visits as required	Country office

Annex 6: Team Composition

World Bank staff and consultants who worked on the project:

Name	Title	Unit
Fook Chuan Eng	Sr. Water and Sanitation Specialist	EASIS
Hongjoo Hahm	Country Manager	ECCHR
Andrew Daniel Sembel	Environmental Specialist	EASIS
Arlan Rahman	Technical Specialist	EASIS
Indira Dharmapatni	Sr. Operations Officer	EASIS
James Orehmie Monday	Sr. Environmental Engineer	EASTS
Juan Martinez	Sr. Social Scientist	EASIS
Kian Siong	E T Consultant	EASIS
Melinda Good	Sr. Counsel	LEGES
Micah Fisher	E T Consultant	EASIS
Rambat Sakwan	E T Consultant	EASIS
Abdul Rahman Rasyid	Consultant	EASIS
Ria Nuri Dharmawan	Jr. Counsel	EACIF
Risyana Sukarma	Consultant	EASIS
Rizal H. Rivai	Sr. Procurement Specialist	EAPPR
Suriani Burhan	E T Temporary	EACIF
Novira Kusdarti Asra	Sr. Financial Management Specialist	EAPFM
Amien Sunaryadi	Sr. Operations Officer	EACIF

Annex 7: Environmental and Social Safeguards, Consultations and Communications

Project Regulatory and Legal Framework

1. **The World Bank's Triggered Safeguards Policies.** The project is expected to yield positive environmental and social outcomes. Alleviating flooding will reduce the environmental impact and public health issues caused by overflowing and stagnant flood waters and reduce disruptions to communities in project areas – particularly to the predominantly poor communities living in flood-prone areas. Solid waste and sediments in the drains, if not removed, would be flushed uncontrolled into the estuary and bay area. Over the longer term, the flood information management system that is being introduced by the project would provide DKI Jakarta the information based planning tool needed to sustainably manage the network well beyond the life of the project and to continue to reduce the incidence of flooding in the area. However, there are also potential adverse environmental impacts during project implementation from the dredging and embankment works. The handling, temporary storage, stockpiling, sorting, transporting and disposal of sediment material and solid waste that would be generated from the dredging works will be carried out in densely populated urban areas surrounded by surface and sea water.

2. The potential impacts include significant traffic disruption, reduction in air quality due to dust and foul odor emissions, increased noise levels, reduction in surface water and sea water quality at the project sites, transportation routes and disposal locations. Involuntary resettlement has also been identified as required in six of the 15 project sites. Apart from Indonesian environmental and social safeguards requirements, the JUFMP project triggers the World Bank's Environmental Assessment Operational Policy (OP4.01), and as per this policy's requirements is assigned an EA category of A. The project also triggers the World Bank's Involuntary Resettlement Policy (OP 4.12). During project preparation, the relevant Indonesian environmental and social safeguards assessments, management plans and monitoring plans were reviewed by the Bank. The comments and recommendations from the Bank reviews were taken into account in additional project safeguards documents (supplementary reports, environmental and social management framework and resettlement policy frameworks) that will also be applicable for the project.

3. **Government of Indonesia Environmental Impact Assessment.** Indonesia has a number of national and sub-national environmental laws and regulations that govern the environmental planning process for works of this kind. The overarching regulation for the AMDAL process⁷³ in Indonesia for any activity or project with potential significant environmental impacts is the Environmental Management Act No 23/1997, and specifically Article 15 on the environmental impact assessment requirements. A new environmental management and protection law, Act No. 32 of 2009, was issued on 2009 and substitutes Act No. 23/1997. Government Regulation (PP) No: 27/1999 provides detailed guidelines of the AMDAL system. Furthermore, the Ministry of Environment (MoE) Decree No. 11/2006 lists specific

⁷³ Under the Indonesian System – an ANDAL is synonymous to the Environmental Impacts Assessment in the World Bank's Environmental Policy OP 4.01, RKL is the Environment Management Plan and RPL is the Environment Monitoring Plan. The ANDAL, RKL and RPL are collectively known as the AMDAL.

activities that require AMDAL and the MoE Decree No.8/2006 provides guidelines for AMDAL preparation.

4. With regard to the dredging work, the MoE Decree No. 11/2006 specifies that any maintenance dredging activity in the metropolitan city will require an AMDAL if the dredge volume exceeds 500,000 m³. This requirement is also in line with the regional law (i.e. Governor of Jakarta Decree No 2863/2001 on type and list of specific business and activities in Jakarta that require AMDAL), which states that any dredging with volume more than 50,000 m³ must have an AMDAL approved by the provincial level of environmental agency (i.e. BPLHD) of DKI Jakarta⁷⁴.

5. Other key relevant national and regional legislations considered when preparing the AMDAL are:

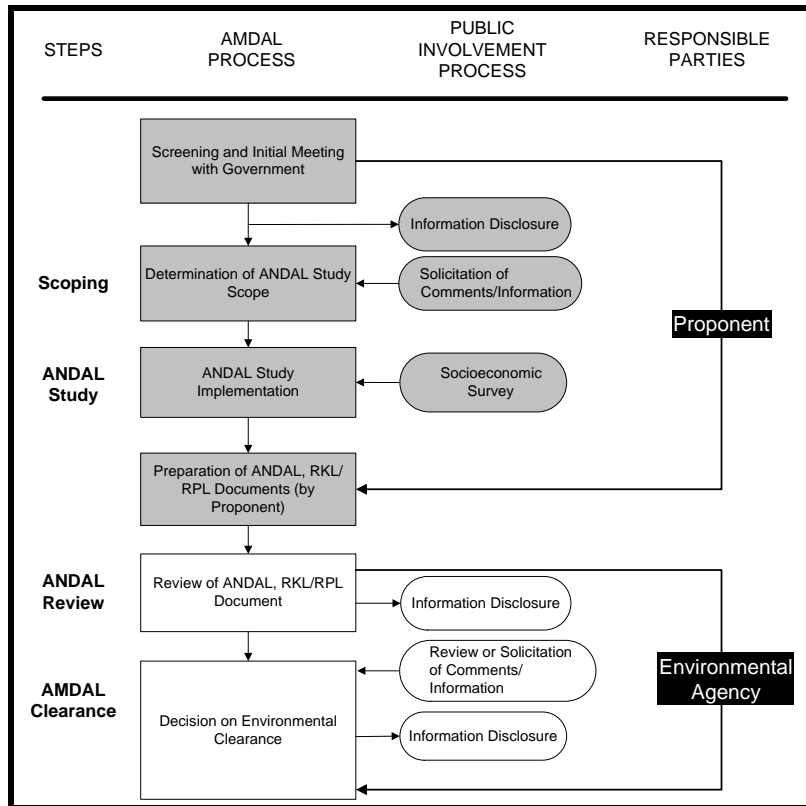
- MoE Decree No. 2/2000: Guidance on the evaluation of the AMDAL document.
- MoE Decree No.40/2000: Guidance on the working procedure of the AMDAL commission.
- MoE Decree No.42/2000: Guidance on the formation of evaluation team and technical team members for the AMDAL.
- Head of Bapedal (Environmental Impact Management Agency) Decree No. 8/2000: Guidance on public participation and information disclosure during the AMDAL.
- Governor of Jakarta Decree No 76/2001: Operative guidance on public involvement and information disclosure during the AMDAL.

6. Figure A7.1 presents the AMDAL process. This is a fairly robust process which involves public consultation and solicitation of feedbacks from the public and technical experts, and several levels of review prior to the final environmental clearance⁷⁵.

⁷⁴ The regional law being stricter than the national MoE Decree No. 11/2006.

⁷⁵ The ANDAL review in Figure A7.1 is conducted by an AMDAL Commission formed by BPLHD. The AMDAL Commission consists of representatives from BPLHD (2-3 persons), university experts (or known as Technical Team, 5-7 persons from different areas expertise), representatives from sub-district (Kecamatan) and neighborhood (Kelurahan), and representatives from NGOs.

Figure A7.1: AMDAL Process



7. **Government of Indonesia Land Acquisition.** The Government of Indonesia has several main laws and regulations pertaining to land rights and acquisition for development activities in the public interests. The major important law that assures and regulates land rights is the Basic Agrarian Law No. 5 of 1960. A new law on Land Acquisition for Public Interest Infrastructure Development was recently passed by the Parliament⁷⁶. Other relevant national regulations pertaining to land and land acquisition are:

- Law No. 20 of 1961 on the Revocation of Land Rights;
- Government Regulation No. 24 of 1997 on Land Registration;
- Presidential Regulation No. 36 of 2005 on Land Provision for Development Activities in the Public Interest;
- Presidential Regulation No. 65 of 2006, which revises the Presidential Regulation No. 36/2005; and,
- Implementation Guidelines No. 3 of 2007 for Presidential Regulations No. 36/2005 and No. 65 of 2006, issued by the National Land Agency.

⁷⁶ on December 16, 2011.

Another regulation relevant to the project is Law No. 7 of 2004 on Water Resources, which intends to protect water resources to maintain their functions.

8. Presidential Regulation No. 36/2005 and No. 65/2007 regulate the procedures and processes of land acquisition (and assets attached to the land) for development activities that are in the public interests. These include development activities under the responsibility of the local government, such as roads/toll roads/railways/sanitation/water distribution; retention basins/dams; ports/airports/train station/terminals; public health facility; telecommunication and post; sport facilities; government buildings; police and security facility; solid wastes disposal facility; protection of natural habitat; and power generation, transmission and distribution of electricity. These regulations also stipulate the entitlements and procedures and criteria for compensation, appraisal for compensation, and consultations and negotiations, as well as complaints and dispute settlements and land revocation. These regulations categorize the procedures and process for land acquisition for more than 1 hectare, and for less than one hectare. The Implementation Guideline No. 3 of 2007 for Presidential Regulations No. 36/2005 and No. 65 of 2006, outlines in more detail the procedures, processes and criteria for land acquisition as stipulated in the two Presidential Regulations. The three mentioned regulations do not explicitly regulate assistance and do not cover income restoration. They stipulate that the compensation level for land should be made based on the assessment of an independent land appraisal team formed in accordance with the regulations.

9. DKI Jakarta also has regulations that regulate compensation of assets, i.e., Implementation Guidelines for the Assessment of Compensation for Buildings, which are issued regularly by the DKI Jakarta Agency for Housing and Government Buildings. This regulation is used as a basis for determining compensation levels for assets (buildings and ancillary assets attached to the buildings). In addition, DKI Jakarta has a Local Regulation No. 8 of 2007 pertaining to Public Order, which has been used as a basis for repossessing public land that have been used without permits from DKI Jakarta government or other land/public space that have been used for the purposes that are not in line with DKI Jakarta's land use plans.

Environmental Baseline Information

Topography and Geology

10. All the floodways, canals and retention basins, disposal sites and identified linked sites are located in the DKI Jakarta province, except for the Bantar Gebang landfill and PPLi Hazardous Waste facility which are located within the Greater Jakarta Metropolitan Area (so-called "Jabodetabek"). DKI Jakarta is located in the coastal plain of northern Java. The Jabodetabek area is surrounded by several dormant volcanoes whose slopes form the upstream catchment areas of the 13 major rivers that flow northwards through DKI Jakarta into the Java Sea. DKI Jakarta is located in the lowest lying part of this basin. DKI Jakarta's topography is flat with elevation up to 10 meters above mean sea level. About 40 percent of DKI Jakarta lies below sea level, including most of north Jakarta. Soil investigations were carried out in the vicinity of the Ancol CDF. These generally showed three primary soil layers, comprising (from the top) clayey silt, silty clay and sand.

