

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

GUJARAT RESILIENT CITIES PARTNERSHIP: AHMEDABAD CITY RESILIENCE PROJECT (G-ACRP)

2022

Prepared by

**AHMEDABAD MUNICIPAL CORPORATION
AND
GUJARAT URBAN DEVELOPMENT MISSION**

Table of Contents

SUMMARY	1
CHAPTER 1. INTRODUCTION TO THE PROJECT	1
1.1 Project Description	1
1.2 Proposed Project Components	1
1.3 Purpose of Environmental and Social Management Framework (ESMF)	1
1.4 Methodology Adopted for ESMF Preparation	2
1.5 Structure of the Report	3
CHAPTER 2. SUMMARY OF BASELINE ENVIRONMENTAL AND SOCIAL CHARACTERISTICS OF AHMEDABAD REGION	5
CHAPTER 3. POLICY, LEGAL AND REGULATORY FRAMEWORK	25
3.1 Environmental and Social Laws/ Regulations Applicable for G-ACRP	25
3.1.1 <i>National Regulations</i>	25
3.1.1.1 Technical Guidelines on Sewerage and Drainage at National Level	26
3.1.2 <i>State-Level Regulations</i>	27
3.1.3 <i>The World Bank's Environmental & Social Standards (ESS)</i>	28
CHAPTER 4. ASSESSMENT OF PROBABLE IMPACTS DUE TO SUB-PROJECTS	40
4.1 Sub-projects Typology	40
4.2 Environmental and Social Risks and Impacts	41
4.2.1 <i>Environmental and Social Risks and Impacts in Local Area</i>	42
4.2.2 <i>Regional Environmental and Social Risks and Impacts</i>	43
4.3 Impact Assessment Methodology	43
4.3.1 <i>Magnitude and Duration of Impacts</i>	43
4.3.2 <i>Sensitivity of Receptor</i>	44
4.3.3 <i>Significance of the impact</i>	44
4.3.4 <i>Potential Key Environmental and Social Risks and Impacts</i>	45
CHAPTER 5. ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK	62
5.1 ESMF Adoption Framework	62
5.2 Sub-projects Identification	65
5.2.1 <i>Initial Environmental and Social Examination (IESE) during Sub-project Identification</i>	65
5.2.2 <i>Categorization of the sub-projects</i>	66
5.3 Sub-project Preparation	69

5.3.1	<i>Preparation of Terms of Reference for Environmental Assessment</i>	69
5.3.2	<i>Environmental and Social Impact Assessment (ESIA)</i>	69
5.3.3	<i>Environmental and Social Management Plan (ESMP)</i>	70
5.3.4	<i>Cost for Mitigation Measures including Monitoring Plan</i>	71
5.3.5	<i>Proposed Institutional Mechanism and Reporting Requirements for Sub-projects...</i>	71
5.4	Sub-project Implementation	72
5.4.1	<i>Incorporating ESMP into Contract Documents</i>	72
5.4.2	<i>Onsite implementation of ESMP</i>	73
5.5	Monitoring and Evaluation	73
5.5.1	<i>Sub-Project Monitoring</i>	73
5.5.2	<i>Construction Supervision and Quality Control</i>	74
5.5.3	<i>Annual Environmental and Social Audit</i>	74
5.6	Public Consultation and Stakeholder Participation	75
5.6.1	<i>Public Disclosure</i>	75
5.7	ESMF and Technical Assistance (TA) activities	75
5.8	Institutional Responsibilities across Sub-project Cycle	76
5.9	Conclusion	77
5.9.1	<i>Risk-wise Procedures Matrix</i>	77
5.10	Addressing concerns of disadvantaged or vulnerable individuals or groups	79
5.11	Linkage to the ESCP	79
5.12	Updating of ESMF	80
CHAPTER 6.	PROPOSED INSTITUTIONAL FRAMEWORK AND BUDGET	81
6.1	Proposed Institutional Framework	81
6.2	Proposed Institutional Framework for E&S Management	81
6.2.1	<i>Overview of Proposed Units to manage E&S aspects at Various Levels</i>	82
6.2.2	<i>Monitoring and Reporting</i>	83
6.2.3	<i>Reporting Formats</i>	86
6.2.4	<i>E&S Information System</i>	86
6.3	Capacity Building	87
6.4	Budget for ESMF Implementation	89
CHAPTER 7.	STAKEHOLDER ENGAGEMENT, GRIEVANCE REDRESSAL MECHANISM, INFORMATION DISCLOSURE	93
7.1	Stakeholder Consultation	93
7.2	National Legal & Regulatory and WB ESS 10 requirements	93
7.2.1	<i>Stakeholders to be Consulted during Sub-project Preparation</i>	94
7.3	Grievance Redress Mechanism	95

7.4	Information Disclosure.....	97
7.4.1	<i>Procedure for Information Disclosure.....</i>	97
7.4.2	<i>Information to be disclosed</i>	98
7.5	Status of Consultations and Disclosure of this ESMF.....	99
7.6	Conclusion	101

Note:

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List of Tables

Table 1: World Bank's Environmental and Social Standards, Gaps vs National Systems, Gap filling measures	29
Table 2: Potential Sub-project Components and Activities	40
Table 3: Aspects for Determining the Magnitude of Impacts	44
Table 4: Criteria for Determining Sensitivity	44
Table 5: Assessment of Significance of Negative and Positive Impacts	44
Table 6: Initial Sub-projects	45
Table 7: Potential key environmental and social risks and impacts for sub-projects typologies	45
Table 8: Summary of Risks and Impacts and their Significance before and after Mitigation	49
Table 9: Environmental and Social Risks and Impact Mitigation Plan	51
Table 10: List of Non-permissible Activities under G- ACRP	65
Table 11: Sensitive Environmental and Social Components.....	67
Table 12: Environmental and Social Categorization of Projects.....	67
Table 13: Indicative Environmental and Social risk Category of Sub-projects Types	68
Table 14: Phase wise Procedures for different Risk categories of Projects	77
Table 15: Sub-project Monitoring schedule	84
Table 16: Overall Project Monitoring Parameters and Schedule	85
Table 17: Outline of the Proposed Capacity Building Program on G-ACRP (2022 – 2027).....	87
Table 18: Proposed Budget for ESMF Implementation	90
Table 19: Details of Stakeholder Consultations required on Environmental and Social Aspects	94
Table 20: Information Disclosure Matrix	98

List of Figures

Figure 1: Methodology adopted for ESMF Preparation	3
Figure 2: Geographical Location of Ahmedabad	5
Figure 3: Evolution of the City of Ahmedabad	6
Figure 4: Administrative Divisions of Ahmedabad City	7
Figure 5: Physiography and Terrain	8
Figure 6: Landuse of Ahmedabad City.....	10
Figure 7: Sabarmati Basin	10
Figure 8: Hydrology.....	11
Figure 9: Expected Improvement in Discharge of Treated Sewage due to the Project.....	24
Figure 10: ESMF Adoption Framework.....	64
Figure 11: E&S Requirements during Sub-project Cycle.....	76
Figure 12: Proposed Institutional Framework for E&S Management	81

List of Abbreviations

Abbreviation	Expansion
ACRP	Ahmedabad City Resilience Project
AMASR	Ancient Monuments and Archaeological Sites and Remains Act
AMC	Ahmedabad Municipal Corporation
APD	Assistant Project Director
ASI	Archeological Survey of India
BMC	Biodiversity Management Committee
BOD	Biological Oxygen Demand
BOQ	Bill of Quantities
BP	Bank Procedures
BPL	Below Poverty Line
C&D	Construction and Demolition
CBD	Convention on Biological Diversity
CBO	Community-Based Organization
CC	Climate Change
CETP	Common Effluent Treatment Plant
CHMF	Cultural Heritage Management Framework
CHMP	Cultural Heritage Management Plan
CMS	Conservation of Migratory Species
COD	Chemical Oxygen Demand
CPCB	Central Pollution Control Board
CRZ	Coastal Regulation Zone
DPR	Detailed Project Report
DTP	Directorate of Town Planning
EA	Environmental Assessment
EAP	Externally Aided Project
ECOP	Environmental Codes of Practice
EE	Environmental Engineer
EHS	Environmental Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental Management Framework
ESMP	Environmental and Social Management Plan
ESA	Environmentally Sensitive Areas
SUDU	Sustainable Urban Development Unit
STP	Sewage Treatment Plant
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standards
ESZ	Eco-sensitive Zone
FGD	Focus Group Discussions
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
GIS	Geographic Information System
GoI	Government of India
GRC	Grievance Redressal Committee
GRCP	Gujarat Resilient Cities Partnership
GPCB	Gujarat Pollution Control Board
GUDM	Gujarat Urban Development Mission
Ha	Hectares
HH	Households
ICB	International Competitive Bidding
IEC	Information Education Communication

Abbreviation	Expansion
IESE	Initial Environmental and Social Examination
IFC	International Finance Corporation
IPF	Investment Project financing
IUCN	International Union for Conservation of Nature
LULC	Land use and Land Classification
M&E	Monitoring and Evaluation
MoEFCC	Ministry of Environment, Forests and Climate Change
NCB	National Competitive Bidding
NDZ	No Development Zone
NEP	National Environmental Policy
NGO	Non-Governmental Organization
NMA	National Monuments Authority
NOC	No Objection Certificate
NPDM	National Policy on Disaster Management
O&M	Operations and Maintenance
OD	Operational Directives
OHS	Occupational Health and Safety
OP	Operational Policies
PAF	Project Affected Family
PAP	Project Affected Person
PD	Project Director
PDO	Project Development Outcome
PIU	Project Implementation Agency
PMC	Project Management Consultant
POP	Persistent Organic Pollutants
PPP	Public-Private Partnership
PWD	Public Works Department
QA	Quality Assurance
RAP	Resettlement Action Plan
RPF	Resettlement Planning Framework
SBM	Swachh Bharat Mission
SDGs	Sustainable Development Goals
SEC	Sensitive Environmental Components
SHC	Stakeholder Consultations
STP	Sewage Treatment Plant
SUP	Single Use Plastics
SW	Solid Waste
SWD	Storm Water Drains
SWM	Solid Waste Management
TA	Technical Assistance
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
ToR	Terms of Reference
TPD	Tons per Day
TSDF	Treatment Storage and Disposal Facility (for Hazardous Wastes)
TSS	Total Suspended Solids
TTP	Tertiary Treatment Plant
ULB	Urban Local Body
VEC	Valued Environmental Components
WB	The World Bank
WTP	Water Treatment Plant

ગુજરાત ગુજરાત રેસિલિયન્ટ સીટીઝ પાર્ટનરશીપ : અમદાવાદ સીટી રેઝીલિયન્સ પ્રોજેક્ટ (જી-એ.સી.આર.પી.):

(ક) યોજનાની દીર્ઘદ્રષ્ટિ :

ગુજરાત સરકારે “ગુજરાત ગુજરાત રેસિલિયન્ટ સીટીઝ પાર્ટનરશીપ : અમદાવાદ સીટી રેઝીલિયન્સ પ્રોજેક્ટ” (હવે પછીથી “ જી-એ.સી.આર.પી.” તરીકે ઓળખાવીશું). માટે “ ઈન્ટરનેશનલ બેંક પુનઃ નિર્માણ અને વિકાસ માટે ” (હવે પછીથી “વિશ્વ બેંક” તરીકે ઓળખાવીશું) પાસેથી સહાયકની માંગણી કરી છે. જી-એ.સી.આર.પી. નો મુખ્ય ઉદ્દેશ અમદાવાદ શહેરમાં સ્થિતિસ્થાપકતા અને યોગ્ય શહેરી સેવા વિતરણ અને નાણાકીય વ્યવસ્થા વિકસાવવાનો છે. તે ગુજરાત શહેરી વિકાસ મિશન (“ હવે પછીથી જીયુડીએમ” તરીકે ઓળખાવીશું”) ને ટેકો આપવાનો પણ હેતુ ધરાવે છે. શહેરી સેવાઓનું વધુ સારી રીતે આયોજન કરવા માટે તેમની સંસ્થાકીય ક્ષમતાઓમા સુધારો કરવા માટે ગુજરાતના નગરો અને શહેરોમાં શહેરી સેવા વિતરણમા રાજ્ય સ્તરની સેવાઓ પુરી પાડવા માટેનો હેતુ ધરાવે છે.

સુચિત યોજના ત્રણ મુખ્ય ઘટકોનો સમાવેશ કરશે:

ઘટક: ૧: અમદાવાદ મ્યુનિસિપલ કોર્પોરેશન (“હવે પછીથી “એ.એમ.સી.” તરીકે ઓળખાવીશું”) ની નાણાકીય વ્યવસ્થા અને કામગીરીને મજબુત બનાવવી.

ઘટક: ૨: અમદાવાદમા શહેરી સેવાઓમા સુધારો: પસંદગીની શહેરી સેવાઓની ગુણવત્તા અને કાર્યક્ષમતામાં ટકાઉપણું અને સ્થિરતા લાવવા માટે એ.એમ.સી. ને વ્યાપક સહાય પુરી પાડીને જેમ કે ગંદા પાણીની વ્યવસ્થાપન સેવાઓ, (માત્ર ગટર), સ્ટ્રોમ વોટર ડ્રેનેજ (જેમકે, નોંધપાત્ર માળખાકીય ગેપ, નબળા સેવા સ્તરો અને નકારાત્મક પર્યાવરણીય અને સામાજિક બાહ્યાતાઓના સંદર્ભમા પ્રાથમિકતા)

ઘટક: ૩: રાજ્યવ્યાપી ક્ષમતા નિર્માણ માટે એ.એમ.સી અને જી.યુ.ડી.એમ ખાતે સંસ્થાકીય પ્રણાલી અને ક્ષમતાઓ વિકસાવવી.

આ યોજના અમદાવાદ અને આસપાસના પ્રદેશોમા સુએજ ટ્રીટમેન્ટ પ્લાન્ટ (હવે પછીથી “એસ.ટી.પી.” તરીકે ઓળખાવીશું) ને લગતા ઈન્ફ્રાસ્ટ્રક્ચર અને નેટવર્ક ને અપગ્રેડ કરીને શહેરમાં પેદા થતા ગંદા પાણીને યોગ્ય ધોરણોથી નિકાલ કરીને વધુ સારી પર્યાવરણીય અને આરોગ્યની સ્થિતિ સુનિશ્ચિત કરશે. ડ્રેનેજ નેટવર્ક, નહેરો અને તળાવોની પરીસ્થિતિમાં સુધારો તેમજ સુધારેલ સેવા વિતરણ અને વ્યવસ્થાપન પ્રક્રિયાની ખાતરી કરશે. આ પ્રોજેક્ટને અપગ્રેડેડ ટ્રીટમેન્ટ સિસ્ટમના

કારણે ગ્રીનહાઉસ ગેસના ઉત્સર્જનમાં ઘટાડો થવાથી અને સાબરમતી નદી, ખારીનદી, કેનાલ, તળાવો અને આસપાસના વિસ્તારોમાં ગંદા પાણીની ટ્રીટમેન્ટ માટે અપનાવવામાં આવેલા કડક ધોરણોને કારણે પ્રદુષણના ભારણમાં ઘટાડો થવાથી ફાયદો થશે.

વિશ્વ બેંકનું પર્યાવરણીય અને સામાજિક ફેમવર્ક પર્યાવરણીય અને સામાજિક ધોરણો સાથે સુસંગત પર્યાવરણીય અને સામાજિક પરિણામો પ્રાપ્ત કરવા માટે જી-એ.સી.આર.પી. સહિત બેંક દ્વારા ઇન્વેસ્ટમેન્ટ પ્રોજેક્ટ ફાઈનાન્સિંગ (હવે પછી થી “આઈ.પી.એફ” તરીકે ઓળખાવીશું) ના તમામ પ્રોજેક્ટને લાગુ પડે છે. જેના આધારે, આ તબક્કે, યોજનાને સામાજિક અને પર્યાવરણીય જોખમો અને અસરો બાબતોના આધારે નોંધપાત્ર રીતે વર્ગીકૃત કરવામાં આવેલ છે. પર્યાવરણીય અને સામાજિક જોખમો અને યોજનાની અસરોના સંચાલન માટે પર્યાવરણીય અને સામાજિક વ્યવસ્થાપન માટેનું માળખું એન્વાયરમેન્ટ સોશીયલ મેનેજમેન્ટ ફેમવર્ક (હવે પછી થી “ઈ.એસ.એમ.એફ” તરીકે ઓળખાવીશું) તૈયાર કરવામાં આવેલ છે જેમાં પર્યાવરણીય તથા સામાજિક અસરનું મુલ્યાંકન કરવામાં આવ્યું છે. સદર પ્રોગ્રામ હેઠળની પેટા યોજનાઓ અને યોજના હેઠળની ટેકનીકલ સહાય માટે પણ ઈ.એસ.એમ.એફ. નું પાલન કરવામાં આવશે. સાંસ્કૃતિક વારસાના વ્યવસ્થાપન માટેનું માળખું પુનઃવસન આયોજન માળખું અને શ્રમિક વ્યવસ્થાપન પ્રક્રિયાઓ પણ યોજના માટે તૈયાર કરવામાં આવેલ છે.

(ખ)પર્યાવરણીય અને સામાજિક આધાર રેખા:

જી-એ.સી.આર.પી. હેઠળની પેટાયોજનાઓ ગુજરાત રાજ્યના અમદાવાદ મેટ્રોપોલિટન સીટીમાં લાગુ કરવામાં આવશે. સદર પ્રોજેક્ટમાં ચોક્કસ યોજનાઓ તેમજ રોકાણ પ્રવૃત્તિઓના ચોક્કસ સ્થાનો આ તબક્કે ચોક્કસ નથી. પેટા યોજનામાં મુખ્યત્વે સિવિલ કામોનો સમાવેશ થશે. જેમ કે, સુએજ ટ્રીટમેન્ટ પ્લાન્ટનું બાંધકામ અને ડ્રેનેજ નેટવર્કની સુધારણા તથા વિસ્તરણ અને ટર્શરી ટ્રીટમેન્ટ પ્લાન્ટસ, કેનાલોનો પુનઃવિકાસ, તળાવોનું પુનઃનિર્માણ અને અન્ય સહાયક માળખાગત સુવિધાઓ. સાબરમતી નદી શહેરમાંથી વહે છે અને શહેરમાં અનેક માનવ સર્જિત તળાવો અને નહેરો પણ છે આમાના મોટા ભાગના કુદરતી તેમજ બારમાસી નથી અને વિવિધ માનવ પ્રવૃત્તિઓને કારણે પ્રસરેલા પ્રદુષણે વર્ષોથી આ તમામ જળાશયોની ઇકોલોજીમાં નોંધપાત્ર ફેરફાર કર્યા છે. ઔદ્યોગિક કચરાના પ્રદુષણે વર્ષોથી નદીઓ અને સરોવરો પર અસર કરી છે. શહેર તેના ઔદ્યોગિક વિસ્તરણને કારણે ફેલાયેલા પ્રદુષણથી પીડાય છે. જુના ઈન્ફ્રાસ્ટ્રક્ચર તેમજ ગટર વ્યવસ્થાના કારણે સુએજની ટ્રીટમેન્ટ અંશત થાય છે. યુનેસ્કો વર્લ્ડ હેરીટેજ સીટી હોવાને કારણે શહેરમાં ઘણા સાંસ્કૃતિક વારસા છે. સદર પ્રોજેક્ટમાં વિશ્વ બેંક પર્યાવરણીય સામાજિક ધોરણે નંબર - ૭ ઈન્ડીજીનીયસ પ્રજાની વ્યાખ્યા લાગુ પડતી નથી.

પ્રારંભિક પેટા પ્રોજેક્ટ્સ માટે ફીઝીબીલીટી, ડીઝાઈન, બીલ્ડ, ઓપરેટ, ટ્રાન્સફર (ડી.બી.ઓ.ટી.) ફોર્મેટથી કરવામાં આવશે. જેમાં (૧) વાસણામાં (મોડરેટ રીસ્ક) ૨૪૦ એમ.એલ.ડી. એસ.ટી.પી. નું અપગ્રેડેશન, (૨) વાસણાના હાલના ૧૨૬ એમ.એલ.ડી. એસ.ટી.પી. ની જગ્યાએ નવા ૩૫૦ એમ.એલ.ડી. એસ.ટી.પી. નું બાંધકામ (સબસ્ટેન્શીયલ રીસ્ક), (૩) પીરાણામાં (મોડરેટ રીસ્ક) ૧૮૦ એમ.એલ.ડી. એસ.ટી.પી. નું અપગ્રેડેશન તૈયારી હેઠળ છે. આ રોકાણો માટે એન્વાયર્નમેન્ટ સોશીયલ ઇમ્પેક્ટ એસેસમેન્ટ તૈયાર કરવામાં આવી રહેલ છે. જેને ડી.બી.ઓ.ટી. કોન્ટ્રાક્ટર અમલીકરણના તબક્કા દરમિયાન પ્રોજેક્ટ ડિઝાઈનને આખરી રૂપ આપ્યા પછી ડિઝાઈન સ્ટેજ પર અપડેટ કરવામાં આવશે. ઈ.એસ.એમ.એફ. માં પ્રોજેક્ટની ડીટેઈલ બેઝલાઈન એન્વાયર્નમેન્ટ તેમજ સોશીયલ પ્રોફાઈલનું સંકલન અને વિશ્લેષણ કરવામાં આવ્યું છે અને ઈ.એસ.આઈ.એ. ના ભાગરૂપે પેટા પ્રોજેક્ટ્સનાં પ્રારંભિક તબક્કા માટે તેનું પાલન કરવામાં આવશે અને યોજના હેઠળના તમામ પેટા પ્રોજેક્ટના યોજના ઈ.એસ.આઈ.એ. માં પણ તે રજુ કરવામાં આવશે.

ખારીકાટ કેનાલ, ચંદ્રભાગા નાળું અને ચાર રિપ્રેઝન્ટેટીવ તળાવો જે અગાઉ ગામ તળાવો હતા તેમને રામોલ, ઈસનપુર, શીલજ અને ભાડજ તળાવ સંભવિત પર્યાવરણીય ને સામાજિક જોખમો અને અસરોને સમજવા માટે રેપીડ એસેસમેન્ટ હાથ ધરવામાં આવેલ છે. એસેસમેન્ટમાં રામોલ અને ઈસનપુર ગામ તળાવમાં અનુક્રમે ૫૦ અને ૧૦૦ રહેણાક ઘરોનો ગેરકાયદેસર વસવાટ ધ્યાને આવેલ છે. જ્યારે ભાડજ ગામ તળાવમાં એક કામચલાઉ ધંધાકીય જગ્યા તેમજ શીલજ ગામ તળાવમાં કોઈ ગેરકાયદેસર વસવાટ જોવા મળેલ નથી. તેવી જ રીતે રાણીપ ખાતે બકરી મંડી પાસે જમણી બાજુની પહોળાઈમાં ચંદ્રભાગા નાળામાં લગભગ ૫૦ ઘરો આવેલ છે. ખારીકાટ કેનાલના કિસ્સામાં, કેનાલના ઓઢવ વિસ્તારની આજુબાજુમાં ગેરકાયદેસર વસવાટ નજરે પડે છે. આકારણીના તારણો સંભવિત અસરો અને ઘટાડાની જરૂરિયાતો માટે પ્રારંભિક આંતરદ્રષ્ટી પ્રદાન કરે છે અને તેમાં ઈ.એસ.એમ.એફ. અને આર.પી.એફ. માં સમાવેશ કરવામાં આવ્યો છે. પ્રોજેક્ટ સ્કીનીંગના ભાગરૂપે સદર બાબતોનું વિગતવાર એસેસમેન્ટ હાથ ધરવામાં આવશે. રેપીડ એસેસમેન્ટ એ ફેઝ - ૨ યોજનાનાં સાઈટના સંદર્ભમાં સામુદાયિક સ્વાસ્થ્ય અને સલામતીની ચિંતાઓનું પણ સુચન કર્યું હતું જેનો સંબંધિત ઈ.એસ.આઈ.એ. માં તૈયારીઓ દરમિયાન વધુ અભ્યાસ કરવામાં આવશે.