Hydrology, Hydraulic Capacity and Flood

11. The 13 rivers, together with a large number of drainage channels, form the macro drainage system of DKI Jakarta. The rainy season generally begins in late November and ends in early April. The basic principle of flood management in Jakarta is to divert peak flows from upstream areas around the core of the city, directing flows to the East and West of Jakarta via two major flood canals emptying into Jakarta bay. Within the city, the macro drainage system of DKI Jakarta consists of 13 rivers and a large number of drainage channels. The macro drainage system can be divided into several subsystems that are separated by floodgates. In low-lying areas there are polders, which are protective systems that utilize retention reservoirs at the lowest point and regulate excess water levels by pumping out of the system. However, the originally planned flood management system remains incomplete and does not function as a fully integrated system. The East Banjir (flood) Canal (EBC) was recently completed but is not yet fully functional. Furthermore, the EBC and West Banjir Canal (WBC) canals are not yet connected into an integrated diversion system, which would allow better stormwater management and control.

12. Assessments of the sedimentation in rivers and retention basins⁷⁷ showed substantial sediment deposits in the downstream reaches of the main rivers and floodways (up to 2 – 3 meters thick) and retention basins (0.9 – 1.9 meters thick). The lower reaches also have very flat gradients. Based on these assessments, a series of simulations were carried out to determine the conveyance capacity of the rivers. The simulations revealed that the level of flood protection for all rivers has dropped far below the initial design – from a 25-year protection design to 2 – 5 years in most areas of DKI Jakarta.

13. Flood incidences are perennial occurrences and have been increasing in intensity and severity during the past decade. Disastrous flood events in January 1996, February 2002, and February 2007 were especially devastating. The 2007 event inundated 235 km² (about 36%) of the city⁷⁸, by up to seven meters in some areas. The February 2007 flood event affected more than 2.6 million people and forced 340,000 people to flee their homes. Over 70 people died and outbreaks of disease affected over 200,000 people. The estimated financial and economic losses from this event amounted to US\$900 million⁷⁹. Inundations continue to occur under any sustained rainfall conditions. In 2008 a flood event closed the airport toll road, cancelling over 1,000 flights and causing serious disruptions for the city. Flood events in 2009 also occurred at high intensity and have continued into 2010, in which the La Niña effect caused it to be the year without a dry season.

14. The physical causes of flood include the rapid expansion of the city, inadequate drainage maintenance, conversion of retention basins to other uses, land subsidence, the effects of climate change (such as higher intensity rainfall), increased sediment loads due to urban and land development, insufficient waste collection.

⁷⁷ Done through the Western Java Environmental Management Project (WJEMP).

⁷⁸ Flood extent map, DKI Jakarta (Dinas-PU).

⁷⁹ Estimated by Bappenas (or *Badan Perencanaan dan Pembangunan Nasional*), the National Development Planning Agency.

Sediment Quality

15. Three independent baseline studies⁸⁰ of the quality of the sediment material in the drains and canals in Jakarta (including JUFMP sites) were carried out at different time horizons (2008 – 2010). These assessed various aspects including the adequacy of sampling and testing methodologies used, the test results, and the adequacy of Indonesian requirements against various other international standards. These studies collected more than 350 sub-samples, compiled into a total of 70 samples for total content analyses (both metals and organics) and leaching test using the USEPA Toxicity Characteristics Leaching Procedure (TCLP):

- *TCLP Testing.* This is the definitive chemical test in Indonesia and elsewhere to establish whether waste material is deemed hazardous or otherwise in terms of whether the extract contains levels of organics and metals above specified regulatory standards. All samples from the three studies met the standards.
- *Organic pollutants.* Total organic matter analysis indicated the expected presence of domestic (household) waste in the sediments. However, no Polychlorinated biphenyls (PCBs) or organo-chlorine pesticides (OCPs) were detected in any locations. Poly-aromatic hydrocarbons (PAHs) and Total petroleum hydrocarbon (TPH) were not detected, except in a few specific spots where unauthorized workshops, constructed at the riverbanks, have dumped engine oil into the river.
- *Sediment toxicity test (bioassay).* Acute toxicity testing⁸¹ demonstrated that the dredged sediment had low toxicity.
- *Total metal content.* Total metal analysis showed that the concentrations of heavy metals were low. The results were also compared against various international soil quality screening levels. These reviews concluded that the sampling and testing methodologies met international standards and test results show that the samples lay within international standards, except a small minority of samples that fell outside some (but not all) international comparators used. This risk will be mitigated by the introduction of a protocol for testing canal and drain sections prior to dredging of that section as an added precaution⁸² (See para. 49 of this Annex).

16. Marine sediment samples were also collected from the Ancol CDF area. TCLP analysis for these samples showed that the heavy metal content of these marine sediments were still far below the regulatory thresholds. Samples were also obtained from the eastern boundary of the Ancol CDF (which is a previously reclaimed area) and tests indicated no hazardous substances present.

⁸⁰ A sediment quality study in October 2008 (related to the JUFMP Phase 1 AMDAL preparation), an evaluation of sediment and water samples in May 2008 (related to a Dutch-funded Pilot Dredging Project), and a sediment quality study in 2010 (related to the JUFMP Phase 2 AMDAL preparation).

⁸¹ Conducted on the Dutch-funded Pilot Dredging Project samples (May 2008) where the project sites were deemed the most polluted in DKI Jakarta.

⁸² Such tests have not been previously practiced in Jakarta and a successful implementation of this protocol could serve to improve dredge material management in the future. An outline of the protocol can be found in the ESMF.

Water Quality

17. Surface water samples were collected from the floodways, canals and retention basins for analysis. Tests of the samples showed varying results where the measurements of a number of parameters i.e., Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD), oil and grease, detergent and organic substances at some sampling locations did not meet local standards. Water quality was generally poor, with some downstream water unfit even for greening purposes. Regular water sampling carried out by DKI Jakarta's Environmental Management Agency (BPLHD) also confirmed the generally poor quality of rivers, canals and drains within DKI Jakarta. According to BPLHD's assessment, 70% of the pollution comes from domestic (household) wastes.

18. Surface water samples were also collected from the vicinity of the Ancol CDF during the initial AMDAL process (2005). Tests showed that the overall sea water quality was reasonably good, except for the presence of solid wastes and phosphate. Phosphate may have been generated from soap and detergent discharge into the sea area. Nutrient accumulation especially in the dry season has been attributed as a cause for several fish death phenomenon due to the red algae (red tide) blooming at certain times. Routine monitoring has also showed that the current turbidity of the waters around the Ancol CDF site has exceeded standards set by the Ministry of Environment (MOE).

Biological Component

19. During the AMDAL process for Ancol CDF and JUFMP Phase 1, observations were made on terrestrial flora and fauna. Marine biota samples were collected but freshwater biota sampling was not carried out given the results of water sampling that showed deteriorated water quality. However, a study by a local university showed the diversity of organisms in the river bed at low to very low, implying heavily disturbed or polluted environment.

- *Marine Biota.* Diversity index for phytoplankton and zooplankton indicated that species distribute quite evenly with no particular dominant species. This is in line with the results of the examination of sea water quality described earlier which indicated generally good conditions. However, field observations and interviews with local respondents indicated that the Ancol CDF area was not a potential area for fisheries.
- *Terrestrial flora.* Observations indicated that plants found in the project area were shade plants, fruit plants ornamental and garden plants. No protected or endangered flora was observed.
- *Terrestrial fauna.* Observations found groups of mammals, birds and insects, but no protected or endangered fauna was observed.

Traffic

20. Traffic at the JUFMP locations was found to be very high, especially during the morning and evening rush hour. The major roadways in these locations have two or three lanes in each direction (of which one lane is used exclusive by the Transjakarta Bus (a mass-transit busway)).

The noon and afternoon rush hours reaches saturation at Jalan RE Martadinata (which is the access to the Ancol CDF). Overall, the existing traffic situation is difficult and good traffic management will be required to mitigate against the project construction traffic adding to the congestions.

Social Baseline Information

Overview of Demographics

21. Administratively, the project sites are located in 57 *kelurahans* (urban villages) as part of 19 *kecamatan*s (sub-districts) in four municipalities, i.e. North Jakarta, East Jakarta, Central Jakarta, and West Jakarta. About 1.8 million people are living in these 57 *kelurahans*. Average density is 166 persons per hectare. Poor slum areas are mostly located in along West Banjir Canal, Pakin-Kali Besar-Jelakeng, Upper-Sunter, and Krukut-Cideng. The total population in linked sites is estimated at about 173,000.

Community Structure

22. Out of the 15 project sites, six locations are identified to involve resettlement (Project Affected People, or PAP sites). This includes one waduk, i.e. Waduk Sunter Utara, and five floodways/canals, i.e. Upper Sunter River Floodway, Sentiong-Sunter Drain, West Banjir Canal (WBC), Pakin-Kali Besar-Jelakeng Drain, and Krukut-Cideng Drain. All are located in the low-lying areas between central Jakarta and the Java Sea in the north. The potential affected structures and persons are located on or at the edge of the main water bodies and on the embankments that are planned to be rehabilitated or reconstructed. The majority of affected structures are low-standard houses occupied by poor people. Ninety-five percent of these structures are located on government land, with lack of basic services and infrastructure. Most of the affected settlements have been in place for more than ten years.

Socio-economic Characteristics

Project Areas

23. During the AMDAL process, socio-economic survey was carried out using a random sampling method, as many as 487 peoples living in the administrative areas in which the 15 project sites are located were interviewed. These provide useful information on the social-economic characteristics of the people in project areas. Around 86% of the interviewees said that the project would overcome flood and the rest believed that the project would create a clean environment. Around 62% of the respondents have lived in the area for more than 10 years and more than 57% families consisted of 3 - 5 members. About 35% of families claimed that they are originally from DKI Jakarta, almost 90% of the interviewees hold DKI Jakarta identity cards, while 2.3% hold DKI Jakarta seasonal identity cards. More than 17% were renters and around 77% own their houses that they are occupying. About 80% of the interviewees claimed that they do not have other houses. About 20% of the interviewees admitted that they are living on government land.

24. Only about 12% of the interviewees work in formal sectors such as government employees and private sectors' employees. The remaining was working in primary sectors, labors, drivers, traders, etc. Some of them have side jobs. About 73% of the interviewees claimed that their families earned less than US\$330 per month or about US\$11 per day, or slightly more than US\$2 per capita. About 11.5% earned less than US\$56 per family per month, which is far below the minimum regional wage for DKI Jakarta (2010), i.e. USD130 per month.

PAP Sites

25. Preliminary census surveys were carried out at the seven project sites initially identified as PAP sites between April 2010 and January 2011 (there are currently six PAP sites after impact minimization efforts as discussed in para. 34). Based on these surveys at PAP-sites, it was found that about 53% of families in the initially identified seven PAPs sites have lived there for more than 10 years, 66% held Jakarta identity cards, and 45% were living on non-permanent structures. About 82% of the families work in informal sectors (labors, drivers, farmers, farmers/fishermen, traders/small businesses and other jobs). About 13% families have built their structures on their own land, while the remaining are occupying government land. About 82% own their structures and 8.5% are renters.

26. A key characteristic specific to the PAPs who reside in West Banjir Canal (WBC) is that their livelihoods are significantly dependent on the site. They are fishermen who come from outside Jakarta and people whose livelihoods are related to the fishing activities. This site is also an informal boat mooring site. There is constant flux with more people at the site during the fishing season. Some fishermen stay in their boats off-season to guard their boats and equipment.