(ગ) લાગુ પડતા નિયમો અને માર્ગદર્શન:

- આંતર રાષ્ટ્રીય, રાષ્ટ્રીય અને ગુજરાત રાજ્ય ના નિયમો:

મીનીસ્ટ્રી ઓફ એન્વાયર્નમેન્ટ ફોરેસ્ટ એન્ડ ક્લાયમેન્ટ ચેન્જ એ પર્યાવરણીય સંરક્ષણ કરવા માટે દેશની સર્વોચ્ચ વહિવટી સંસ્થા છે. જે પર્યાવરણ સંરક્ષણ માટે કાનુની અને નિયમનકારી માળખું

તૈયાર કરે છે. આજે એમ.ઓ.ઈ.એફ.સી.સી. અને કેંદ્રીય અને રાજ્ય પ્રદુષણ નિંયત્રણ નિગમ (હવે પછી થી સી.પી.સી.બી અને એસ.પી.સી.બી.” તરીકે ઓળખાવીશું) ભેગા મળીને નિયમનકારી સંસ્થાઓ ઉભી કરે છે. જ્યારે નેશનલ ગ્રીન ટ્રીબ્યુનલને જંગલ અને અન્ય કુદરતી સંસાધનોના પર્યાવરણીય સંરક્ષણ અને સંબંધીત કોઈ પણ કાનુની અધિકારના અમલીકરણને લગતા કેસોમા અસરકારક અને ઝડપી ઉપાયો પ્રદાન કરવાનું કામ સોંપવામા આવ્યું છે. પર્યાવરણ સુરક્ષા માટે રાષ્ટ્રીય સ્તરે કેટલીક મહત્વપૂર્ણ બાબતો જી-એ.સી.આર.પી. પર પણ લાગુ થશે, તેમાં રાષ્ટ્રીય પર્યાવરણ પોલીસી ૨૦૦૬ નો સમાવેશ થાય છે તેમજ પર્યાવરણ સંરક્ષણ અધિનિયમ ૧૯૮૬ અને પર્યાવરણીય સંરક્ષણ નિયમો, વોટર એક્ટ ૧૯૭૪ અને જળ ઉપકર અધિનિયમ ૧૯૭૭, એર એક્ટ ૧૯૮૧ અને ધ્વનિ પ્રદુષણ, જોખમી રસાયણોના સંગ્રહ સાથે સંબંધિત અન્ય અધિનિયમો સહિત વિવિધ કાયદાઓનો પણ સમાવેશ થાય છે. આ ઉપરાંત કેન્દ્ર સરકારની એજન્સીઓએ ગટર અને ડ્રેનેજ યોજનાનાં વિવિધ પાસાઓ અને સંબંધીત પાસાઓ માટે વિવિધ માર્ગદર્શિકાઓ બહાર પાડી છે. વાસણા વિસ્તાર માટે ભારત સરકારનું ૨૦/૧૨/૨૦૨૧ નું ડેમ સેફ્ટી બિલ લાગુ પડશે. રાજ્યમાં વિવિધ નિયમો અને નિતિઓ પણ છે જે પ્રોજેક્ટને લાગુ પાડી શકે છે, જેમાં સેનીટેશન અને ટ્રીટેડ વોટર રિયુઝ પોલીસી, મ્યુનિસિપાલ કોર્પોરેશન એક્ટ, ઈન્ફ્રાસ્ટ્રક્ચર ડેવલોપમેન્ટ એક્ટ, ઈરીગેશન અને ડ્રેનેજ એક્ટ અને નિયમો, વોટર સપ્લાય અને સુએઝ બોર્ડ એક્ટ, એક્ટ્સ ઓફ ફેલીંગ ઓફ ટ્રીઝ, ટાઉન પ્લાનીંગ અને શહેરી વિકાસ, ફાયર અને લાઈફ સેફ્ટી, ડીઝાસ્ટર મેનેજમેન્ટ વગેરે. આર.એફ.સી.ટી.એલ.એ.આર.આર. અધિનિયમ ૨૦૧૩, લઘુત્તમ વેતન અધિનિયમ, ૧૯૪૮, બાળ મજૂરી નિષેધ અને નિયમન અધિનિયમ ૧૯૮૬, કાર્યસ્થળ પર મહિલાઓની જાતીય સતામણી પ્રતિબંધ અને નિવારણ અધિનિયમ ૨૦૧૩, વિકલાંગ વ્યક્તીઓના અધિકારો માટેનો અધિનિયમ ૨૦૧૬, માહિતિ અધિકાર અધિનિયમ ૨૦૦૫ એ યોજનાના મુખ્ય કાયદાઓ છે. આ ઉપરાંત શ્રમ સંબંધિત ઘણા કાયદાઓ કે જેનું બાંધકામ દરમિયાન પાલન જરૂરી હોય છે તે યોજનાને લાગુ પડશે જેમકે કર્મચારી વળતર અધિનિયમ ૧૯૨૩, ઈજા, રોગ અથવા મૃત્યુના કિસ્સામાં વળતર અને તે દરમિયાન રોજગાર ચુકવણી માટે ગ્રેજ્યુઈટી અધિનિયમ (ચોકકસ શરતોના પાલન પર, કર્મચારીએ પાંચ વર્ષની સેવા પૂર્ણ કરી હોય, તો) મેટરનીટી બેનીફીટ એક્ટ ૧૯૬૧, (કસુવાવડના કીસ્સામા મહિલા કર્મચારીઓને રજા અને અન્ય કેટલાક લાભો પ્રદાન કરે છે.) વેતનની ચુકવણી અધિનિયમ ૧૯૩૬, (વેતન કઈ તારીખે ચુકવવાનું છે, કામદારોના વેતનમાંથી શુ કપાત કરી શકાય છે તેનું મોડલ દર્શાવે છે.) સમાન વેતન અધિનિયમ ૧૯૭૬, (પુરુષ અને સ્ત્રી સમાન વેતનની જોગવાઈ કરે છે.) તેમજ (મહિલા કર્મચારી સાથે બદલી, તાલીમ અને બઢતી વગેરે બાબતે ભેદભાવ ન કરવા માટેની પણ જોગવાઈ કરે છે.) બાળમજૂરી નિષેધ અને નિયમન અધિનિયમ ૧૯૮૬, (ચોકકસ વ્યવસાય અને પ્રક્રિયાઓમા ૧૪ વર્ષથી ઓછી ઉંમરના બાળકોને રોજગાર પર પ્રતિબંધ મુકે છે અને અન્ય તમામ વ્યવસાયો અને પ્રક્રિયાઓમાં બાળકોના રોજગારના નિયમનની જોગવાઈ કરે

છે. મકાન અને બાંધકામ ઉદ્યોગમાં બાળ મજૂરીની રોજગાર પર પ્રતિબંધ છે.) બોન્ડેડ લેબર સિસ્ટમ (નાબુદી) અધિનિયમ ૧૯૭૬ (આ અધિનિયમ સમાજના નબળા વર્ગોના આર્થિક અને શારીરિક શોષણને રોકવા નાબુદ કરવાની જોગવાઈ કરે છે. બોન્ડેડ લેબર તમામ પ્રકારની ફરજિયાત મજૂરીને આવરી લે છે જે લોન, દેવા અથવા એડવાન્સથી ઉદભવતા હોય છે.

આ મહત્વપૂર્ણ પર્યાવરણીય અને સામાજિક કાયદાઓ આ યોજનામાં પરિશિષ્ટ “બ” વોલ્યુમ “૨” માં તેની અમલીકરણ અને સંસ્થાકીય જવાબદારી તેમજ તકનીકી માર્ગદર્શિકાની ઉપલબ્ધતાના વર્ણન સાથે ટુંકમાં સમજાવવામાં આવેલ છે. જી-એ.સી.આર.પી. વિવિધ આંતરરાષ્ટ્રીય વાર્તાલાપ સંધિઓ અને સાધનોની પણ પૃષ્ઠિ કરશે. જેના પર ભારત હસ્તાક્ષર કરનાર છે જેમકે, સાંસ્કૃતિક વારસા પર મહિલાઓ સામેના ભેદભાવને દૂર કરવા, અપરાધ નિવારણ અને મહિલા વિરુદ્ધ હિંસા દૂર કરવા ફોજદારી ન્યાયના પગલા વગેરે.

• વિશ્વ બેંક, ઈ.એસ.એફ. & ઈ.એસ.એસ.એસ આ યોજનાને લાગુ પડે છે:

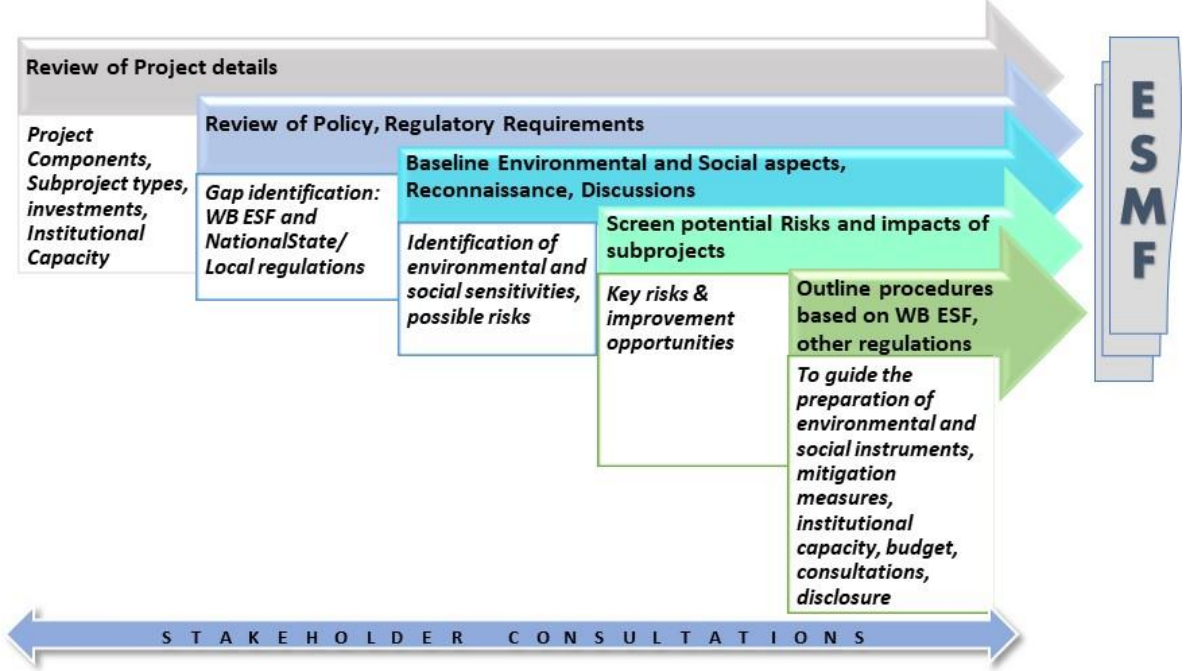
વિશ્વ બેંકના ઈ.એસ.એફ & ઈ.એસ.એસ.એસ. નો ઉપયોગ બેંક દ્વારા ભંડોળ પુરુ પાડવામાં આવેલ યોજના સાથે સંકળાયેલ સંભવિત નકારાત્મક પર્યાવરણીય અને સામાજિક જોખમો અને અસરોને ટાળવા અને યોજના પર લાગુ ઈ.એસ.એસ. ૧ થી ૬, ૮ અને ૧૦ ની હકારાત્મક અસરોની અસરકારકતા વધારવા માટે લાગુ પડે છે.

(ઘ) પર્યાવરણીય અને સામાજિક જોખમ વર્ગીકરણ:

આ યોજનાને પર્યાવરણીય અને સામાજિક જોખમો અને અસરો માટે "સબસ્ટેન્શીયલ રીસ્ક" તરીકે વર્ગીકૃત કરવામાં આવેલ છે અને હાઈ રીસ્ક પ્રોજેક્ટને આ યોજનામાંથી બાકાત રાખવામાં આવ્યા છે. સુચિત પેટા પ્રોજેક્ટ યોજનાનું ઈ એન્ડ એસ. મુલ્યાંકન દર્શાવે છે કે મોટા ભાગની સંભવિત પ્રતિકુળ અસરોને ઘટાડી અથવા શકાય છે. સારી ડિઝાઈન દ્વારા જોખમ ટાળવું અને પ્રમાણભૂત મીટીગેશનના પગલા તૈયાર કરવા અને અપનાવવા માટેના નિયમોનું પાલન કરીને ક્ષમતા અને સંચાલનમાં સુધારો કરવો. સુચિત યોજનામાંથી ઉત્પન્ન થનારી કેટલીક ફાયદાકારક અસરોને વધારવા માટે પણ પુરતો અવકાશ છે. જી-એ.સી.આર.પી. માટે તૈયાર કરાયેલ ઈ.એસ.એમ.એફ. આ સંભવિત અસરોને સ્વીકારે છે અને બાંધકામ તેમજ ઓ એન્ડ એમ દરમિયાન તેમજ આયોજન અને અમલીકરણ દરમિયાન તેની અસરો ઘટાડવા માટેના પગલાનું એકીકરણ કરે છે.

(ચ) ઈ.એસ.એમ.એફ. પ્રક્રિયા:

ઈ.એસ.એમ.એફ. પર્યાવરણીય અને સામાજિક મુલ્યાંકનનાં પરામર્શના આધારે તૈયાર કરવામાં આવેલ છે. ઈ.એસ.એમ.એફ. વિકસાવવા માટે અનુસરવામાં આવેલ પગલા નીચેની આકૃતિમાં વર્ણવેલ છે:



આકૃતિ “અ” જી-એ.સી.આર.પી. માટે ઈ.એસ.એમ.એફ. ની તૈયાર કરવાની પદ્ધતિ:

આ રીપોર્ટનો હેતુ જી-એ.સી.આર.પી. માટે ઈ.એસ.એમ.એફ. બનાવવાનો છે. યોજનાના અમલીકરણકર્તાઓ અને મુખ્ય હિસ્સેદારોને યોજનાથી ઉદભવતા પર્યાવરણીય અને સામાજિક જોખમોના મુલ્યાંકન અને સંબોધનમા માર્ગદર્શન આપવા માટે તેને વિકસાવવામાં આવેલ છે. ઈ.એસ.એમ.એફ. ના માર્ગદર્શક સિધ્ધાંતો અનુસાર વિશ્વ બેંક દ્વારા ભંડોળ પૂરું પાડવા માટે તમામ યોજનામાં ફંડ લેનારાઓને પર્યાવરણીય અને સામાજિક બાબતો તેમજ સંબંધિત તમામ રાષ્ટ્રીય, રાજકીય અને સ્થાનિક કાયદાઓ અને નિયમોનાં પાલનનું જ્ઞાન આપવું અનિવાર્ય છે. ઈ.એસ.એફ. માં દર્શાવેલ ઈ.એસ.એસ.એસ. ની જરૂરીયાતોને પુર્ણ કરવી. ઈ.એસ.એમ.એફ.એ ચાવીરૂપ અને ઈએન્ડએસ જોખમનાં વ્યવસ્થાપનનું સાધન છે. જેનો ઉપયોગ જરૂરી છે. ફંડ લેનારાઓ દ્વારા યોજના અને તેની અસરો અને ઘટાડાના પગલા અને તેમના અમલીકરણની અસરકારકતાના મુલ્યાંકન માટે થાય છે.

ઈ.એસ.એમ.એફ. ને વિવિધ પેટાયોજના અને જી-એ.સી.આર.પી. સાથે સંકળાયેલી પ્રવૃત્તિઓ અને સુવિધાઓના આયોજનની રચના અને સંચાલન દરમિયાન યોગ્ય પગલા દ્વારા પર્યાવરણીય અને સામાજિક અસરોનું સંચાલન કરવાનાં ઉદ્દેશ સાથે તૈયાર કરવામાં આવ્યું છે. ફેમવર્ક પેટા યોજનાની

તમામ શ્રેણીઓ માટે જરૂરી યોગ્ય તત્પરતાના સ્તરને ઓળખીને અસરકારક પર્યાવરણીય અને સામાજિક વ્યવસ્થાપન સુનિશ્ચીત કરવા માટે અમલીકરણ એજન્સીઓની ભુમિકાઓ અને જવાબદારી સાથે પર્યાવરણીય અને સામાજિક મુલ્યાંકન માટે અનુસરવામાં આવતી નિતિઓ અને પ્રક્રિયાઓ પર ચોક્કસ માર્ગદર્શન પુરુ પાડે છે, આ ઈ.એસ.એમ.એફ. નો ઉદ્દેશ નીચે મુજબ ની ખાતરી કરવાનો છે.

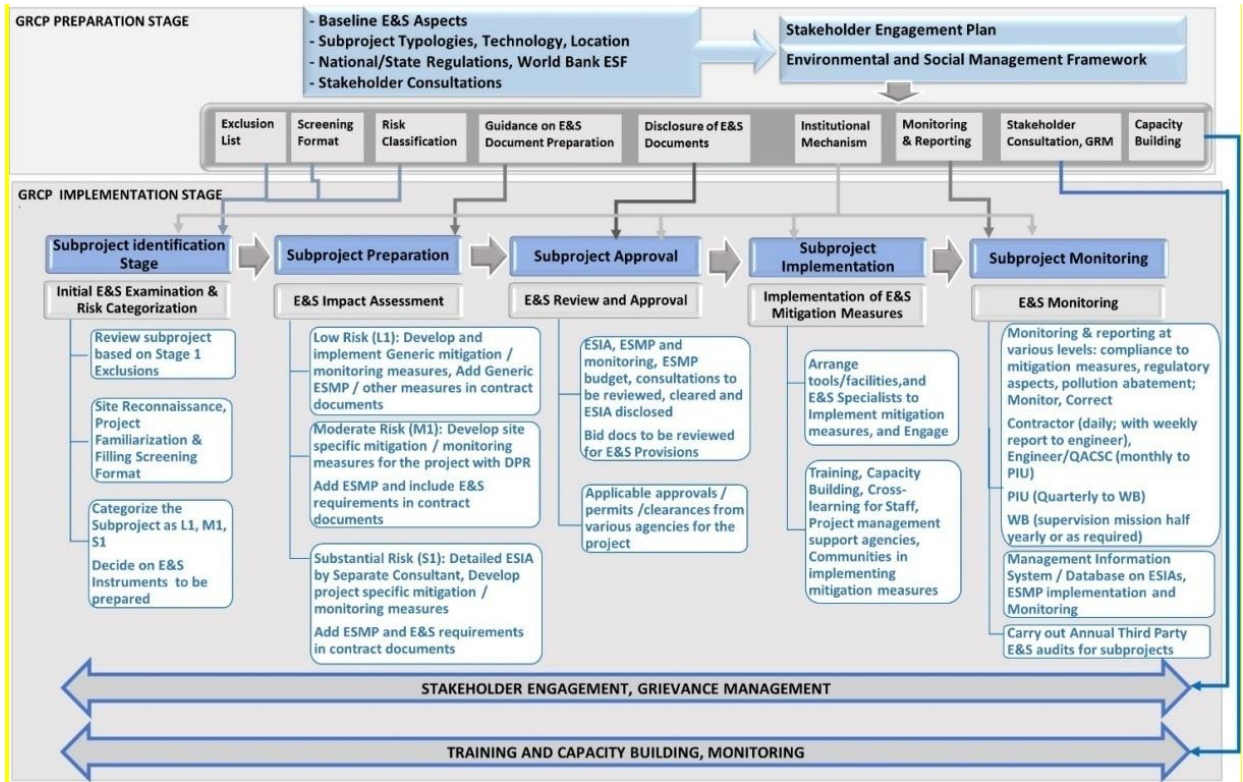
- નિર્ણય લેવાની પ્રક્રિયામાં પર્યાવરણીય અને સામાજિક પાસાઓનું એકાકીકરણ સમગ્ર જીઆરસીપી યોજનાના તમામ તબક્કા અને તેના તમામ પેટા યોજના સહિત પ્લાનિંગ, ડિઝાઇન, અમલીકરણ અને કમિશનીંગ કરવાની કામગીરી અને પેટા યોજનાની જાળવણી સહિતની પ્રતિકુળ પર્યાવરણીય અને સામાજિક અસરોને પ્રોજેક્ટની શરૂઆતથી ઓછી કરવા.
- સંવેદનશીલ આયોજન, ડિઝાઇન અને પેટા યોજનાના અમલીકરણ દ્વારા હકારાત્મક અને મજબૂત પર્યાવરણીય અને સામાજિક પરિણામોમાં વધારો કરવા;
- સાવચેતીપૂર્વક આયોજન અને પર્યાવરણીય અને સામાજિક અસરોના નિવારણના પગલા દ્વારા સાંસ્કૃતિક ગુણધર્મો અને કુદરતી રહેઠાણો અને અથવા અન્ય પ્રત્યક્ષ અને પ્રરોક્ષ અસરો પર જોખમો અને અસરોને ટાળવા અથવા ઘટાડવા;

સમગ્ર યોજના દરમિયાન હિતધારકો સાથે મળી તેઓના પરામર્શને પ્રોજેક્ટના સંબંધિત પરિણામો, યોજના, ડિઝાઇનની પ્રવૃત્તિઓમાં સમાવિષ્ટ કરવા માટે તમામ પેટા યોજનામાં પર્યાવરણીય અને સામાજિક બાબતોને એકીકૃત કરવા અને તેના અસરકારક સંચાલન માટે યોજનાના સ્થાનો હજુ જાણીતા ન હોવાથી ઈ.એસ.એમ.એફ. અમદાવાદની હાલની પર્યાવરણીય અને સામાજિક સંવેદનશીલતાઓનું વર્ણન કરે છે. સંભવિત જોખમો અને સુચિત વિકાસને ધ્યાને લઈ પ્રવર્તમાન પ્રણાલીઓમાં સુધારણા સુચવે છે અને વધુ સારા પર્યાવરણીય અને સામાજિક પરિણામો માટેનાં સુચનો કરે છે. લાંબા ગાળાના જોખમ અને અસરોને સ્કીનીંગ દ્વારા ટાળી શકાય છે. ઈ.એસ.એમ.એફ.માં વિવિધ પ્રકારની પ્રવૃત્તિઓ માટે સુચક પર્યાવરણીય અને સામાજિક વ્યવસ્થાપન યોજના ઉપરાંત આવાસીય અને હેરિટેજ વિસ્તારોની નજીકના હસ્તક્ષેપ માટે માર્ગદર્શનનો સમાવેશ થાય છે તે સસ્ટેનેબીલીટી માટે કાર્યક્ષમતાને સુનિશ્ચીત કરવા આવશ્યકતાઓને પણ માર્ગદર્શન આપે છે. વિશ્વ બેંકની નિતિઓ અનુસાર ઈ.એસ.એમ.એફ. સમગ્ર યોજના સાથે જોડાયેલ પ્રવૃત્તિઓ અથવા સંકળાયેલ સુવિધાઓને પણ લાગુ પડે છે. તમામ પેટા યોજના અને જોડાયેલી સંલગ્ન સુવિધાઓને પણ અસરો માટે વર્ગીકૃત કરવામાં આવશે. અને તેને ઘટાડવાના પગલા અને સંભાળનું આયોજન અને અમલીકરણ કરવામાં આવશે. એન્વાયર્નમેન્ટ કોડ ઓફ પ્રેક્ટીસ અને વર્લ્ડ બેંક ગ્રુપની ઈ.એચ.એસ. ની જનરલ તેમજ ઇન્ડસ્ટ્રી સ્પેસીફિક ગાઈડ લાઈન ફોલો કરવામાં આવશે. ઈ.એસ.એમ.એફ. યોજનાનું મુલ્યાંકન કરવા અને મીટીગેશનનાં

પગલાની દેખરેખ માટેની આવશ્યકતાઓને અમલમાં મુકવા માટેનું માર્ગદર્શન આપે છે. ઈ.એસ.એમ.એફ. ના અમલીકરણ માટે સુચિત ઈ.એસ.એમ.એફ. સપોર્ટ અને તાલીમ સ્કીનીંગ ક્ષમતા નિર્માણ પ્રવૃત્તિઓને યોજનાના સમયગાળા માટે અદાંજીત રૂપિયા બે કરોડના ખર્ચે જી-એ.સી.આર.પી. ના એક ઘટક દ્વારા સપોર્ટ કરવામા આવશે. ઈ.એસ.એમ.એફ. બજેટમાં કોઈ પણ પ્રકારના પુનઃવસન ખર્ચનો સમાવેશ થતો નથી. આ ખર્ચાઓ કાઉંટરપાર્ટ લંડોળમાંથી વહન કરવામાં આવશે. જેની આર.પી.એફ.માં વધુ ચર્ચા કરવામા આવી છે. પેટા યોજનાઓ માટે પ્રોજેક્ટ સ્પેશીફિક ઈ.એસ.આઈ.એ. તૈયાર કરવામાં આવેલ છે. જે પ્રથમ બે વર્ષ દરમિયાન યોજના ખર્ચના ૩૦% તરીકે લેવામા આવશે જેમકે હાલના સુએજ ટ્રીટમેંટ પ્લાન્ટનું અપગ્રેડેશન અને નવા ટ્રીટમેંટ પ્લાન્ટનું બાંધકામ અને સુએજ/ગટર ના નેટવર્કનું અપગ્રેડેશન.

પર્યાવરણીય અને સામાજિક આયોજન માટેની પદ્ધતિ:

યોજના હેઠળની દરેક પેટા યોજનાનું પર્યાવરણીય અને સામાજિક અસરો અને વ્યવસ્થાપન યોજનાઓનું સ્તર નક્કી કરવા માટે સ્કીનીંગ કરવામાં આવશે. આ પેટા યોજનાને કારણે પર્યાવરણીય અને સામાજિક અસરો અને જોખમોના સ્તરને સુનિશ્ચીત કરવામાં આવશે કે જેમાં મીટીગેશનના પગલા તેમજ યોગ્ય પેટા યોજનાના વર્ગીકરણની જરૂર છે. કોઈપણ પ્રકારની અસરો વિનાની પેટા યોજનાઓ માટે પ્રમાણભૂત પર્યાવરણીય અને સામાજિક અસરોના મીટીગેશનના પગલાનું પાલન કરવાનું રહેશે. જ્યારે વધુ જોખમો અને સંભવિત અસરો ધરવતી યોજનાઓ માટે પર્યાવરણીય અને સામાજિક મુલ્યાંકનના વધુ ઉંડાણથી થયેલ અભ્યાસને આધિન રહેશે. જેને અમલીકરણ એજન્સીઓ દ્વારા મંજૂર કરવામાં આવશે અને તેની સમિક્ષા કરવામા આવશે અને અમલીકરણની શરૂઆત પહેલા બેંક દ્વારા ક્લીયર કરવામાં આવશે.



આકૃતિ : બ ઈ.એસ.એમ.એફ. પ્રોસેસ

(છ) હિતધારકો અને નાગરિકોનો સમાવેશ :

ઈ.એસ.એમ.એફ. ની તૈયારી દરમિયાન સંબંધિત હિતધારકો સાથે પરામર્શ હાથ ધરવામાં આવ્યો હતો. ખાસ કરીને સાબરમતી નદીના નીચાણના વિસ્તારો અને કેનાલ, તળાવોની નજીકના રહેવાસી / સમુદાયો અને હાલનાં સુચિત એસ.ટી.પી. અથવા ડ્રેનેજ લાઈનની નજીકના રહેવાસીઓનો સંપર્ક સાધવામાં આવેલ. સામુદાયિક જુથો, એન.જી.ઓ, ઉદ્યોગો, ઈજનેર ખાતાના કર્મચારીઓ અને અમદાવાદના ગટર અને ડ્રેનેજના કામોના કોન્ટ્રાક્ટરોની પણ સલાહ લેવામાં આવી હતી. કોવિડ - ૧૯ સંબંધિત પ્રતિબંધોને જોતા મોટાભાગનાં પરામર્શ વચ્ચે પધ્ધતીથી કરવામાં આવેલ.