Analysis of Alternatives

27. The sections of the Jakarta flood management system included in the project have been identified by the Government as in priority need of urgent rehabilitation and improvement in flow capacities. Prioritization was made based on previous studies under the Bank-financed Western Java Environmental Management Project (WJEMP) and various earlier studies on flood control and flood mitigation in Jakarta area. The project scoping also took into account the inclusion of all responsible institutions as a means to encourage and establish the required long term integrated and sustained routine maintenance system. Environmental and social complexities at each potential work site were also important considerations for project scoping, especially given that the project is expected to introduce new principles and methods for sound environmental management and equitable resettlement practices. The final project scope balances between a set of works large enough for the project objectives to be achieved, and one that is manageable in environmental and social complexities to increase the likelihood of success in demonstrating the improved environmental and social practices.

Alternatives for Project Activities

28. Given the chosen project scope, the analysis of alternatives focused on alternatives for mitigation or other impact management approaches. In particular, various mechanical dredging options and methodologies to reduce impacts associated with these types of activities were

considered. Engineering design focused on minimum designs required to restore the sections to appropriate operational levels, and methodologies that can dredge around existing structures, minimize the required construction space. Back-hoe / clam shell and suction dredging were considered. Suction dredging was not pursued as it is incompatible with the significant amount of solid waste in the sediment of the waterways. Pontoon-based back-hoes are the preferred technology as the majority of construction activity can be restricted to the waterway itself, rather than having to disturb a wide strip along the length of the waterway being dredged. (e.g., dredging using floating pontoons).

Alternatives for Transportation of Dredged Material

29. Three main transportation options were considered - hydraulic (pumping), barge and truck, integrating these with dredging technologies and with the chosen disposal site. Pumping was considered inappropriate since the amount of solid waste would likely cause blockages. Barge transport would not be feasible in most locations because of the bridges and bottlenecks over the drains preventing access to the sea; however, this may be a contractor-preferred method for the lower portions of the larger waterways. Truck transport is therefore the only alternative for the majority of sites and hence is chosen.

Alternatives for Disposal of Dredged Material

30. Multiple options and alternatives were considered for the disposal site for non-hazardous dredged material taking into account sediment test results, past experiences, technical and financial reasons and opportunistic project development works, as part of the decision making process that led to the selection of the Ancol CDF as the final disposal site for non hazardous material.

31. During past dredging operations, excavated material was usually dumped on any vacant land owned by DKI Jakarta. In some cases sediments are placed on embankments and not otherwise disposed of, which results in sludge returning to waterways. The JUFMP provides the first opportunity for DKI Jakarta and the Government of Indonesia (GOI) to coordinate and dispose dredged materials in a defined and managed disposal area, and to introduce best-practice management principles. Several disposal sites and management alternatives were initially assessed:

- (a) *Taman BMW*: Large site with many informal communities that were evicted. The site is very visible along the toll road.
- (b) *Under Toll Road (Pluit Karang)*: Located on the toll interchange. The site is very visible and there are concerns about the aesthetic and odor aspects if utilized as a disposal site. There were many informal communities with fisheries and banana plantations in this site.
- (c) *Kamal Muara*: Very small location with nearby industry and housing (open lot).
- (d) *Kapuk Muara*: Already converted into a housing development.
- (e) *Pluit*: Small location next to fisheries.

(f) *Rorotan*: being utilized as a temporary solid waste disposal area along the river and near industrial activities.

(g) *Cakung*: Next to Rorotan (above). A small lot next to industrial areas.

32. These initial alternatives were rejected due to their minimal disposal capacity, resettlement issues, aesthetic and odor issues, and supervision difficulties.

33. Three sea-based disposal locations were also considered at Muara Kali Adem (MKA), Marunda, and West Ancol. The MKA is located next to the West Banjir Canal but the access road to the site is very limited and frequent traffic congestion is observed. Marunda which is located at the edge of East Jakarta was not selected because the spatial plan of the area. Finally, the site at West Ancol was strategically chosen for its accelerated preparedness, size and capacity (capable of receiving almost three times the dredged materials of the project, or approximately 12 million m³), and central location along the coast of Jakarta Bay. It is also important to note that the Ancol site also had the advantage that it was already an approved ongoing reclamation project. The utilization of the Ancol site is considered a 'win-win' scenario. The other two sea-based locations considered would have had to be constructed, at considerable costs and with the effect of displacing more near-shore area with additional environmental impacts and the need to remove existing fish farms (*keramba ikan*). At the same time, the utilization of non-hazardous dredge material for the Ancol site reclamation will reduce the negative impact from use of other material (sand) which would have been sourced from quarries

Minimization of Involuntary Resettlement

34. The project seeks to avoid or minimized (if avoidance is not possible) both resettlement and non-resettlement related social impacts. This is done through limiting works to priority sections, careful selection of dredging approaches and equipment technology, reduction the rights of way of the inspection areas to minimum allowable standards for maintenance and security, and detailed engineering designs (DEDs) geared towards minimizing impact. Significant efforts have been made to minimize the number of PAPs through an iterative process to adopt engineering designs and selection of works methodology to minimize impact. Such efforts between December 2010 and April 2011 has resulted in the reduction of PAP-sites from seven to six⁸³, and a corresponding reduction of the estimated number of affected structures from 2,513 units (occupied by 6,507 persons) to an estimated 1,109 units (occupied by 5,228 persons). These efforts will continue during project implementation.

Environmental and Social Impact Assessments

Safeguards Assessments for JUFMP Works

35. The environmental impact assessment process in Indonesia (referred to as the AMDAL) has also followed and is aligned with the JUFMP Phase 1 and Phase 2 works packaging structure. An AMDAL package consists of the (i) ANDAL, which is the Environmental Impacts Assessment, (i) RKL, which is the Environment Management Plan, and (iii) RPL, which is the Environment Monitoring Plan. The AMDAL for Phase 1 works has been prepared by the Project

⁸³ By avoiding involuntary resettlement at the Lower Angke Drain site.

Management Unit (PMU) (For project implementation, the PMU will be re-designated as the CPIU, per para. 26 of the main text). This AMDAL was consulted upon, reviewed and approved in March 2010 by the provincial level environmental agency (known as the BPLHD) as required by national and sub-national regulations of Indonesia.

36. The Bank also reviewed the AMDAL and provided extensive comments resulting in the PMU preparing a JUFMP Phase 1 Supplementary Report to address the comments. This supplementary report includes further discussions of impact assessments and evaluation (including non-resettlement related social impacts), project design alternatives, institutional and implementation arrangements, and disposal transport arrangements. Based on these discussions, the supplementary report also includes further recommendations which will also be applicable to the project.

37. The AMDAL and supplementary report for Phase 1, combined, complied with the World Bank environmental safeguards policy requirements. The PMU has also prepared the Environmental and Social Management Framework (ESMF) which has been reviewed by the World Bank. The ESMF will guide and manage the process for preparing the environmental safeguards documents required for the Phase 2 works.

38. Preliminary social assessment study has been carried out in 2008 (SA Study). In addition, social impact assessments were also carried out in 2009 – 2010 as part of the AMDAL processes. In addition to standard AMDAL consultation processes, specific Focus Group Discussions (FGDs) were also carried out in each project site to obtain deeper information on the environmental and social impacts of the project and to obtain support from the communities. Both resettlement-related and non-resettlement related potential social impacts were identified in these assessments and processes. DKI Jakarta has prepared the project Resettlement Policy Framework (RPF) to clarify the principles, procedures and organizational arrangements to be applied to the preparation of RPs for Phase 2 sites that involve involuntary resettlement. The RPF has been reviewed and found satisfactory by the World Bank.

39. Evictions of traders took place at two locations adjacent to JUFMP sites in December 2008, along the access road in front of the Cengkareng Drain and along Tambora VI and VIII roads (associated with the Pakin-Jelakeng-Kali Besar site). At the Cengkareng Drain mobile vendors were evicted from the street following complaints by permanent traders at the nearby Kemiri market and traffic congestion in the area. At Jalan Tambora VI and VIII the eviction of traders encroaching on the road and riverbank followed a lengthy GOI consultation process, and in the end failed to reach agreement on relocation. As part of project preparation, the West Jakarta Municipality (with support from the Bank) undertook Tracer Studies to assess impacts and potential linkages to the JUFMP. Based on documentary evidence and interviews carried out at these sites, the studies confirmed that these eviction processes started significantly before JUFMP discussions with GOI commenced, and the reasons for eviction were unconnected to JUFMP. The tracer studies reports are available in project files.

Safeguards Assessments for Ancol CDF

40. Non-hazardous sediment material from JUFMP will be disposed at the Ancol CDF. Construction of the boundary walls for the confined disposal facility (Ancol CDF) is ongoing at

the time of project preparation. The confined facility is currently expected to be completed at the end of calendar year 2011. The first AMDAL for the Ancol reclamation works prepared by PT. PJA, was approved by BPLHD in February 2006 where 12 million m³ of sand and 400,000 m³ of laterite were proposed as the fill material. This was prior to the proposal for the JUFMP project. The AMDAL was subsequently updated to provide for non-hazardous JUFMP dredge material to be utilized as part fill material for the Ancol CDF, reducing sand requirements to 8.6 million m³. The updated AMDAL was reviewed and approved by BPLHD in March 2009. It is worthy to note that the Ancol reclamation project was planned to be implemented irrespective and independent of whether JUFMP proceeds or not. The primary objective of PT. PJA as a concessionaire as stated in the AMDAL is not to receive JUFMP disposal material but to reclaim about 119 hectares of land in Jakarta Bay for future commercial residential developments (as is typical of this area of Jakarta Bay since 1964). GOI will retain responsibility for future development at Ancol. This notwithstanding, Ancol CDF is an integral part of JUFMP.

41. The Bank has reviewed the Ancol AMDAL documents⁸⁴. To address gaps found in the Ancol AMDAL documents, the PMU has prepared an Ancol Updated RKL/RPL Supplementary Report. This supplementary report includes further discussions of alternatives considered for project disposal sites, future use of the disposal site, potential direct and indirect impacts, potential health impacts from disposed sediment, institutional and implementation arrangements and material transport arrangements. This supplementary report contains the additional measures which will also be applicable to the project. These additional measures include reviewing the permits and sources of sand and the potential off-site impacts at source location of sand required for Ancol CDF's reclamation activities, strengthening day to day environmental supervision and monitoring of the construction and filling of the Ancol CDF through the project Supervision Consultant, and the inclusion of detailed traffic management plans. This ensured that the AMDAL and supplementary report for Ancol CDF, combined, complied with the World Bank environmental safeguards policy requirements with regards to the disposal of JUFMP material.

Safeguards Assessments for Bantar Gebang and PPLi

42. Solid waste material from JUFMP will be transported to the Bantar Gebang sanitary landfill, while hazardous sediment material (if any are found) is planned for disposal at the PPLi secure landfill in Bogor. Both these landfills already exist and are operating under national environmental permits and under the supervision of the respective jurisdictional BPLHD's. Assessments have been carried out (including site visits by the World Bank) to ascertain that these facilities have adequate financial, technical and physical capacity to receive the type of waste material from the project and also that these facilities had the required and valid environmental permits.

⁸⁴ The review included a further subsequent update related to the assessment of a proposed change in design change of the northern boundary (dyke) of the CDF in March 2011, for which the recommendations of the World Bank review of the proposal was acknowledged and adopted prior to the approval of the change by BPLHD.