(૧) યોજના દ્વારા અસરગ્રસ્ત પક્ષો: રહેવાસી કરદાતોઓ કે જેઓ શહેરમાં નબળા ડ્રેનેજથી સીધી અસર પામે છે તેમજ એ.એમ.સી.ના અમુક વિભાગોના અધિકારીઓ જેમકે ફાઈનાન્સ, ડ્રેનેજ વગેરે..

(૨) અન્ય રસ ધરાવતા પક્ષકારો, રેસીડેન્ટ વેલ્ફેર એસોસિયેશન, એ.એમ.સી. વિભાગના અન્ય અધિકારીઓ, ચુંટાયેલા પ્રતિનિધિઓ એન.જી.ઓ અને અન્ય કે જેઓ સમુદાયો સાથે કામ કરે છે. (૩) વંચિત અને સંવેદનશીલ તરીકે ઓળખાયેલ વ્યક્તિઓ અથવા જુથો: વ્યક્તિગત જુથનો સમાવેશ થાય છે જેમ કે મુખ્ય પરામર્શ પ્રક્રિયામાંથી સંપૂર્ણ રીતે બાકાત રહેલ વ્યક્તિઓ / જૂથો જેમ કે શહેરી ગરીબો કે જેઓ ગેરકાયદેસર વસવાટ કરે છે તેઓનો હિતધારકોની શ્રેણીઓમાં સમાવેશ થાય છે.

હિતધારકોના પરામર્શ દરમિયાનના મુખ્ય મુદ્દાઓનો સારાંશ નીચે આપેલ છે :

યોજનાના અસરગ્રસ્ત લોકો: ગટર લાઈનો ચોકઅપ થવી. ગટર સાથે પીવાના પાણીનું મિશ્રણ, વરસાદની ઋતુ દરમિયાન ગટરના પાણીનો ઓવરફ્લો થતા એસ.ટી.પી. ની નજીક રહેતા લોકોએ સાબરમતીના નીચાણવાળા વિસ્તારોમાં ફેલાતી દુર્ગંધ અને રોગચાળા અંગે ચિંતા વ્યક્ત કરી હતી. અન્ય હિતધરાવતા પક્ષકારો: યોજના સાથે સંબંધિત એ.એમ.સી. ના વિવિધ વિભાગોના હિતધારકોના ઈનપુટસ જેમ કે યુ.સી.ડી., એસ.ટી.પી. ડ્રેનેજ, હેરિટેજ રોડ, સીટી પ્લાનિંગ સી.સી.આર.એસ, એસ,ડબલ્યુ.એમ. આવરવામાં આવ્યા હતા અને સંબંધિત ઈનપુટસનો ઉપયોગ ઈ.એસ.એમ.એફ. તૈયાર કરવાની પ્રક્રિયાને રીફાઈન કરવા માટે કરવામાં આવ્યો હતો. જેમ કે હેરિટેજ વિસ્તારોની નજીકના કામો માટે ચોકકસ વિચારણા, બાંધકામના કામો દરમિયાન કામચલાઉ અસરોને ઓછી કરવી વિગેરે.

અન્ય: ઈ.એસ.એમ.એફ.એ પ્રોજેક્ટને સંબંધિત અન્ય સરકારી સંસ્થાઓના હિતધારકોના ઈનપુટસથી પણ લાભ મેળવ્યો છે, જેઓ હાલમાં એ.એમ.સી. અને એન.જી.ઓ સાથે સંકળાયેલા છે.

સંવેદનશીલ જુથો: સંવેદનશીલ જુથોના હિતધારકોના ઈનપુટસમાં પીવાના પાણી સાથે ગટરના પાણીના મિશ્રણનો મુદ્દો, અપુરતી સર્વીસ ડિલિવરી, ઔદ્યોગિક વિસ્તારોથી નજીક હોવાને કારણે વાયુ પ્રદુષણનો મુદ્દો અને બાંધકામના કામો દરમિયાન કામચલાઉ આજીવિકામાં ખલેલ તેમજ વધારાના મુદ્દાઓમાં અરસપરસ સમજુતી નથી તેનો સમાવેશ થાય છે.

યોજનાના સમયગાળા દરમિયાન કરેલ પરામર્શને ભેગા કરી એસ.ઈ.પી. તૈયાર કરવામાં આવેલ છે. જે જાહેર કરવામાં આવશે. જે પરામર્શના સંબંધિત પરિણામો સમગ્ર યોજના દરમિયાન યોજનાની પ્રવૃત્તિઓ, આકારણી, મીટીંગેશન, ડિઝાઈન વગેરે તબક્કે ધ્યાને લેવાશે.

(જ) જેન્ડર:

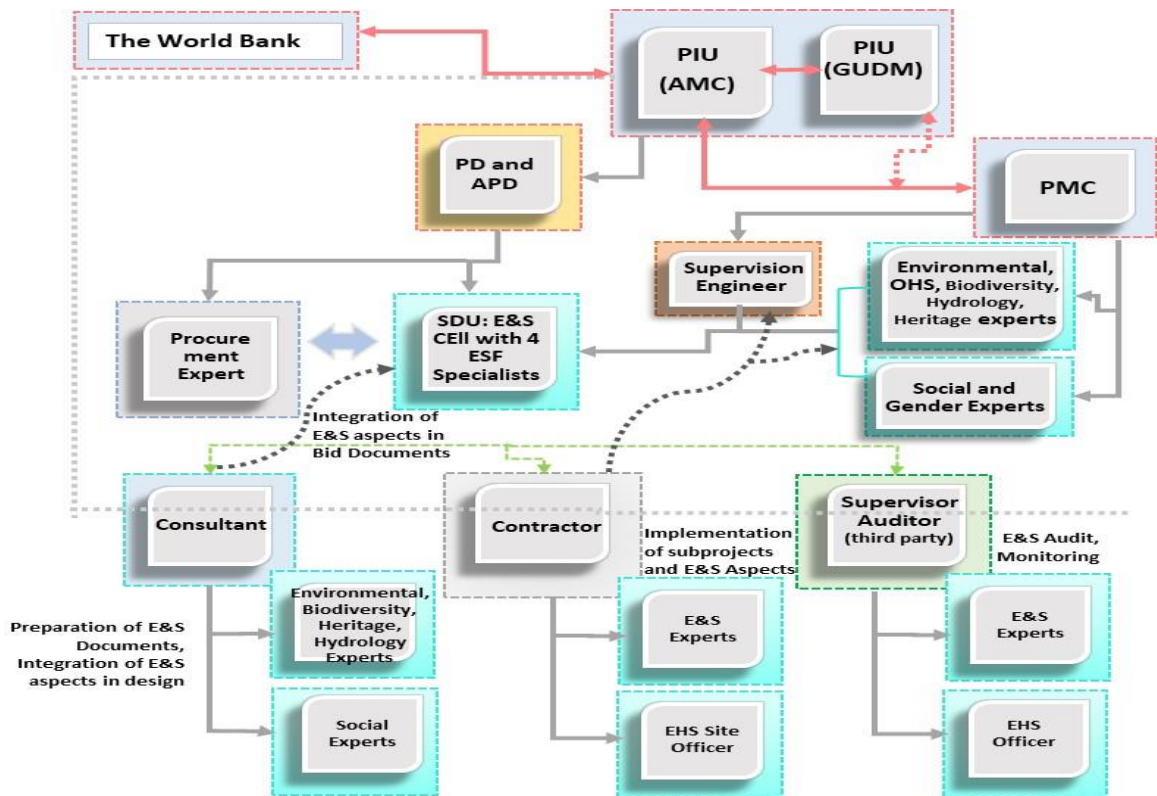
૯૫% થી વધુ પુરુષો સામાન્યતઃ મજૂરી કામ કરે કરે છે. જેમાં મહિલાઓની ભાગીદારી ઘણી ઓછી હોય છે. પી.આઈ.યુ. ખાતરી કરશે કે કોન્ટ્રાક્ટરો સ્થાનિક સમુદાય સાથે સુમેળભર્યા સંબંધો જાળવી રાખે છે અને મજૂરો, કામદારો કોડ ઓફ કન્ડક્ટનું પાલન કરે છે. સી.ઓ.સી. પેટા કોન્ટ્રાક્ટરો અને સપ્લાયરો સહિત કોન્ટ્રાક્ટ દ્વારા રોકાયેલા તમામ વ્યક્તિઓને લાગુ પડશે. સી.ઓ.સી. લિંગ આધારિત હિંસા સંબંધિત ચોકકસ નિતિઓનું પાલન ન કરવા તેમજ જાતિય શોષણ અને જાતિય સતામણી બાબતોનો સમાવેશ કરે છે. વધુમાં યોજનાના અમલીકરણ દરમિયાન કોન્ટ્રાક્ટર દ્વારા પગલા લેવામાં આવશે. જેમ કે, કામના સ્થળે મહિલાઓ અને પુરુષો માટે અલગ સલામત અને સરળતાથી ઉપલબ્ધ સુવિધાઓ ઉભી કરવી અને લેબર કેમ્પ તથા કોડ ઓફ કન્ડક્ટ એસ.ઈ.એ. / એસ.એચ. પર પ્રતિબંધ ને દર્શાવતા હોર્ડિંગ લગાવવા સ્પષ્ટપણે સમજાય છે એમ દર્શાવતા કાગળ પર પ્રોજેક્ટ સાઈટ પર હાજર લોકો દ્વારા સહિ લેવી. યોજનાના કર્મચારીને સી.ઓ.સી. હેઠળ ની

જવાબદારીઓની વર્તુણક અંગે તાલીમ આપવી અને સી.ઓ.સીસ નો સ્પષ્ટ ચિત્ર સહિત પ્રસાર કરવો અને કર્મચારીઓ અને સ્થાનિક સમુદાયો સાથે સતત ચર્ચા કરવી.

(ઝ) પર્યાવરણ અને સામાજિક વ્યવસ્થાપન માટે સંસ્થાકીય માળખું :

જી.એ.સી.આર.પી. ના ઈન્ફ્રાસ્ટ્રક્ચર અને સર્વિસ ડેવલપમેન્ટ ઘટક માટેની અમલીકરણ વ્યવસ્થાઓ અમદાવાદ મ્યુનિસિપલ કોર્પોરેશનની હાલની શહેરી સત્તામાં મુખ્ય પ્રવાહમાં લાવવામાં આવી છે જેથી બનાવેલ અસ્કયામતો અને સેવાઓનું વ્યવસ્થાપન સુનિશ્ચિત કરી શકાય. એ.એમ.સી. અને જી.યુ.ડી.એમ. ખાતે સ્થાપિત પી.આઈ.યુ. દ્વારા કાર્યક્રમની પ્રવૃત્તિઓની દેખરેખ રાખવામાં આવશે. તેને પ્રોજેક્ટ ડાયરેક્ટરને સોંપવામાં આવશે અને મદદનીશ પ્રોજેક્ટ ડિરેક્ટર્સ અને અથવા મેનેજરો દ્વારા દરેક પ્રકારના કામો જેમ કે વેસ્ટ વોટર ડ્રેનેજ અને ક્ષમતા નિર્માણ અને એ.એમ.સી. પેટા પ્રોજેક્ટ્સ હેઠળ સર્પોર્ટ સહિત અન્ય બાબતો માટે સર્પોર્ટ કરવામાં આવશે. ક્ષમતા નિર્માણ પ્રવૃત્તિઓનો જી.યુ.ડી.એમ. હેઠળ સમાવેશ થશે. સદર બાબતોનાં સંચાલન માટે દરેક પી.આઈ.યુ. પાસે ચાર ઈ.એસ.એફ. નિષ્ણાત હશે. એ.એમ.સી. દ્વારા નિયુક્ત પી.એમ.સી., કન્સલ્ટન્ટ્સ પાસે ઈ.એન્ડ.એસ. નિષ્ણાતો પણ હશે. જેઓ ઈ.એન્ડ.એસ. પાસાઓનાં અમલીકરણની દેખરેખ અને રિપોર્ટિંગ દરમિયાન પી.આઈ.યુ. ના ઈ.એસ.એફ. નિષ્ણાતોને સંકલન અને સમર્થન કરશે. એ.એમ.સી. નું પી.એમ.સી. તેમની પ્રવૃત્તિઓના મોનિટરિંગ અને રિપોર્ટિંગ માટે જી.યુ.ડી.એમ. સાથે પણ સંકલન કરશે. એ.એમ.સી. દ્વારા નિયુક્ત પી.એમ.સી.ની મદદથી પ્રોજેક્ટ અમલીકરણ, મોનિટરિંગ અને જી.યુ.ડી.એમ.માથી રિપોર્ટિંગ પર વિગતો એકત્રીત કરશે અને ક્યુ.પી.આર. અને મિશનના ભાગરૂપે બેંકને જાણ કરશે. તેઓ સુનિશ્ચિત કરશે કે ઈ.એન્ડ.એમ પાસાઓ પરના તમામ રેકૉર્ડ અદ્યતન છે અને સોફ્ટ તેમજ હાર્ડ કોપીમાં સારી રીતે જાળવવામાં આવે છે. પી.આઈ.યુ. ના ઈ.એન્ડ.એમ એકમોને સસ્ટેનેબલ શહેરી વિકાસ એકમો તરીકે ઓળખવામાં આવશે. જે ગુજરાતની તમામ શહેરી સ્થાનિક સંસ્થાઓ માટે અને લાંબા ગાળે અપસ્કેલ કરવા માટેના પાસાઓ પર લાઈટ હાઉસ બની શકે છે. ઈ.એન્ડ.એસ નિષ્ણાતોની ભલામણો સાથેનાં દસ્તાવેજોને મંજૂરી આપવા માટે પ્રોજેક્ટ ડિરેક્ટર નિયુક્ત અધિકારી છે. કન્સલ્ટન્ટ કે જેઓ ઈ.એન્ડ.એસ દસ્તાવેજો તૈયાર કરે છે અને ક્ષમતા નિર્માણ પ્રવૃત્તિઓ કરે છે તેમની પાસે પર્યાવરણીય ઓ.એચ.એસ., જે વિવિધતા હેરિટેજ, આર.એન્ડ.આર. જેન્ડર નિષ્ણાતો હશે જે ઈ.એન્ડ.એસ. મીટીગેશન વ્યવસ્થાપનાં પગલા તૈયાર કરશે અને ડિઝાઈનમાં ઈ.એન્ડ.એસ. પાસાને એકીકૃત કરવા ઈ.એસ.એફ. નિષ્ણાતો ને સહાય કરવા માટે ડિઝાઈન સલાહકારો તેની ખાતરી કરવા કામ કરશે. ઈ.એસ.એમ.પી.અને અન્ય પાસાઓ બિડ દસ્તાવેજોમાં સામેલ છે. આ જરૂરિયાત કન્સલ્ટન્ટનાં ટી.ઓ.આર. માં સામેલ કરવામાં આવશે. કોન્ટ્રાક્ટરો કે જેઓ સાઈટ પર સબપ્રોજેક્ટ અમલમાં મુકશે તેમની પાસે ઈ.એન્ડ.એસ નિષ્ણાતો અને ઈ.એચ.એસ. સાઈટ ઓફીસો હશે જે