Environmental and Social Impacts and their Mitigation

43. As discussed in para. 1 of this Annex, the project is expected to generate positive environmental and social outcomes, by alleviating flooding caused by overflowing and stagnant flood waters. The project implementation, however, would also have potential negative impacts. These were identified in the various AMDALs and summarized in paras. 44 to 47 of this annex. The associated mitigation measures are summarized in paras. 48 to 63 of this annex. This section should be read in conjunction with the discussions of the institutional and implementation arrangements for the project in Section IV.A of the main document and Annex 3.

Environmental Impacts from JUFMP Works

44. The overriding potential environmental impact associated with JUFMP works activities were identified in the AMDALs⁸⁵. These impacts mainly stem from the dredging and embankment works, the significant quantities of dredge material and solid waste that would be generated, and how these dredge materials would be handled, temporarily stored, stockpiled, sorted, transported, and finally disposed in urban areas that are densely populated and that are surrounded by surface and sea water. Potential significant environmental impacts from these works include: (i) traffic disruption due to equipment mobilization and the transport of dredge material and solid wastes to their respective disposal sites, (ii) spillage of material along transportation routes, (iii) foul odors and reduced air quality from ongoing works, (iv) increased noise levels and vibration from ongoing works, and (v) reduction in surface water quality in canals and related estuaries during ongoing works. Hazardous material (if any are found) also poses potential environmental and health hazards if these are improperly handled.

Environmental Impacts from Ancol CDF Works

45. At the Ancol CDF, the AMDAL identified the key potential environmental impacts on site from the construction and reclamation activities, including: (i) changes in longshore current patterns⁸⁶, (ii) increased sedimentation around the CDF, (iii) degradation of sea water quality from filling and reclamation activities, and (iv) disturbance to the sea biota. There is also the potential for adverse off site impact at the source locations and transport route of sand (8.6 million m³) and laterite (400,000 m³) required for the construction of the CDF (although the use of JUFMP dredge material to part replace sand material requirement – thus reducing sand requirement from 12 million m³ to 8.6 million m³ - is in itself a measure to reduce potential off site impacts).

Environmental Impacts from Bantar Gebang and PPLi Operations

46. The potential environmental impacts from the project to the operations of the Bantar Gebang sanitary landfill and the PPLi secure landfill are expected to be small. The estimated 95,000 m³ of total solid waste generated from the project over its expected 4 year duration will

⁸⁵ The completed AMDALs for the Phase 1 works, as well as draft AMDALs for Phase 2 sites.

⁸⁶ Longshore currents are currents running parallel to the shoreline which affect the rate of sedimentation and abrasion. Note however that simulation modelings that included the Ancol CDF reclaimed land has predicted insignificant changes to the sedimentation and abrasion patterns, with only minor additional abrasion and sedimentation in the western and eastern part of the CDF respectively.

make up an insignificant percentage of normal loads being received at Bantar Gebang⁸⁷. Hazardous material is not expected from JUFMP (confirmed by sampling tests) and even if some are found, the amounts are well within the capacity and handling norms of the PPLi secure landfill.

Social Impacts from JUFMP Works

47. The potential social impacts from the project were identified through the SA Study, AMDAL related consultations, and the FGD and other consultations carried out as part of the preparation of the RPF and preliminary RPs. The potential impacts include resettlement-related impacts and non-resettlement related impacts. Non-resettlement related impacts include “perception and concerns” of communities should they need to resettle without proper consultations and compensations. Communities were concerned that during construction their living environment will be disturbed and damaged by the improper management of works operations and handling of dredged materials, which could lead to inconvenience due to damage on local roads, dusts, bad odors, spilled dredged materials, increased traffic congestion and noise from the equipments and trucks. Another potential issue is the concerns of the impacted communities for not being able to participate during construction as workers/labors and inadequate communications between them and the contractors and project management. Construction at project sites will also temporarily affect about 19 operators / owners of canal crossing boats.

Environmental Impact Management for JUFMP Works

48. For JUFMP works, the respective AMDALs⁸⁸ as well as the JUFMP Phase 1 Supplementary Report requirements will be incorporated into the works bidding documents and contracts. This ensures that the works contractors will have primary responsibility for the implementation of the required environmental safeguards measures. Contractors are required to have specific staff with responsibility for environmental and social management. Bidders are required as part of their bid to submit preliminary contractor’s Environmental and Social Management Plan (ESMP), including a preliminary Traffic Management Plan (TMP), conforming to the requirements of the various environmental documents. These will be developed into detailed plans by the winning contractor. Since the majority of potential effects relate to interactions with the local communities, a minimum number of contract required meetings with the community has also been included in the contracts. The inclusion of environmental and social provisions in the biddings documents also ensures that these provisions will be adequately priced in the contracts⁸⁹. These costs are being built into the unit costs for dredging and transport. Environmental and social costs built into the contract unit costs include, but are not limited to, workplace sanitation, safety, traffic management, vehicle emissions control, spillage prevention, noise management, and consultations with the community.

49. The quality of the sediment materials in the selected drains and canals has been extensively tested over time. The results of the tests are consistent in so far as they all confirmed

⁸⁷ Normal daily load is currently between 5,000 – 6,000 tons per day, or about 20,000 to 24,000 m³ per day.

⁸⁸ Including any provisions of the AMDAL for Ancol CDF which relates to the JUFMP works.

⁸⁹ The overall estimated project budget for the implementation of these environmental measures is about US\$1.9 million. Since they are embedded in the works contracts, the cost is subject to competitive procurement.

that the sediment material is non-hazardous waste (per the standards stipulated in GOI Regulations on hazardous material and hazardous waste management⁹⁰). Hence, hazardous material (referred to as B3 waste in GOI Regulations) is not expected to be found during implementation. Nevertheless, to ensure that no hazardous material from JUFMP are disposed of in the Ancol CDF⁹¹, a strict regime has been developed and adopted requiring pre-testing of sediment in sections immediately prior to dredging. In the highly unlikely event that the pre-dredge testing reveals the presence of B3 waste and material, the location will be marked off. Subject to the approval of the Minister of Environment (as required by Indonesian regulations) this material is expected to be dredged and transported only to the PPLi secure landfill facility.

50. For JUFMP works, the primary responsibility for implementing the environmental measures detailed in the AMDALs and the JUFMP Phase 1 Supplementary Report lies with the civil works and dredging contractors. The requirements are embedded as contractual obligations of the contractors. The project Supervision Consultant (SC) will be responsible for the day-to-day supervision of the contractors (including adherence to required environmental measures)⁹². The SC will in turn report directly to the CPIU (For project implementation, the PMU will be re-designated as the CPIU, per para. 26 of the main text). The CPIU will hold both the SC and the contractors accountable for ensuring compliance with the required environmental measures. The Terms of Reference of the SC requires that the consultant team includes environmental expertise with the capacity in supervising activities that addresses environmental impacts. Also, given that the selected drains and canals lie in the province of Jakarta and run across sub-provincial jurisdictional city boundaries, the local environmental agencies (the BPLHDs) at both the Provincial level (i.e. the office that reviewed and approved all the AMDALs) and the municipal level BPHLD (i.e. Walikota level) will also be undertaking their mandated routine direct monitoring of works. The World Bank will carry out regular supervision of the project implementation, primarily through the CPIU. The CPIU will also retain a Panel of Experts (POE)⁹³, who will monitor and evaluate the preparation and implementation of the project safeguards instruments (including the EMPs, RPF, RPs, and the project grievance redress system) and advise the CPIU on any actions to be taken to improve compliance.

51. Key potential environmental impacts at JUFMP sites and their mitigation measures are summarized in Table A7.1.

⁹⁰ Government Regulations no. 85/1999 on Hazardous and Toxic Waste Management.

⁹¹ This requirement is also a stipulation of the Ancol CDF AMDAL.

⁹² A total of US\$9.6 million has been budgeted for the Supervision Consultant, including for the supervision and monitoring of the project environmental and social safeguards measures, supporting the establishment of the project Grievance Redress System (GRS) and assisting DKI Jakarta to implement the project's Resettlement Plans (RPs).

⁹³ The specialists are expected to comprise an environmental expert, an engineer experienced in dredging and dredge disposal, and an urban resettlement expert.

Table A7.1: JUFMP - Key Potential Impacts and Mitigation

Potential Impact	Mitigation / Enhancement
Hazardous sediment quality	<ul style="list-style-type: none"> • Extensive sampling and testing during project preparation concluded risk of presence of hazardous sediment is small • All JUFMP sections to be tested prior to dredging, with clearance to dredge the section and dispose of sediment at Ancol CDF given subject to confirmation of non-hazardous material • Dredging of the section will not proceed in the unlikely event of the presence of hazardous material • Provision made for hazardous material to be dredged and disposed at a secure hazardous waste disposal facility (PPLi)
Traffic congestion	<ul style="list-style-type: none"> • Contractor Detailed Traffic Management Plans • Coordination with PT. PJA for transport of material to main disposal site at Ancol CDF
Spillage of material onto roads	<ul style="list-style-type: none"> • Contractor environmental and social management plan includes spillage prevention and cleanup plans
Foul odors and air quality	<ul style="list-style-type: none"> • Contractor environmental and social management plan to include vehicles emissions control • Minimum number of contract required meetings with the community included in the contracts to coordinate project activities with the community • Impact expected to be temporary
Increased noise levels and vibration	<ul style="list-style-type: none"> • Minimum number of contract required meetings with the community included in the contracts to coordinate project activities with the community • Impact expected to be temporary
Reduction in surface water quality	<ul style="list-style-type: none"> • Contractor required to prevent solid wastes from project area to flow downstream • Impact expected to be temporary

Environmental Impact Management for Ancol CDF Works, and the Bantar Gebang and PPLi Operations

52. For Ancol CDF works, the AMDAL requirements have been incorporated by PT. PJA into the contracts of the Ancol CDF contractors. Hydrodynamic simulations done as part of the AMDAL process for Ancol CDF indicated that the construction of the facility will likely lead to only slight changes to the pattern of longshore current around the facility location. To mitigate against the other identified impacts, the AMDAL for Ancol CDF requires that that the deposited material in the reclaimed area be confined on all sides by the construction of an outside wall along the entire length of the perimeter of the reclamation concession area (approx 119 ha). The perimeter walls are designed so as to retain only the solids from the fill material (which will include about 3.4 million m³ of dredged material from the JUFMP project) while allowing the discharge of cleaner/filtered water from the confined area via weir. The design of the facility has been reviewed and assessed as satisfactory during project preparation. This notwithstanding, to ensure that JUFMP dredge material is not disposed at Ancol CDF before the facility is ready, a project measure⁹⁴ requires that the Bank's 'no objection' to any given JUFMP dredging contract will only be given once it is satisfied with the adequacy of the confined facility and has received satisfactory evidence of PT. PJA's compliance with the requirements of the AMDAL for Ancol CDF, including all approved updates to the AMDAL. The AMDAL for Ancol CDF also requires transport vehicles to be washed down after unloading the dredge material in the Ancol CDF site in order to further prevent unacceptable transfer of dredge material onto the local roads. The Ancol CDF AMDAL process has also reviewed the potential off-site impact at the source locations and transport route of sand (8.6 million m³) and laterite (400,000 m³) required in addition to JUFMP dredge material for the construction of the CDF. The AMDAL stipulates the

⁹⁴ Included in the project Loan Agreement.

specific source location of the sand – a marine source in the Banten area off the west coast of West Java – which has been reviewed to already possess the approved environmental permit consistent with Indonesian laws and regulations on mining and quarry. The AMDAL also requires the laterite (required at the final stages of the reclamation process) be sources approved by the DKI BPLHD (Provincial Level).

53. For Ancol CDF works, the immediate responsibility for implementing the environmental measures detailed in the Ancol CDF AMDAL lies with PT. PJA's contractors. The requirements are embedded as contractual obligations of the contractors. PT. PJA through its Property Development Unit is supervising all aspects (including environment) of the contracts. Additionally, PT. PJA has recruited a consulting firm that carries out quarterly compliance monitoring of the ongoing construction works. PT. PJA, in compliance with the AMDAL requirements, is preparing and submitting to the DKI BPLHD quarterly implementation reports of the RKL and RPL. These reports contain measures and actions taken by PT. PJA to implement the measures contained in their approved RKL and RPL. These reports will also include the implementation of the additional measures contained in the Ancol Updated RKL/RPL Supplementary Report.

54. The primary responsibility for supervision and oversight monitoring of the works at the Ancol CDF will be with the BPLHD agencies at the Provincial and Municipal Levels. PT. PJA has also agreed for the JUFMP project Supervision Consultant (SC) to carry out supervision and oversight monitoring of the Ancol CDF works (including activities at off-site locations) during the life of the JUFMP project⁹⁵. BPLHD has already started monitoring the ongoing construction works at Ancol CDF and has recorded and reported its findings and issued its instructions to PT. PJA to undertake any required corrective measures. On their November 2010 site inspection, the DKI BPLHD invited the World Bank to undertake a joint monitoring inspection of the works and the World Bank participated in the process with the DKI BPLHD. The provincial BPLHD has indicated that it will continue to invite the World Bank to its routine monitoring inspections of the works at the Ancol CDF. PT. PJA's quarterly implementation reports of the RKL and RPL will also be shared with the World Bank. The World Bank has appraised the technical and financial capacity of the provincial BPLHD to satisfactorily undertake their mandated monitoring responsibility. While there is no direct legal agreement between the World Bank and PT. PJA, the JUFMP legal agreements will include requirements for DKI Jakarta to exercise its rights (as a shareholder of PT. PJA) to cause PT. PJA to implement the requirements (including mitigation measures) of the AMDAL for Ancol CDF and the Ancol Updated RKL/RPL Supplementary Report. GOI will retain responsibility for future development at Ancol.

55. Key potential environmental impacts at Ancol CDF and their mitigation measures are summarized in Table A7.2 below.

⁹⁵ The supervision and oversight monitoring will be carried out in cooperation with BPLHD.

Table A7.2: Ancol CDF - Key Potential Impacts and Mitigation

Potential Impact	Mitigation / Enhancement
Hazardous sediment quality	<ul style="list-style-type: none"> • Only non-hazardous material from JUFMP, sand and laterite (red soil) to be used • Post-disposal sample testing at Ancol CDF • Continued monitoring of Ancol CDF filling activities by BPLHD and Supervision Consultant
Spillage of material onto roads	<ul style="list-style-type: none"> • PT. PJA to wash down transport vehicles prior to leaving the Ancol CDF site
Traffic congestion	<ul style="list-style-type: none"> • PT. PJA traffic management plan • Coordination with JUFMP Supervision Consultant and contractors
Off-site impacts	<ul style="list-style-type: none"> • Review of permits and sources of sand • Continued monitoring of offsite location by BPLHD and Supervision Consultant
Changes in longshore currents and sedimentation	<ul style="list-style-type: none"> • Hydrodynamic simulation predicts only slight changes to the pattern of longshore current, sedimentation and abrasion patterns
Degradation of sea water quality, contamination of surrounding sea area	<ul style="list-style-type: none"> • Deposited material to be confined on all sides • Commencement of disposal of material from JUFMP subject to the satisfactory completion of confined facility (including review / assessment by the World Bank) • Continued monitoring of facility by BPLHD and Supervision Consultant
Disturbance to sea biota	<ul style="list-style-type: none"> • Assessments show no protected species • Deposited material to be confined on all sides • Commencement of disposal of material from JUFMP subject to the satisfactory completion of confined facility (including review / assessment by the World Bank) • Continued monitoring of facility by BPLHD and Supervision Consultant

56. The primary responsibility for supervision and oversight monitoring of the ongoing operations of the existing Bantar Gebang and PPLi facilities lies with the respective city and provincial BPLHD. The project supervision consultant (SC) will also supervise and carry out oversight monitoring of project related activities at Bantar Gebang and PPLi.

Social Impact Management

Non-Involuntary Resettlement Social Impact

57. Since the majority of potential effects relate to interactions with the local communities, a minimum number of contract required meetings with the community has also been included in the contract of the JUFMP contractors. The JUFMP contractors' Environmental and Social Management Plan (ESMP) will include provisions for consultations with the community to inform the community of works plans and discuss ways to minimize unavoidable impacts, such as the temporary impact from the reduction in air quality and construction noise. Boat operators are not expected to require resettlement. Dredging contractors will enter into discussions to arrive at mutually agreeable arrangements for the dredging schedule to avoid as much as possible disturbance to the operators' activities. Opportunities for employment at the dredging works will also be discussed.

Involuntary Resettlement Social Impact

58. A Resettlement Policy Framework (RPF) has been developed by DKI Jakarta that addresses the entitlements of Project Affected Persons (PAPs), the rationale for compensation for lost assets at replacement cost, specific measures to address vulnerable groups, and assistance for livelihood restoration. The RPF will guide the preparation of Resettlement Plans (RPs) in project sites where involuntary resettlements are required (including project linked sites). Given a checkered history of evictions practices in Jakarta, the RPF with key principle for equitable

social safeguards practices represents a transformatory progress in DKI Jakarta’s approach to handling involuntary resettlement. However, DKI Jakarta has strong concerns that its policies should not risk being seen as against public interests by inadvertently reward illegal behavior but simultaneously fail to protect affected people who are at risk of losing their home and livelihoods. For this reason, the RPF makes a distinction between squatter landlords and encroachers and other PAPs . The RPF clarifies that assistance provided to squatter landlords and encroachers would be determined in the RP on a case by case negotiated and mutually agreed basis, without any predetermined limiting criteria. This arrangement in the RPF serves to balance the DKI Jakarta’s stated concern on the one hand, and the conformance to the World Bank’s Involuntary Resettlement policy (by not excluding any particular category of affected people from assistance and/or compensation) on the other hand.

Box: Key Principles of the RPF

Key principles. The RPF applies the following key principles:

- *Principle 1: minimization of resettlement.* Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs⁹⁶;
- *Principle 2: assistance to displaced persons.* If resettlement is unavoidable, persons displaced by a JUFMP subproject should be supported in their efforts to gain access to adequate habitation. If the relocation affects their income sources and/or their livelihoods, displaced persons should be offered support for a transition period, based on a reasonable estimate of the time likely to be needed to restore their livelihood and standards of living;
- *Principle 3: consultations on resettlement options and forms of support.* Resettlement options and support will be designed in consultation with the displaced persons. The consultations should involve a two-way transfer of information between JUFMP staff and the displaced persons;
- *Principle 4: legal resettlement sites.* Occupants of state or government land who are displaced by JUFMP should be provided with opportunities to resettle at locations that can be legally occupied.
- *Principle 5: public facilities and community infrastructure.* In cases of group relocation, public facilities and community infrastructure affected by the Project will be rebuilt at the resettlement sites.
- *Principle 6: transparent and accountable.* Information on the budget to finance the implementation of this RPF will be announced.

59. All project sites will be screened for PAPs and an RP prepared in accordance with the RPF where PAPs cannot be avoided⁹⁷. The RPs will identify affected people and lay out the framework for compensating and restoring the livelihoods of entitled households with a clear and agreed timeline between the PAPs and DKI Jakarta. All RPs will be reviewed by the World Bank⁹⁸. The RP will require the World Bank’s ‘no objection’, be publicly disclosed and implemented (except any elements related to post-resettlement activities) prior to any works commencing at the associated site. DKI Jakarta will establish a project Grievance Redress

⁹⁶ For example, a change of methodology / technology allowing for dredging around some structures have avoided the necessity of involuntary resettlement in two locations – Waduk Sunter Selatan and Tanjungan Drains.

⁹⁷ Note that non-PAP sites were screened (including Phase 1 sites) in 2010. A repeat/update screening exercise is expected to be done around January 2012 to reconfirm the status of these sites.

⁹⁸ The World Bank review of RPs will focus on ensuring that the RPs have been prepared in accordance with all the provisions of the RPF (including satisfactory position taken in the RP regarding squatter landlords and encroachers is adequate to support the restoration of livelihoods and standard of living) and the adequacy of implementation arrangements, e.g., implementation plans and budget.

System (GRS) that will function, amongst others, to receive and address / resolve resettlement-related complaints (the GRS is applicable for all complaints related to the project). The principle, scope, institutional setup, implementation arrangement and key parameters for the management of complaints and responses, are described in the project's Resettlement Policy Framework (RPF). It is expected that the project GRS will be set up at the start of project implementation. The Supervision Consultant (SC) team is tasked with assisting DKI Jakarta in setting up the project GRS system, including the development of the Standard Operating Procedures, and supporting DKI Jakarta to manage the system during the project implementation period. In particular, it is expected that the operations of the GRS would have been fully tested and functioning by the time the Phase 2 period begins.

60. It should be noted that there are existing and well established complaints handling systems in DKI Jakarta, operating through various channels. In most cases, persons or communities who felt disturbed, being treated unfairly or are unhappy about any project can file a complaint to the head of RT (neighborhood level) who will then put forward it to the head of RW (hamlet level). If the complaint cannot be solved at the RT/RW level, the heads of RT and RW will take the case to the *kelurahan* level (where the case is handled by the Section of Governance Affairs and Public Order). The case will be officially registered at the *kelurahan* level. The parties in disputes (e.g. citizen, communities, contractor or other government institutions), the *kelurahan* council and staff will discuss and try to resolve the case. If no resolution is agreed at the *kelurahan* level, the case is sent to the higher *kecamatan* level (sub-district level), and finally to the *kotamadya* level (municipal level) if still unresolved at *kecamatan* level.

61. Complaints or feedbacks are also routinely submitted via SMS or call center, media (e.g. newspaper, radio) and the Provincial Government of DKI Jakarta official web-portals (i.e. www.jakarta.go.id and www.beritajakarta.com). Complaints or feedbacks received via these channels are forwarded by DKI Jakarta from the provincial level to the associated relevant offices (i.e., the *kelurahan*, *kecamatan* or *dinas*). These complaints and feedback will first be verified on the ground, and followed-up if confirmed to be resolved at the lowest possible institutional level.

62. The implementation of the resettlement-related activities is the responsibility of the DKI Jakarta, particularly its Environmental and Social Working Group (ESWG), Project Management and Quality Assurance Working Group, and the Monitoring and Reporting Working Group. At the operational level, particularly in preparing and implementing the RPs, the ESWG will be teamed up with the staff of the relevant municipalities (resettlement team). The Supervision Consultant (SC) will monitor, supervise and advice the ESWG in preparing and implementing the RPs. Budgets for preparing and implementing the RPs (except for the consultant) will be borne by DKI Jakarta⁹⁹. This would include operational costs for the ESWG and the resettlement team, compensation for assets, resettlement assistance and rehabilitation supports. This SC will also be responsible to ensure that DKI Jakarta implement the RPs consistently and in line with the RPF, and to support DKI Jakarta in establishing and managing the project

⁹⁹ The overall estimated budget for the implementation of project RPs is about US\$2.8 million. DKI Jakarta's financial capacity has been assessed to determine that it has the adequate financial resources to fund the RPs implementation.

Grievance Redress System (GRS). The SC will monitor project linked sites and areas adjacent to project sites and report any relevant activities - especially those that could involve resettlement.