વાસ્તવિક સાઈટ ડિઝાઈન પાસાઓને અમલ કરવા માટે ઈ.એસ.એમ.પી. તૈયાર કરશે જેથી રિપોર્ટીંગની ખાતરી કરી શકાય અને સાઈટ પર પર્યાવરણીય અને સામાજિક પાસાઓના અમલીકરણ પર અદ્યતન રેકૉર્ડ જાળવી શકાય. બાંધકામની દેખરેખ અને ગુણવત્તાની ખાતરી પ્રોજેક્ટ મેનેજમેન્ટ કન્સલ્ટન્ટ દ્વારા સુનિશ્ચિત કરવામા આવશે જે શ્રેષ્ઠ પરિણામોની ખાતરી કરવા માટે સિવિલ વર્ક ગુણવત્તા સાથે એકીકૃત રીતે ઓ.એચ.એસ. નુ નિરિક્ષણ કરશે. અને તમામ તબક્કાઓ દરમિયાન સ્થળ પર સલામતીનુ નિરિક્ષણ કરશે અને પી.આઈ.યુ. ને નિયમીતપણે રિપોર્ટ કરશે. કોન્ટ્રાક્ટરો અને કન્સલ્ટન્ટ દ્વારા તૈયાર કરાયેલ યોજના ઈ.એસ.એફ. દસ્તાવેજોની સમીક્ષા કરવાની જવાબદારી પી.આઈ.યુ. પાસે છે. દરેક ઈ.એસ.એફ. દસ્તાવેજો, પી.આઈ.યુ. સારી ગુણવત્તાની પ્રારંભિક સમીક્ષા અને સાઈન-ઓફ કર્યા પછી જ વિશ્વબેંકને પુર્વ સમીક્ષા માટે મોકલશે. એવુ પણ સુચવવામાં આવે છે કે પી.આઈ.યુ. ચોક્કસ ક્ષેત્રનો ઉલ્લેખ કરીને વિશ્વ બેંકને ઈ.એસ.એફ. દસ્તાવેજો આપે છે. જેમાં તેમને સ્પષ્ટ માર્ગદર્શનની જરૂર હોય છે. વાર્ષિક થર્ડ પાર્ટી ઈ.એન્ડએસ. ઓડિટ ઈ.એસ.એમ.એફ. અને સાઈટ પર ઓ.એચ.એસ. સહિત ઈ.એસ.એફ. દસ્તાવેજોના અનુપાલન પર દેખરેખ રાખવા હાથ ધરવામા આવશે અને પાલન ના થવાના કિસ્સામા સુચક સુધારાત્મક પગલા અને રીપોર્ટ કરવામા આવશે. વિશ્વ બેંક નોંધપાત્ર અને મધ્યમ જોખમી યોજના માટે ઈ.એસ.એફ. દસ્તાવેજોની સમીક્ષા કરશે અને જ્યારે પી.આઈ.યુ. ઓછા જોખમવાળી યોજનાને ખરાઈ કરશે. પ્રોજેક્ટ મેનેજમેન્ટ ઈન્ફોર્મેશન સીસ્ટમનો ઉપયોગ કરીને તમામ પેટા યોજના પર દેખરેખ રાખશે જે લાંબા ગાળાના લાભો માટે ઈ.એસ.એફ. પર તાલીમ પુરી પાડવાનો અમલીકરણ રીપોર્ટ પી.આઈ.યુ. ને પ્રદાન કરશે.



આકૃતિ: ૩ જી-એ.સી.આર.પી. હેઠળ ઈ&એસ ના સંચાલન માટે સુચિત સંસ્થાકીય ફ્રેમવર્ક

(૮) ક્ષમતા નિર્માણ:

જી-એ.સી.આર.પી. યોજનામાં સામેલ તમામ એજન્સીઓ માટે ક્ષમતા નિર્માણની પરિકલ્પના કરે છે જેમાં પી.આઈ.યુ. સહિત લાઈન વિભાગો, સ્થાનિક સંસ્થાઓ, વૈધાનિક બોર્ડ, જાહેર ઉપક્રમોને, ઓપરેટરો, એ.એમ.સી. કન્સલ્ટન્ટ અને કોન્ટ્રાક્ટરો માટે ઈ.એસ.એમ.એફ. અસરકારક રીતે કાર્યરત થાય તે માટે આ પ્રોગ્રામ વર્કશોપ અને તાલીમ કાર્યક્રમોનું આયોજન કરીને પરિપૂર્ણ કરવામાં આવશે જેનું સંકલન અને તાલીમ, સંસ્થાઓ અને નિષ્ણાંતો દ્વારા કરવામાં આવશે. તાલીમ કાર્યક્રમ ઈ.એસ.એમ.એફમાં રજુ કરવામાં આવેલ છે.

(૬) દેખરેખ અને અહેવાલ:

થર્ડ પાર્ટી, એક્સટર્નલ અને ઇન્ટરનલ સહિત ત્રણ પ્રકારના મોનિટરિંગ અને રિપોર્ટિંગની કલ્પના કરવામાં આવી છે. આંતરીક દેખરેખ એ કોન્ટ્રાક્ટરો અને વ્યક્તિઓ દ્વારા હાથ ધરવામાં આવતી એક સતત પ્રક્રિયા છે જે પી.એમ.સી. અને પી.આઈ.યુ. દ્વારા બાંધકામ ની દેખરેખ અને એસ.યુ.ડી.યુ. દ્વારા દેખરેખના ભાગરૂપે મોનિટરિંગ કરે છે અને થર્ડ પાર્ટી વાર્ષિક સ્વતંત્ર ઈ.એન્ડએસ. ઓડિટ હાથ ધરશે. કોન્ટ્રાક્ટરોનાં નિષ્ણાંતો અને ઓ.એચ.એસ. નિષ્ણાંતો પેટાયોજના સ્તરે સાઈટ પર દૈનિક ઈ.એસ.એમ.પી. અનુપાલનનું નિરીક્ષણ કરશે અને સાઈટ એન્જીનિયરને સાપ્તાહિક રીપોર્ટ કરશે, સાઈટ એન્જીનીયર તે રીપોર્ટને પી.એમ.સી. અને નિષ્ણાંતોને સમક્ષ રજુ કરશે જેઓ દર અઠવાડિયા અથવા જરૂરિયાત મુજબ ચકાસશે અને પી.આઈ.યુ. ને માસિક મોનિટરિંગ અહેવાલ રજુ કરવા માટે તેનું સંકલન કરશે. પી.આઈ.યુ. મહિનામાં એકવાર અથવા યોગ્ય રીતે મોનિટર કરવા માટે સાઈટની મુલાકાતો પણ લેશે અને ત્રિમાસિક ગાળામાં ઈએન્ડએસ અહેવાલોનું સંકલન કરશે અને યોજનાના “ત્રીમાસિક યોજના મોનિટરિંગ અહેવાલ” ના ભાગરૂપે બેંકને સબમીટ કરશે અથવા એકલા ઈએન્ડએસ ત્રીમાસિક મોનિટરીંગ રિપોર્ટ તરીકે મુખ્ય મુદ્દાઓને હાઈ-લાઈટ કરશે કે કેવી રીતે સંચાલન કરવામાં આવ્યું હતું અને કોઈ સપોર્ટની જરૂર છે કે કેમ ? પેટા યોજના સ્તરે પર્યાવરણીય અને સામાજિક વ્યવસ્થાપન સાધનો જેમકે ઈ.એસ.આઈ.એ. અને આર.એ.પી. મોનિટરીંગ અને મુલ્યાંકન પરિણામોને માર્ગદર્શન આપે છે અને પ્રક્રિયા અને પ્રગતિની દેખરેખની સુવિધા અને સંસ્થાકીય વ્યવસ્થાઓનું વર્ણન કરે છે.

વિવિધ સ્તરે નિયુક્ત ઈએન્ડએસ નિષ્ણાંતો બેંક ઈ.એસ.એફ. ને જી.ઓ.આઈ. નાં નિયમો અને લાગુ પડતા ઈ.એસ.એમ.એફ. માર્ગદર્શીકાની પેટા યોજનાઓના પાલનની દેખરેખ માટે જવાબદાર રહેશે. તેઓ ઈ.એસ.એમ.પી. મુજબ પર્યાવરણીય જોગવાઈઓના સમયસર અમલીકરણની પણ નિયમિત સમીક્ષા કરશે. પી.આઈ.યુ. અને વિશ્વબેંકની સમીક્ષા કરી ઈ.એસ.એફ. દસ્તાવેજોને રીવ્યુ કરશે.

પી.આઈ.યુ. ને બેંક દ્વારા સતત માર્ગદર્શન આપવામા આવશે. ઈ.એસ.એફ. ના અમલીકરણ પર ત્રિમાસિક અહેવાલો દ્વારા બેંકને પ્રગતિ અને મુદ્દાઓ પર અહેવાલ આપશે અને બેંકને તેના છ માસિક દેખરેખ મિશન દરમિયાન પણ જાણ કરશે.

ફિલ્ડમાથી પ્રોજેક્ટની પ્રગતિ અને પરિણામોની માહિતી મેળવવા માટે પી.આઈ.યુ. દ્વારા રિપોર્ટીંગ ફોર્મેટ વિકસાવવામા આવશે. આ તમામ કાર્યોના સાઈટથી રિપોર્ટીંગની આવશ્યકતાઓને સુમેળ સાધવા અને સુવ્યવસ્થિત કરવામાં પણ મદદ કરશે. જે પ્રોજેક્ટ ઓપરેશન મેન્યુઅલનો ભાગ હશે. વિગતવાર ઈએન્ડએસ મેનેજમેન્ટ ઈન્ફોર્મેશન સિસ્ટમ નામની પર્યાવરણીય અને સામાજિક વ્યવસ્થાપન માહિતિ સિસ્ટમ, બિડ દસ્તાવેજોના ડિઝાઈન, ઈ.એસ.એમ.પી. અને ઈ.એસ.એમ.એફ. અમલીકરણમાં ઈએન્ડએસ પાસાઓના ઈ.એસ.આઈ.એ. પ્રક્રીયાના સંકલન અને પ્રોજેક્ટ વિગતોનાં શેડ્યુલિંગ અને દસ્તાવેજીકરણની અસરકારક તૈયારી અને અપડેટમા યોજનાને ટેકો અપાશે.

(૬) ફરિયાદ નિવારણ પદ્ધતિ: (જી.આર.સી.)

એ.એમ.સી. પાસે એક કાર્યરત ફરીયાદ નિવારણ કસ્ટમર કમ્પ્લેઈન રીફ્રેસલ સીસ્ટમ (<http://www.amccrs.com>) જેમાં વેબ પોર્ટલ અને ટોલ ફ્રી નંબરનો સમાવેશ થાય છે. તેમા દર મહિને લગભગ ૪૦૦૦૦ - ૫૦૦૦૦ ફરીયાદોની નોંધ થાય છે. આ સિસ્ટમમાં નોંધયેલી કોઈપણ ફરિયાદને કાર્યવાહી માટે સંબંધિત ઝોનમાં મોકલવામાં આવે છે. સી.સી.આર.એસ. ગુજરાત સરકારની સી.એમ. હેલ્પલાઈન સાથે સંકલિત છે અને સી.એમ. હેલ્પલાઈન પર મળેલી કોઈપણ ફરિયાદ પણ સી.સી.આર. સિસ્ટમના રેકૉર્ડમાં કરવામા આવે છે. પી.એ.પી. ની ફરિયાદો સૌપ્રથમ પી.આઈ.યુ. ના કાર્યાલય સ્તરના ધ્યાન પર લાવવામાં આવશે. જે ફરિયાદો મળ્યાના બે અઠવાડિયામા નિવારવામા આવશે. ફિલ્ડ લેવલના પી.આઈ.યુ. સ્ટાફ દ્વારા સંબોધવામા ન આવતી ફરિયાદોને ફરિયાદ નિવારણ સમિતિ સમક્ષ લાવવામા આવશે જે પી.આઈ.યુ. પર ફરિયાદ મળ્યાની તારીખથી ચાર અઠવાડિયાની અંદર ફરિયાદોનું નિરાકરણ કરશે. જી.આર.સી.ની રચના પ્રાદેશિક સ્તરે કરવામા આવશે. જેમા સક્ષમ સભ્યોનો સમાવેશ થાય છે. જેઓ ફરિયાદ નિવારણમા અસરકારક રીતે યોગદાન આપી શકે છે. જી.આર.સી. ટીમમા પર્યાવરણ અને સામાજિક બાબતોના ઝોનલ ઓફિસર તથા એ.એમ.સી. નો સમાવેશ થાય છે. જી.આર.સી.ની મુખ્ય જવાબદારી રહેશે કે; (૧) જમીન મિલકત સંપાદનથી ઉદભવતી સમસ્યાઓ પર પી.એ.પી. ને સર્મથન પુરુ પાડવું (૨) ફરિયાદોની ફરિયાદ રેકૉર્ડ કરી અને ફરિયાદોને પ્રાથમિકતા આપી તેની ફરીયાદનું નિરાકરણ કરવું. (૩) ગંભીર કેસોની તાત્કાલીક પી.એમ.યુ. ને જાણ કરવી. (૪) તેમની ફરિયાદ અંતર્ગત જી.આર.સી. અને પી.એમ.યુ.ના નિર્ણય અંગે પી.એ.પી. ને રિપોર્ટ કરવો. (૫) કાયદાની અદાલત હેઠળ માલિકીના અધિકારને લગતા વિવાદો સિવાય જી.આર.સી. તમામ પુનઃવસન લાભો, વળતર, સ્થળાંતર, ફેરબદલ ખર્ચ અને અન્ય સહાય જેમકે અવાજ, પ્રદુષણ, ટ્રાફિક, દુર્ગંધ અને પર્યાવરણને

લગતી અન્ય ફરીયાદોને સમાવિષ્ટ ફરીયાદોની સમીક્ષા કરશે. ફરીયાદીની સંપર્ક વિગતો સહિત પ્રાપ્ત થયેલી તમામ ફરીયાદોના રેકૉર્ડ રાખવામા આવશે. ફરીયાદ પ્રાપ્ત થઈ તે તારીખ, ફરીયાદનો પ્રકાર, સંમતિ, સુધારાત્મક પગલા અને જે તારીખે અસર થઈ હતી અને તેના પરિણામનો રેકૉર્ડ રખાશે. જી.આર.સી. યોજના પ્રોજેક્ટ સમયગાળા માટે ચાલુ રાખશે. જી.આર.સી. કક્ષાએ ઉકેલાયેલ ન હોય તેવા કેસો કમિશનર, એ.એમ.સી. દ્વારા ઉકેલવામા આવશે. આ સ્તરે પણ જો કેસના વિવાદનો ઉકેલ ન આવે તો પિડિત વ્યક્તિ સિવિલ કોર્ટનો આશરો લઈ શકે છે અને કોર્ટનો નિર્ણય તમામ પક્ષકારોને બંધનકર્તા રહેશે.

(ઢ) પરામર્શ અને જાહેરાત:

ઈ.એસ.એમ.એફ. ને ઈ.એસ.એફ. સંબંધિત આંતરરાષ્ટ્રીય, રાષ્ટ્રીય અને રાજ્યના નિયમો અને માર્ગદર્શિકાને અનુસરીને તૈયાર કરવામા આવેલ છે. ઈ.એસ.એમ.એફ. તૈયાર કરવા માટે શહેરી સ્તરે હિતધારકોનો પરામર્શ હાથ ધરવામા આવેલ છે. આ યોજના માટે સ્ટેક હોલ્ડર એન્ગેજમેન્ટ પ્લાન તૈયાર કરવામા આવેલ છે. આ ઈ.એસ.એમ.એફ. ની નકલો અન્ય ઈએન્ડએસ. સાધનોની જેમ આ પ્રોજેક્ટ માટે તૈયાર કરવામા આવશે અને તેની તમામ પેટા યોજનાઓ પી.આઈ. યુ દ્વારા જાહેર કરવામા આવશે.

એકવાર સાઈટ સ્પેસીફિક પેટા યોજના પ્રવૃત્તિઓ નિર્ધારિત થઈ જાય પછી સ્કીનીંગ અને અન્ય ઈએન્ડએસ સાધનો જેમકે ઈ.એસ.આઈ.એ, અને ઈ.એસ.એમ.પી. કે જે યોજના હેઠળ પેટા યોજનાઓમાં તૈયાર કરવામા આવશે અને તે રીતે જ પી.આઈ.યુ. દ્વારા ઈ.એસ.એમ.એફ. ની જેમ સ્ટેક હોલ્ડર્સ સાથે પરામર્શ બાદ જાહેર કરવામા આવશે.

મુલ્યાંકન પહેલા, ૧૦ ફેબ્રુઆરી - ૨૦૨૨ માં હિતધારકો તરફથી પ્રતિસાદ માટે એ.એમ.સી. અને જી.યુ.ડી.એમ. વેબસાઈટ પર ડ્રાફ્ટ ઈ.એસ.એમ.એફ. અંગ્રેજી અને ગુજરાતી બન્નેમા જાહેર કરવામા આવશે. હિતધારકો સાથે ફેબ્રુઆરી માર્ચ - ૨૦૨૨ના પરામર્શ બાદ આને વધુ અપડેટ કરવામા આવશે. ૧૦મી ફેબ્રુઆરી ૨૦૨૨ ના રોજ વિશ્વ બેંકની વેબસાઈટમા ઈ.એસ.એમ.એફ. જાહેર કરવામા આવશે.

(ણ) ઈ.એસ.એમ.એફ. પરફોર્મન્સ ઈન્ડીકેટર્સ :

ઈ.એસ.એમ.એફ. નાં સરળ અમલીકરણ માટે દેખરેખ રાખવાનાં મુખ્ય પરફોર્મન્સ ઈન્ડીકેટર્સ નીચે મુજબ હશે;

પેટાયોજના માટે ઈ.એસ.આઈ.એ.એસ, ઈ.એસ.એમ.એફ. અને અન્ય સાધનોની તૈયારીનું અમલીકરણ બિડ દસ્તાવેજોમા સમાવિષ્ટ કરવા ટાઈમ બાઉન્ડ રીતે કરવામા આવેલ. જેની જાણ બેંકને ત્રીમાસિક પ્રગતિ અહેવાલના ભાગરૂપે જાણ કરવામા આવશે જેનું થર્ડ પાર્ટી ઇએન્ડએમ

ઓડીટ પણ થશે. નવી લાઈન બાંધકામના તબક્કા દરમિયાન વિશ્વબેંકના ઇન્સીડેન્ટનાં અહેવાલ હેઠળ જરૂરી તમામ ઘટનાઓની સંખ્યા, બેંક સેફગાર્ડ કરેક્ટીવ એક્શન પ્લાન તૈયાર કરવામાં આવશે. અને સમયસર પૂર્ણ કરવામાં આવેલ કરેક્ટીવ એક્શનની જાણ બેંકને કરાશે.

*નિયમનકારી જરૂરિયાતો અને મંજૂરીઓ સાથેના પ્લાનની સ્થિતિ;

*બેંકને ત્રિમાસિક પ્રગતિ અહેવાલોના ભાગરૂપે જાણ કરાશે અને થર્ડ પાર્ટી ઇએન્ડએસ ઓડિટના ભાગરૂપે તપાસવામાં આવશે;

*યોજનાને કારણે બેઝલાઈન પર્યાવરણીય કામગીરી અને સંસાધન કાર્યક્ષમતામાં થયેલ સુધારો.

*બેંકને પર્યાવરણીય અને સામાજિક પાસાઓ પરનાં ત્રિમાસિક પ્રગતિ અહેવાલના ભાગરૂપે જાણ કરવામાં આવશે. અને થર્ડ પાર્ટી ઇએન્ડએસ. ઓડિટના ભાગરૂપે તપાસવામાં આવશે.

* નોંધણીના 30 દિવસમાં ૮૦% ફરિયાદોનું નિરાકરણ કરવામાં આવશે. પી.આઈ.યુ. દ્વારા સાપ્તાહિક અને અર્ધ-વાર્ષિક એકીકૃત અહેવાલ દ્વારા જાણ કરાશે.

*સિવિલ વર્કની શરૂઆત પહેલાં સંપૂર્ણ રીતે અમલમાં મુકાયેલ આર.એ.પી.ની સંખ્યાની પી.આઈ.યુ. દ્વારા વાર્ષિક ગણતરી કરવામાં આવશે.;

*૮૦% સમુદાય સુધારેલ સેવા વિતરણથી સંતુષ્ટ છે. તે માપદંડની પી.આઈ.યુ. દ્વારા અર્ધ-વાર્ષિક ખાતરી કરવામાં આવશે.

(ત) સાર:

જી-એ.સી.આર.પી.. માટે બનાવેલ ઈ.એસ.એમ.એફ. યોજનાના તમામ ઘટકોનાં પર્યાવરણીય અને સામાજિક પાસાઓના સંચાલન માટે માર્ગદર્શન દસ્તાવેજ છે. આ એક જીવંત દસ્તાવેજ છે અને જરૂર પડે તેને વિશ્વ બેંકની પરામર્શ, મંજૂરી અને જાહેરાતની જરૂરીયાતોને અનુસરીને અપડેટ કરવામાં આવશે.

પ્રારંભિક રોકાણ માટે ESMF અને ESIA કોર્પોરેશનની વેબસાઈટ

<https://ahmedabadcity.gov.in/portal/web?requestType=ApplicationRH&actionVal=viewAttachment&queryType=Select&screenId=2900003&AttachmentFileName=ESMF.pdf> and

<https://ahmedabadcity.gov.in/portal/web?requestType=ApplicationRH&actionVal=viewAttachment&queryType=Select&screenId=2900003&AttachmentFileName=ESIA-126-MLD-STP.pdf>

પર જાહેર કરવામાં આવ્યા હતા અને 10 ફેબ્રુઆરી, 2022 ના રોજ વિશ્વ બેંકની વેબસાઈટ પર મુકવામાં આવેલ હતા. ડિસ્ક્લોઝર પછી લાર્જ સ્કેલ કન્સલટેશન તારીખ 7 જૂન 2022 ના રોજ પંડિત દીનદયાળ ઉપાધ્યાય ઓડિટોરિયમ બોડકદેવ ખાતે યોજવામાં આવેલ જેમાં અમદાવાદ મ્યુનિસિપલ કોર્પોરેશનના માનનીય મેયરશ્રી, ડેપ્યુટી મેયરશ્રી, કમીટી મેમ્બર્સ, કોર્પોરેટરશ્રીઓ, કોર્પોરેશનના મ્યુનિસિપલ કમિશનરશ્રી તથા અધિકારીઓ, એનજીઓ, વિષય નિષ્ણાતો, સામાન્ય

પ્રજા વગેરેની હાજરીમાં સદર તમામ એન્વાયરમેન્ટ સોશીયલ ઇમ્પેક્ટ અંગે ચર્ચા કરવામાં આવેલ તથા તેઓના સૂચનો માંગવામાં આવેલ. ચર્ચા દરમિયાન પૂછવામાં આવેલ તમામ પ્રશ્નો ના સંતોષકારક જવાબો આપવામાં આવેલ તેમજ સૂચનો આવકારીને તને પ્રોજેક્ટ મેનેજમેન્ટ માં આવરી લેવામાં આવેલ છે.