63. The transformatory nature of the project approach to handling resettlement as embodied in the RPF also poses significant implementation challenges. While DKI Jakarta has committed to the RPF and associated RPs, their implementation (especially in the initial period) will inevitably have to contend with inconsistent and previously established practices, procedures, and regulations. In order to minimize this potential implementation bottleneck, DKI Jakarta is currently engaged in an intensive consultation and dissemination exercise specifically with the four relevant Jakarta municipalities who will carry out the day-to-day implementation of the RPF and RPs. These efforts are aimed to strengthening the understanding and support from these municipalities towards the completion and implementation of the RPF and RPs.

Disclosure and Consultations

Assessment and Disclosure Approaches

64. The environmental and social safeguards requirements for Phase 1 works and for project material disposal arrangements have been appraised. Phase 1 works are expected to be ready for implementation soon after the project is effective (provided also that certain other agreed upon operational conditions are met). The project is set in a dynamic and fluid environment. Jakarta's flood management infrastructure is in a poor condition due to severe under implementation of operations and maintenance and inadequate local drainage management (see discussions in section I.B of the main text for further details). These are apt to suffer further unpredictable damages from flood events (especially during the annual flooding season)¹⁰⁰ and the continuous surrounding heavy urban activities. Hence, design changes in response to continuously changing conditions should be expected during implementation, requiring associated revisions to the safeguards documents. Given the sequencing of project implementation, the various Phase 2 works are only expected to begin from around 12 to 18 months after project approval. The quality of implementation and the environmental and social outcomes related to Phase 2 works may only be assured through a similar sequencing of the preparation, disclosure and implementation of their environmental impact assessments (EIAs) and (if needed) resettlement plans (RPs). For this reason and in line with the sequenced two-phase implementation approach, the EIAs and RPs for Phase 2 activities will be done during project implementation and will be reviewed by the Bank prior to finalization and public disclosure. Until the Bank is satisfied and provides the 'no objection' to the final EIAs and RPs for the site, no works will commence at the site.

65. All applicable environmental safeguards documents related to Phase 1 works (including those related to the Ancol CDF, currently under construction) have been disclosed. In line with the sequenced two-phase implementation approach, an Environmental and Social Management Framework (ESMF) and a Resettlement Policy Framework (RPF) will cover the environmental and social management requirements of Phase 2 works, and will guide the preparation, finalization and implementation of Phase 2 related EIAs and RPs. The ESMF and RPF have

¹⁰⁰ In general, the annual rainy season occur from November to April. Flood incidences are perennial occurrences and flood events have been increasing in severity (and hence more damaging) during the past decade.

been disclosed. The PMU has prepared a Consolidated Summary of the environmental impact assessment which serves to provide a consolidated picture of the environmental and social safeguards impact assessments and mitigation design for the JUFMP project as a whole. The Consolidated Summary has also been disclosed. Phase 2 EIAs and RPs will be completed during project implementation (prior to any related works commencing) and subject to World Bank review and no-objection prior to disclosure and implementation. The attachment at the end of this Annex provides a summary of the project's environmental and social safeguards documents and their disclosure status.

Consultations

66. The consultative process for the project has been widespread over the period of project preparation (mainly 2009 – 2011) and has occurred at multiple levels depending on the target stakeholders and issues being discussed. During project preparation, most of the consultations were related to the AMDAL process¹⁰¹ (for both JUFMP and Ancol CDF), and the preparation of the RPF and preliminary RPs. Broader consultations between DKI Jakarta, government agencies, academia, civil society, and other stakeholders on issues ranging from technical, engineering, environment, social, planning and implementation arrangements have also been conducted and are expected to continue. During project implementation, interactions with the local communities at and near the project sites are mandated with a minimum number of contract required periodic meetings with the community included in the works contracts. The project site offices (POSKO) to be maintained at each project site will amongst others serve as public information centers. These site offices will also serve as an easily accessible venue to receive feedbacks (including complaints) about the project from the local community as well as to carry out consultation as required.

67. The various public consultations carried out during the project preparation covered issues related to the project objectives and scope / components, institutional and implementation arrangements, project timetables, environmental impacts and mitigation plans, social impacts (including resettlement), other community concerns, and plans for ongoing community consultations and involvement. Details of the AMDAL related consultations are recorded in each approved AMDAL. In addition to AMDAL mandated consultations, a series of Focus Group Discussions (FGDs) were also carried out covering all *kelurahans* ('urban village' administrative areas within the municipalities) in which the project sites are located¹⁰². The purposes of the FGDs were to (i) update communities on the status of the project, and (ii) obtain community feedback and aspirations. Participants comprised representatives from the *kelurahan* offices, Board of Trustees of the *kelurahans*, Community Guidance Officers (*Babinsa*), Head of the Family Welfare Program (PKK), community leaders, heads of community neighborhoods (*RT* and *RW*), and representatives of the communities of the project sites. Overall, there was broad support for the project from the potentially affected people and their communities given the project aim to alleviate seasonal flooding which causes them tremendous hardship and significant economic losses. But communities also expressed various concerns, mainly related to

¹⁰¹ Public consultations (at least two rounds) of the project proposal are mandatory in the AMDAL process, and these form key pre-requisites for compliance with both Indonesian and World Bank requirements.

¹⁰² It should be noted also that the FGD activities included 'before' and 'after' questionnaire surveys of the participants, which clearly demonstrated increased awareness and understanding of the project due to the FGD discussions.

potential construction related impacts and nuisance (e.g., noise, odor, traffic congestions, spillages, etc.), as well as potential involuntary resettlement impacts.

68. The community consultations, in particular the FGDs, were instrumental to help DKI Jakarta prepare the Resettlement Policy Framework (RPF). A series of workshops and dialogues were also carried out to inform the preparation of the RPF. In particular, two internal consultations and an external consultation were carried out to disseminate and obtain support and feedback from government and other stakeholders for the draft RPF. The internal consultations involved participants from DKI Jakarta province level to the lowest level (representatives of the mayors from all four DKI municipalities, relevant DKI agencies and bureaus, and sub-local governments down to the level of *Kecamatan / Kelurahan*). The external consultations were attended by DKI Jakarta representatives as well as NGOs, university representative and technical experts. The internal consultations are now being followed up with intensive consultation and dissemination exercise specifically with the four relevant Jakarta municipalities who will carry out the day-to-day implementation of the RPF and RPs.

69. DKI Jakarta has also carried out consultations during the preparation of initial draft RPs for the Phase 2 sites which have been identified to have PAPs¹⁰³. These initial socialization activities were done with the local levels of government / community leaders (mainly *kelurahan, RT / RW*) with this in turn being done either by group meetings at the *kelurahan* offices or by multiple small meetings moving from *RT / RW* to *RT / RW*. More intensive consultations with PAPs are planned after cut-off dates are announced, among others to confirm the lists of the PAPs and the affected assets, to discuss and agree on compensation and assistance options, dismantling and relocation schedules, etc., as part of the RP preparation. Consultations with the PAPs are expected to be done either in groups or plenary, depending on the specific situation in each site.

Project Communication

70. During the project preparation period, the consultation processes related to the environmental and social safeguards of the project (to date, over a three year period of 2009-2011) have been one of the key avenues for information dissemination of the details of the project to the public and other stakeholders. Consultations have included the dissemination of the latest project design, scope and status, and have broadly garnered positive support for the project and its flood mitigation aims. DKI Jakarta has also publicly positioned JUFMP as a key piece of its near term flood mitigation strategy. Given the overwhelming effect of recent and worsening flood incidences on city life, the local media has generally picked up these dissemination efforts. Consequently, public awareness of the JUFMP project (both at the community level as well as the city level) has increased over the period of project preparation. Media monitoring and audits carried out for the period of January 2010 to January 2011 pointed to sustained and increasing media exposure of the project¹⁰⁴, mainly through online news portals, community blogs and the print media. The tone of media discussions on flood mitigation efforts have also evolved towards the positive over the audit period. The periodic meetings of the National Steering Committee for Water Resources (NSCWR) have been instrumental in

¹⁰³ Phase 1 sites do not involve involuntary resettlement, while some Phase 2 sites will involve involuntary resettlement.

¹⁰⁴ Averaging over 10 media articles per month over the period.

providing the platform for inter-agency communications and information sharing of the latest developments and status of the project. Within DKI Jakarta, the opportunity of the consultation processes related to the social safeguards of the project has been utilized to communicate details of the project to the lowest level of local government.

71. During project implementation, communication through the platform of environmental, social and contractors' consultations will continue. At the community level, the public information center (located in the POSKO) at each JUFMP project site will play a critical role, where project information (including the latest implementation status) will be available and easily accessible to the public, in particular communities within or close to project sites. The meetings of the National Steering Committee for Water Resources (NSCWR) are expected to continue. DKI Jakarta has also assigned its Bureau for Infrastructure Development (*Biro Prasarkot*) with the specific task of coordinating and communicating the project across the relevant DKI Jakarta and other government agencies. Apart from the project communications efforts of the Government and implementing agencies, the World Bank is preparing a project website on which the latest project information can be made available during implementation.

Reputational Risks

72. The JUFMP project preparation has undergone a fairly comprehensive and exhaustive environmental and social assessment process. This notwithstanding, there are three key areas of activities that are not *directly* in the responsibility of the project implementation entities that may pose a risk to the reputation of the JUFMP and/or the World Bank during the implementation. The first relates to non-project activities that may occur in or close to project sites. The second concerns the activities within the Ancol CDF. The third concerns the long term reclamation activities in north Jakarta. Various measures will be undertaken during implementation to mitigate, reduce or otherwise manage these risks to acceptable levels. It should be noted that these measures will not completely remove these risks.

73. Given the highly dense urban setting, the occurrence of projects and other activities unrelated to the JUFMP project within or in close proximity to some JUFMP sites is likely unavoidable. These activities may have different objectives, standards and processes, but may be wrongly associated to JUFMP in the minds of the public and other stakeholders. This may lead to wrong expectations of the public on these activities, or the wrong attribution of any poor environmental and social management measures to the JUFMP project. Various actions will be undertaken to mitigate and reduce these risks, including the posting of project signage, temporary fencing where feasible, and the maintenance of a public information center (located in the *POSKO*) at each project site to disseminate project information and to serve as an immediate venue for the clarification of any misunderstanding that may arise. The Supervision Consultant (SC) will also monitor areas adjacent to JUFMP sites (and project linked sites) as a means to provide advance notice to the PIU, CPIU and the World Bank to allow for coordination and actions to prevent any communications misunderstanding and inadvertent wrong associations to JUFMP.

74. The JUFMP will contribute a portion of the fill material required for the reclamation at Ancol CDF. The reclamation at the Ancol CDF is both part of a separate larger reclamation plan in Ancol that is outside the control of the JUFMP project implementing agencies and an integral

part of JUFMP. Nevertheless, the public and other stakeholders may directly associate any problems (e.g., environmental, social, financial, commercial, etc.) that may arise at Ancol CDF with JUFMP. Given the JUFMP interests in the proper and successful implementation of the Ancol CDF activities, arrangements have been made for the Supervision Consultant (SC) to have access to Ancol CDF for the purposes of monitoring and supervision (including of the source locations for the sand and laterite fill material). During project implementation, the World Bank will also work with BPLHD to conduct joint supervision and site inspections of the Ancol CDF. These monitoring and supervision activities will allow for actions to be formulated and taken to address any implementation shortcomings, and is expected to reduce the potential reputational risk to the JUFMP and/or the World Bank. The project design will include provisions to limit the World Bank's liability with respect to activities at Ancol CDF.

75. The Ancol CDF reclamation activity itself is a specific and relatively small reclamation set within a larger and ongoing long term reclamation process in the Ancol area of north Jakarta that started in the early 1960's. While the JUFMP project is clearly unrelated to reclamation activities other than Ancol CDF specifically, the possibility exists that it may still be wrongly associated by the public and other stakeholders as being responsible over other reclamation projects e.g., those that have occurred in the past or potentially may occur in the future . The project documents and information dissemination efforts will aim to emphasize and make clear that the extent of JUFMP's linkage in this regard is confined to the Ancol CDF. GOI will retain responsibility for future development at Ancol.

Attachment to Annex 7

Summary of Environmental and Social Documents and Disclosure Status

Item	Document	Approval / Review	Language Documents Available in locally	Public Disclosure Date	Method/Venue for Disclosure
Project	Consolidated Summary of Environmental Impact Assessment	World Bank review: (June 2011) <i>Draft</i>	Bahasa Indonesia & English	29 Jul 2011	MoPW: (i) MoPW website. World Bank: (i) Public Information Center (PIC) in Jakarta, Indonesia, (ii) The Info Shop, 1818 H Street N.W., Washington DC 20043. (iii) World Bank website
		(Sep 2011) <i>Final</i>	Bahasa Indonesia & English	2 Nov 2011	
	Environmental and Social Management Framework (ESMF) ¹	World Bank review: (Jan 2011) <i>Draft</i> (June 2011) <i>Draft</i> (Sep 2011) <i>Final</i>	English Bahasa Indonesia & English Bahasa Indonesia & English	26 Jan 2011 29 Jul 2011 2 Nov 2011	
Resettlement Policy Framework (RPF) ²	World Bank review: (May 2011) <i>Final</i>	Bahasa Indonesia & English	8 Jul 2011	DKI: (i) DKI website (ii) Project-site <i>Kelurahan</i> offices MoPW: (i) MoPW website. World Bank: (i) PIC in Jakarta, Indonesia, (ii) The Info Shop, Washington DC. (iii) World Bank website	

(Continued ...)

Item	Document	Approval / Review	Language Documents Available in locally	Public Disclosure Date	Method/Venue for Disclosure
Phase 1 Works	AMDAL ³	BPLHD approval: (March 2010) <i>Final</i>	Bahasa Indonesia & English	30 Mar 2010	BPLHD: Printed copies available at the BPLHD offices of DKI Jakarta, Nyi Ageng Serang Building, 10 th floor, Jalan Rasuna Said, Kuningan, Jakarta
		World Bank review: (Jan 2011) <i>Final</i>	Bahasa Indonesia & English	26 Jan 2011	MoPW: (i) MoPW website. World Bank: (i) PIC in Jakarta, Indonesia, (ii) The Info Shop, Washington DC. (iii) World Bank website
	JUFMP Phase 1 Supplementary Report	World Bank review: (Jan 2011) <i>Draft</i> (June 2011) <i>Draft</i> (Sep 2011) <i>Final</i>	English Bahasa Indonesia & English Bahasa Indonesia & English	26 Jan 2011 29 Jul 2011 2 Nov 2011	MoPW: (i) MoPW website. World Bank: (i) PIC in Jakarta, Indonesia, (ii) The Info Shop, Washington DC. (iii) World Bank website
Ancol CDF	Revised AMDAL ⁴	BPLHD approval: (March 2009) <i>Final</i>	Bahasa Indonesia & English	30 Mar 2010	BPLHD: Printed copies available at the BPLHD offices of DKI Jakarta
		World Bank review: (Jan 2011) <i>Final</i>	Bahasa Indonesia & English	26 Jan 2011	MoPW: (i) MoPW website. World Bank: (i) PIC in Jakarta, Indonesia, (ii) The Info Shop, Washington DC. (iii) World Bank website
	Ancol Updated RKL/RPL Supplementary Report	World Bank review (June 2011) <i>Draft</i> (Sep 2011) <i>Final</i>	Bahasa Indonesia & English Bahasa Indonesia & English	29 Jul 2011 2 Nov 2011	MoPW: (i) MoPW website. World Bank: (i) PIC in Jakarta, Indonesia, (ii) The Info Shop, Washington DC. (iii) World Bank website

¹ The AMDAL for Phase 2 works, and any other required environmental safeguards documents, will be disclosed in a manner similar to Phase 1.

² Resettlement Plans (RPs) where needed at Phase 2 sites, will be disclosed in a similar manner as the RPF.

³ AMDAL is a set of document that consists of ANDAL (Environmental Impact Statement) and RKL/RPL (Environmental Management and Monitoring Plans)

⁴ Under the Indonesian system, all revisions to the AMDAL are carried out through an updated RKL/RPL document, approved by BPLHD.

Annex 8: Anti-Corruption Action Plan

Introduction

1. The objective of JUFMP's Anti-Corruption Action Plan (ACAP) is to identify governance risks and mitigation measures beyond the standard control systems employed by the Bank. While more detailed program specific control systems are outlined in the project's procurement, financial management and disbursement arrangements, this Action Plan (i) maps potential governance risks; and (ii) presents program activities to address these risks in the form of an Action Plan. This Action Plan complies with the Bank's Anti-Corruption guidelines¹⁰⁵. Prior to the effectiveness of the project, a Project Operations Manual (POM) will be prepared which will include the substance and detailed implementation arrangements for the actions in this ACAP.

2. **Corruption Mapping.** The corruption mapping matrix included in this Action Plan identifies potential risks of corruption and specifies appropriate mitigation measures agreed to by the CPIU and PIUs.

3. **Action Plan.** Specific mitigation actions are presented in the Corruption Mapping Matrix. The following provides a summary of the action plan:

a) **Enhanced Disclosure Provisions and Transparency.** The CPIU assisted by the Supervision Consultant will prepare a project website regarding house on the existing MoPW website. The website will disseminate information on JUFMP. Progress of the project in the form of figures, narrative, pictures, reports (including project audit reports) etc. will also be presented on the website. Appropriate access control to the website will be established to assure that all project officers have proper access to the information they need for their jobs and to assure that the project shares transparent and proper information with the public. Brochures on certain project information will be disseminated to relevant stakeholders, summary project information will be published through mass media and several press releases will be issued by MoPW, DKI Jakarta, CPMU/CPIU and PIUs. Project communications activities will support the disclosure provisions and project transparency. These activities should facilitate the civil society oversight described below by making project information directly available to interested NGOs upon request.

b) **Civil Society Participation in Oversight.** The JUFMP's Enhanced Disclosure Provisions and Transparency actions will serve as a catalyst to bring the JUFMP closer to their internal and external stakeholders, communities and interest groups for mutual understanding, day-to-day communication and cooperation. Communication to the local parliament (DPRD) and invitation to stakeholders including universities and NGOs to oversee the project through the project website, will increase their participation and encourage them to state their views on current JUFMP activities. By providing complete project information on the website, and communications outreach activities, the project

¹⁰⁵ The Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, dated October 15, 2006 and revised in January, 2011.

will be able to invite much broader civil societies to participate in overseeing the project from various angles.

- c) **Grievance Redress Mechanism.** As part of the control system, a grievance redress mechanism will be established, supported by the Supervision Consultant, and integrated with the transparency mechanism at the CPIU and PIUs. Complaint handling procedures will be strictly followed by also assigning authorized officials to be responsible for maintaining the database and the follow up actions. These complaints will be acted upon in a professional and timely fashion, and without risk of reprisal to 'whistleblowers' in the public. The complaints handling procedures also will be connected to the Inspectorate General of the MoPW and Bawasda of the DKI Province Government. The complaints and its follow up actions will be presented on the project website. The Supervision Consultants reports to the CPIU (and the Bank) will also contain this information.

- d) **Sanctions & Remedies.** Clear sanctions and remedies are an important final step in the effort to fight against corruption. Therefore, training and capacity building for all CPIU/PIU staff to cover fraud and corruption laws, definitions, and mitigation measures as well as related sanction and remedies will organized at the beginning of project implementation. A workshop with similar substances will be organized for stakeholders and potential contractors. In all procurement and consultant contracts, evidence of fraud and corruption will result in termination of the relevant contract, possibly with additional penalties imposed (such as fines, blacklisting, etc.) in accordance with Bank and Government regulations. Clear requirements, including conflict of interest provisions, in consultant contracts will provide the CPIU/PIUs strong powers to terminate the contract for performance failures, including the supervision and monitoring of the accuracy, quality and quantity of the goods/works in accordance to the technical requirements.

- e) **Mitigating Collusion, Fraud & Nepotism.** Opportunities for collusion and fraud exist in any project. Transparent and well-advertised procurement under this project with appropriate oversight will help to reduce this form of corruption. Transparent and clear measurement methods of goods/works delivered under this project with appropriate oversight will also help reduce this form of corruption. Additional supervisory procedures are proposed, such as requiring the Supervision Consultant to take pictures of the process of dredging, measuring, transporting and disposing dredged materials and to upload these on the project website on a regular basis, at least weekly. Training will be provided to strengthen the CPIU/PIUs payment verification process. Regular audits and reviews of invoices and key expenditures will be conducted. The final financial audit reports will be made public. Making use of the banking system in paying involuntary resettlement related compensations under this project is proposed to reduce this form of corruption.

Corruption Mapping Matrix

Limiting the occurrence of corruption in this project starts with identifying potential corruption areas – i.e., corruption mapping. For every area of corruption, the potential opportunities for corruption are identified. An assessment of the level of risk is then made on every opportunity of corruption identified. Based on the identified opportunity for corruption and its risk level, a set of mitigation actions is formulated.

This corruption mapping, opportunities for corruption and its level of risk may change during the progress of the project. These changes may require changes to the corresponding mitigation action. The corruption mapping matrix formulation will be reviewed every six months as the project progresses and lessons learned are incorporated.

CORRUPTION MAPPING AREA	Opportunity for Corruption	Level of Risk	Mitigation Action
PROCUREMENT			
Capacity of the PIU and Tender/Evaluation Committee	Non independent judgment of the bidding/evaluation process. The decisions tend to bias towards bidders/consultants as “instructed” by the higher level officials or other parties.	MEDIUM (MoPW) HIGH (Local Government/DKI)	- Capacity building for all actors involved in procurement under the World Bank’s Guidelines as well as certification of staff in accordance with Perpres 54/2010. - Development of Project Operations Manual (POM) to streamline all procedures and sanction/complaint handling mechanism.
Bid/proposal evaluation	- Delay in evaluation process that would benefit exclusive bidders/consultants. - Proposals are rejected due to reasons unrelated to the capacity of bidders in carrying out of the contracts/services. - False information about the information provided by the bidders.	HIGH	- The Procurement Plan will be binding in the Legal agreement, and will set as the basis for any procurement actions. - The Bank will declare misprocurement for any unjustified extension of bid proposals. - All planned contracts (except the Panel of Experts consultancy) are prior review.
Award of Contract	- The committee may call the prospective winner and negotiate the contract amount. - Collusion and nepotism in awarding the contract.	MEDIUM	- No negotiation for competitive selection/bidding. - Mandatory disclosure of contract awards.

CORRUPTION MAPPING AREA	Opportunity for Corruption	Level of Risk	Mitigation Action
Procurement Planning, including the one for the sub projects	Risk of kickback, and budget markup.	HIGH	Mandatory review by the Bank of Procurement Planning, and disclosure of the Procurement Plan in public domain.
Overall Procurement	Risk of kickback, collusive practices to “award” the contract to “preferred” bidders, and lower quality of products/services.	HIGH	<ul style="list-style-type: none"> - Enhanced complaint handling and sanctions, also those as defined in Perpres 54/2010 to be established in the DKI Jakarta structure. In the case for central level, MoPW has already developed its own mechanism for complaint handling as well as sanction system. - Enhanced capacity for the officials involved in procurement decision, including hiring of consultants. - Development of the Project Operations Manual.
DELIVERY OF WORKS AND SERVICES			
Delivery of dredging works	<ul style="list-style-type: none"> - Corruption may happen by raising the volume of dredging. - Corruption may happen by reporting certain areas as had already been dredged when it is not dredged or not dredged properly. - Corruption may happen when solving disputes which emerge because of resiltng of dredged areas after rain or flood following dredging activities. - Corruption may happen by manipulating progress and quality achievements of the dredging works. 	<p>HIGH</p> <p>HIGH</p> <p>MEDIUM</p> <p>HIGH</p>	<ul style="list-style-type: none"> - Areas to be dredged, including simple maps and methods of dredging, will be made transparent to appropriate stakeholders. In the form of brochures to be disseminated to people lives close the dredged areas. In the form of website for broader stakeholders (Preferably inside the MoPW website). Brochures and website will provide address to report or complaint when knowing irregularities on dredging activities. - The methods to measure the quantity of dredged materials (mud, sludge and others) or the finished volume of dredged areas will be determined before the dredging activities started. This methods also will be described on the website. - The Supervision Consultant will enter into a detailed agreement with the CPIU concerning their supervision method (including types of laboratory tests) that they will use in supervising of the project. - The Supervision Consultant will take pictures of dredged

CORRUPTION MAPPING AREA	Opportunity for Corruption	Level of Risk	Mitigation Action
			<p>areas (before and after dredging activities), dredging activities, and dredged materials (mud, sludge) as part of its regular supervision over the progress of the dredging works. At least weekly, the pictures and relevant technical data will be up loaded to the project website in accordance to the maps of the areas to be dredged. Payment of the consultants will be linked to this and other indicators of their performance.</p> <p>- TOR and contract of the supervision consultant will state legally binding manner the responsibility of the supervision consultant to assure the quality, quantity and timeliness of dredging works in accordance to the technical design/plan. When the actual dredging works varies from the technical design/plan, the supervision consultant will state it on the supervision report. If the supervision consultant fails to do so, remedial measures including contractual penalties will be carried out. If it is found that the supervision firm is consistently unable to ensure the quality of outputs from their team, then the contract with the firm will be terminated.</p>
<p>Delivery of rehabilitation and repairs of embankment, trash racks and pumps</p>	<ul style="list-style-type: none"> - Corruption may happen by lowering the quality and quantity of civil works compared to the technical design, while the completion/acceptance letter of the works still signed as completed and accepted. - Corruption may happen by lowering the quality material of the civil works or spareparts of the pumps compared to the technical specifications, while the acceptance letter of the materials or spareparts still signed as accepted. - Corruption may happen by manipulating progress and quality achievements of the 	<p>MEDIUM</p> <p>HIGH</p> <p>MEDIUM</p>	<ul style="list-style-type: none"> - General design of the rehabilitation and repairs of the embankment, trash racks and pumps will be made transparent to appropriate stakeholders. In the form of brochures to be disseminated to people living close to the rehabilitation areas. In the form of website for broader stakeholders with considering the size of the files. Brochures and website will provide address to report or complain on possible irregularities regarding rehabilitation and repair activities. - The Supervision Consultant will take pictures of embankment, trash track and pumps (before and after rehabilitation activities) and rehabilitation activities as part of its regular supervision over the progress of the rehabilitation and repair works. At least weekly, the

CORRUPTION MAPPING AREA	Opportunity for Corruption	Level of Risk	Mitigation Action
definition and types of corruption and possible consequences.	they are not fully aware of what constitutes corruption.		<p>corruption based on World Bank Guidelines as well as Indonesian Laws. Before starting the project a workshop will be conducted to help the staff to understand those definitions and their respective responsibilities (e.g. to report suspicious activities).</p> <ul style="list-style-type: none"> - CPIU and PIUs must provide relevant definitions of corruption and collusion in writing to all contractors and stakeholders. Prior to project start-up, the CPIU will also organize a stakeholder workshop to socialize all aspects of the ACAP and the definitions of corruption. - POM (Project Operation Manual) will contain all key components of the ACAP as well as complete description and definition of corruption, collusion and nepotism based on World Bank Guidelines as well as Indonesian Laws.
Open access to information	Corruption, collusion and nepotism may happen when only limited parties have access to key information about the project.	MEDIUM	<ul style="list-style-type: none"> - Prior to the project's launching, the implementing agency will establish a project website. The address of the website (URL) will be included on all project-related publications including press releases. Website usership (including number of "hits") will be tracked and included in all progress reports. - The project website will include: Data and statistics of existing rivers, floodways, major drains, drains, waduks, and sea-based disposal sites. - The project website will include a user-friendly discussion forum as a means of providing public feedback on project activities - Each contract summary of dredging, rehabilitation and repair works, consultant works, including contract price and the name of the contractor/consultant will be uploaded on the project website.

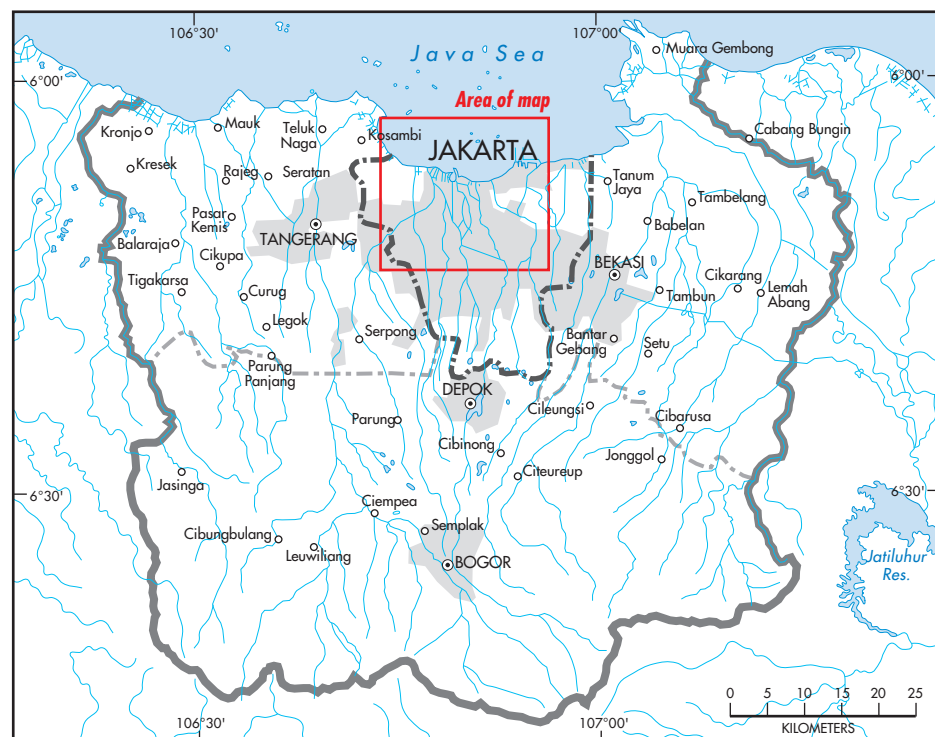
CORRUPTION MAPPING AREA	Opportunity for Corruption	Level of Risk	Mitigation Action
			<ul style="list-style-type: none"> - Public complaint handling mechanisms will be developed and integrated with project related information dissemination, at least through brochures, website and press release. Appropriate information on complaints and follow up will be published through the project website. - Monitoring and evaluation reports conducted by technical consultants as well as all audit reports (private and BPKP) and related management letters must be uploaded to the project website within one month of the issuance of such reports. - The CPIU and PIU will issue regular press releases, a minimum of 4 times per year, providing information on project activities, progress and obstacles encountered. Press releases and any other public information materials (brochures, etc) will be mailed to Jakarta-based Civil Engineering Faculties and the DPRD encouraging them to visit the project website. - A public consultative meeting will be arranged before any project works start and periodically after the works begin. The meeting will endeavor to involve all impacted stakeholders and experts, including project area communities who are currently badly affected by frequent flood, civil engineering faculties, urban development faculties etc.
FINANCIAL MANAGEMENT			
The final list of CPIU and PIU staff with their (i) experiences in handling donor financing project and (ii) history of project management and or	Risk of insufficient capacity of CPIU and PIU staff (including payment and invoice verification weaknesses).	HIGH	<ul style="list-style-type: none"> - The criteria and performance indicators of the Project Manager, Treasurer, planning staff, procurement staff, financial staff and staff of CPIU and PIUs agreed by the Bank will be incorporated in the POM and will be used as a basis of the performance review of the relevant staff. - Requirement of POM as guidelines for project

CORRUPTION MAPPING AREA	Opportunity for Corruption	<i>Level of Risk</i>	Mitigation Action
treasury training taken			<p>implementation.</p> <ul style="list-style-type: none"> - Requirement of Government Project Management, Treasury and POM training for CPIU and PIU staff. - Annual Training agreed by the Bank for CPIU and PIU staff (including training on project and payment verification). - Regular audits and reviews of invoices and key expenditures.
Audit Report Publication	Risk of unavailability of information on the progress and result of project implementation (including misuse, collusive and nepotism practice if any).	MEDIUM	The implementing agency will (and the Bank can) make publicly available through the website promptly after receipt of final audit reports prepared in accordance with the loan/credit agreement, and all formal response of the government.

INDONESIA JAKARTA URGENT FLOOD MITIGATION PROJECT (JUFMP)

- PROJECT SITES:**
- NATIONAL IMPORTANCE (DGCK):**
 - 1.1 Tanjungan
 - 1.2 Lower Angke
 - 1.3 Cideng-Thamrin
 - FLOODWAYS (DGWR):**
 - 2.1 Cengkareng Drain
 - 2.2 West Banjir Canal (WBC)
 - 2.3 Sunter floodways
 - MAJOR DRAINS (DKI JAKARTA):**
 - 3.1 Diversion Grogol-Sekretaris
 - 3.2 Krukut - Cideng
 - 3.3 Pakin-Kali Besar-Jelakeng
 - 3.4 Ciliwung-Gunung Sahari
 - 3.5 Sentiong-Sunter
 - WADUKS (DKI JAKARTA):**
 - 4.1 Waduk Melati
 - 4.2 Waduk Sunter Utara
 - 4.3 Waduk Sunter Selatan
 - 4.4 Waduk Sunter Timur III
- DISPOSAL SITE:**
Ancol CDF
- LINKAGES:**
- L.1 Kali Itam
 - L.2 Kalibaru
 - L.3 Sunter Kemayoran
 - L.4 Ancol Kp. Bandan
 - L.5 Ancol Long Storage Upper Sunter
 - L.6 Canal - Jl. Kayu Putih Timur Pakin-K. Besar-Jelakeng
 - L.7 Anak K. Ciliwung utara
 - L.8 Jl. Tubagus Angke
 - L.9 PHB Bandengan Utara
 - L.10 Waduk Pluit
- Highway**
Main Road

- **SELECTED TOWNS AND BUILT-UP AREAS**
- **KABUPATEN (REGENCY) HEADQUARTERS**
- - - **KABUPATEN BOUNDARIES**
- - - **D.K.I. JAKARTA BOUNDARY**
- - - **JABOTABEK BOUNDARY**



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