GUJARAT RESILIENT CITIES PARTNERSHIP: AHMEDABAD CITY RESILIENCE PROJECT (G-ACRP)

SUMMARY

A. Project Overview

The Government of Gujarat (GoG) has sought assistance from the International Bank for Reconstruction and Development (IBRD, also commonly known, and referred hereafter, as the “World Bank”) for Gujarat Resilient Cities Partnership: Ahmedabad City Resilience Project (ACRP)¹. The Project Development Objective of G-ACRP is to develop resilient and sustainable urban service delivery and financial systems in Ahmedabad. It also aims to support the Gujarat Urban Development Mission (GUDM), a State-level functionary in urban service delivery across the towns and cities of Gujarat to improve their institutional capacities to better plan, manage urban services.

The proposed Project will consist of three main components: Component 1: Strengthening Ahmedabad Municipal Corporation’s (AMC) financial systems and performance

Component 2: Improving urban services in Ahmedabad: by providing comprehensive support to AMC in improving the quality, efficiency, sustainability, and resilience of select urban services – waste-water management services (sewerage only²), storm water drainage (prioritized in terms of significant infrastructure gaps, poor service levels, and negative environmental and social externalities).

Component 3: Developing institutional systems and capacities at AMC and GUDM for state wide capacity building.

The project will ensure better environmental and health condition in Ahmedabad and the surrounding region, by upgrading the Sewage Treatment Plants (STPs), related infrastructure and networks to treat the sewage generated in the city to stringent standards; improving drainage networks, canals and lakes and ensuring improved service delivery and management systems. The project will benefit from reduced greenhouse gas emissions due to upgraded treatment systems, and reduced pollution loads in Sabarmati, Khari rivers, canals, lakes and the region, due to stringent standards adopted for treatment of waste water.

The World Bank Environmental and Social Framework is applicable to all projects supported by the Bank through Investment Project Financing (IPF) including G-ACRP, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs). Based on this, at this stage, project has been categorised as substantial based on both social and environmental risks and impacts, and an Environmental and Social Management Framework (ESMF) has been prepared for managing the environmental and social risks and impacts of the project and Environmental and Social Impact Assessments have been conducted for the sub-projects which will be implemented during the first two years. The ESMF will be followed also for the rest of the sub-projects and technical assistance under the project. A Cultural Heritage Management Framework, Biodiversity Management Framework, Resettlement Policy Framework and Labour Management Procedures are also being prepared for the Project.

B. Environmental and Social Baseline

The sub-projects under G-ACRP would be implemented in the metropolitan city of Ahmedabad in Gujarat State. The exact locations of many of the specific project investment activities are not known

¹ <https://projects.worldbank.org/en/projects-operations/project-detail/P175728>

² Industrial Effluent Management, and Individual or Common Effluent Treatment Plants will not be part of the project

at this stage. The sub-projects would include major civil works such as the construction of Sewage Treatment Plants, and laying of sewage and drainage networks initially and then Tertiary Treatment Plants, canal redevelopment, lake rejuvenation, and other supportive infrastructure. River Sabarmati flows bifurcates the city and many man-made lakes and canals are present in the city. Most of these are not critical or natural habitats as these are non-perennial, and diffuse pollution due to various human activities has over the years substantially modified their primary ecological functions and species composition. Industrial and waste pollution has impacted the rivers and lakes over the years. City suffers from overall diffused pollution due to its industrial expansion. Sewage treatment is suboptimal owing to old inefficient infrastructure, absence of full coverage of the city. The city has many cultural heritage sites, being the UNESCO World Heritage City. .

Feasibility Reports for Initial sub-projects which will be procured through Design - Build – Operate – Transfer (DBOT) format including (i) Rehabilitation of 240 MLD STP at Vasna (Moderate Risk), (ii) Construction of new STP (375 MLD) in place of existing STP at Vasna 126 MLD (Substantial Risk), and (iii) Rehabilitation of 180 MLD STP at Pirana (Moderate Risk), are under preparation. ESIA's are being prepared for these investments, which will be updated at Design Stage after the DBOT contractor finalises the design during implementation stage. Detailed baseline environment and social profile of the Project area have been compiled and analysed in the ESMF and for the initial set of sub-projects as part of ESIA. These will be compiled and presented in all the sub-project ESIA's under the project as well.

A rapid assessment was conducted to understand the environmental and social risk and impacts due to proposed upgradation of major canals namely, Kharicut Canal, Chandrabhaga Nalla, and 4 representative lakes (which were village lakes earlier) namely, Ramo Bandh, Isanpur, Shilaj, and Bhadaj Talavs (lakes). The assessment indicated encroachments: Ramol Bandh and Isanpur Gaam Talav - 50 and 100 residential households respectively, while Bhadaj Gaam Talav has one temporary commercial. No encroachments are noticed at the Shilaj Gaam Talav. Similarly in respect of Chandrabhaga nalla squatters and encroachers at the right of way width near Bakri mandi at Ranip for about 50 households are noticed. In the case of the Kharicut canal, encroachments are noticed around the Odhav area of the canal. The findings of the assessment provide initial insights for possible impacts and mitigation requirements and these have been included in this ESMF and RPF. The detailed assessment shall be carried out as part of sub-projects screening and ESIA and mitigation instruments shall be prepared including RAP. The Rapid assessment also suggested community health and safety concerns in respect of drainage and lake/canal development subprojects which will be further studied during respective ESIA preparations.

C. Applicable Regulations and Guidance

▪ International, National and State regulations

MoEFCC is the apex administrative body in the country for regulating and ensuring environmental protection and lays down the legal and regulatory framework for the same. Today, MoEFCC and the Central and State Pollution Control Boards (CPCB and SPCBs) together form the regulatory bodies; while National Green Tribunal is tasked with providing an effective and expeditious remedy in cases relating to environmental protection, conservation of forests, and other natural resources and enforcement of any legal right relating to the environment. Some of the important legislations at the National Level for environment protection which will apply to G-ACRP includes National Environment Policy, 2006, the Environment Protection (Act) 1986 and The Environmental Protection Rules, various Acts including The Water (Prevention and Control of Pollution) Act, 1974 and The Water Cess Act 1977, The Air (Prevention and Control of Pollution) Act 1981, and others related to Noise Pollution, Wetlands Conservation, Biodiversity, Storage of Hazardous Chemicals, Batteries, Waste Management (including Solid, Hazardous, Plastics, E-Waste), motor vehicle

movement, and various Labour Laws. In addition, Central Government agencies have issued various guidelines for various aspects and associated aspects of sewerage and drainage projects including discharge standards. Dam Safety Bill of December 2021 of the Government of India will be applicable to Vasna Barrage. State also has various regulations and policies which may apply to the project including Sanitation and Treated water Reuse Policy, Municipal Corporations Act, Infrastructure Development Act, Irrigation and Drainage Act and Rules, Water supply and Sewerage Board Act, Acts on Felling of Trees Town Planning and Urban Development, Fire and Life Safety, Disaster Management, etc. International environmental treaties to which India is a Party, such as Convention on Biological Diversity, Ramsar; Convention on Wetlands, Bonn; Convention on Migratory Species, UN Framework Convention on Climate Change and its Kyoto Protocol may apply to the project.

RFCTLARR Act 2013, Minimum Wages Act 1948, Child Labour (Prohibition & Regulation) Act 1986, Sexual Harassment of Women at the Work Place (Prevention, Prohibition and Redressal) Act 2013, Rights of Persons with Disabilities Act, 2016, Right to Information Act 2005 are some of the key legislations relevant for the Project. Besides, many of the labor-related laws that require adherence during construction would apply to the project as well such as the Employees Compensation Act 1923 (for compensation in case of injury, disease, or death arising out of and during employment); Payment of Gratuity Act (on the satisfaction of certain conditions on separation if an employee has completed 5 years' service; Maternity Benefit Act 1961 (provides for leave and some other benefits to women employees in case of confinement or miscarriage, etc.); Payment of Wages Act 1936 (lays down the mode, manner and by what date the wages are to be paid, what deductions can be made from the wages of the workers); Equal Remuneration Act 1976 (provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against Female employees in the matters of transfers, training, and promotions, etc.). Child Labour (Prohibition & Regulation) Act 1986 (prohibits employment of children below 14 years of age in certain occupations and processes and provides for the regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in the Building and Construction Industry. Bonded Labour System (Abolition) Act, 1976 (The Act provides for the abolition of bonded labor system to prevent the economic and physical exploitation of weaker sections of society. Bonded labor covers all forms of forced labor, including that arising out of a loan, debt, or advance).

These important environmental and social legislations have been briefly explained in **Chapter 3**, with a description of its relevance in this project, availability of technical guidelines for its implementation, and institutional responsibility.

G-ACRP will also conform to various international conventions, treaties, and instruments, to which India is a signatory to, such as those on cultural heritage, elimination of discrimination against women (CEDAW), crime prevention, and criminal justice measures to eliminate violence against women, etc.

▪ **WB ESF & ESSs Applicable to this Project**

The World Bank's ESF and ESSs are used to identify, avoid, and mitigate the potential negative environmental and social risks and impacts associated with projects funded by the Bank and enhance the effectiveness of the positive impacts. ESSs 1-6, 8, and 10 apply to the Project.

D. Environmental and Social Risk Classification

This project has been classified as “substantial” for environmental and social risks and impacts, and high risk sub-projects are excluded from being taken up under the project. E&S Assessment of the proposed sub-projects reveals that most of the likely adverse impacts could be minimized or eliminated by following mitigation hierarchy: avoiding risks through good design and following regulations, guidelines; preparing and adopting standard mitigation measures, improved capacities, and good management. Also, there is ample scope to enhance some of the beneficial impacts to be generated from the proposed project. The ESMF prepared for the G-ACRP acknowledges these impacts and integrates measures for assessing, mitigating/managing these during pre-planning, planning, implementation including construction, Operation and Maintenance (O&M) and handover.

E. The ESMF Process

The ESMF has been prepared based on environmental and social assessments, and consultations. The steps followed in developing the ESMF are provided in **Figure A** below:

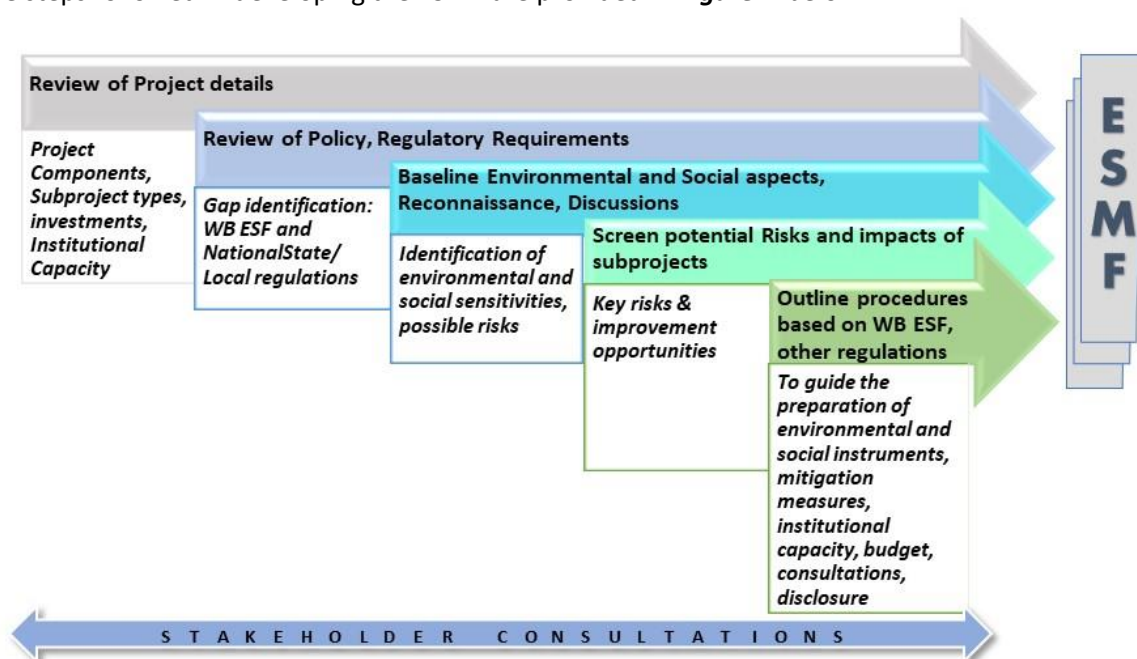


Figure A: Methodology for Preparation of ESMF for G-ACRP

This document is intended to serve as the ESMF for the G-ACRP. It has been developed for the project to guide the project implementers and other key stakeholders in assessing and addressing the environmental and social risks arising from the project. As per the guiding principles of the ESMF, all projects funded by the World Bank require the borrowers to – (a) achieve compliance with all applicable national, state, and local laws and regulations related to environmental and social matters; and (b) meet the requirements of the ESSs outlined in the ESF. The ESMF is the key E&S risk management tool used by borrowers to identify, assess, mitigate and report on project E&S risks, impacts, and mitigation measures and the effectiveness of their implementation.

The ESMF has been prepared with an objective to manage the environmental and social impacts through appropriate measures during the planning, design, construction, and operation of various sub-projects and linked activities/associated facilities of G-ACRP. The framework identifies the level of due diligence required for all categories of sub-projects and provides specific guidance on the policies and procedures to be followed for environmental and social assessment, along with roles and responsibilities of the implementing agencies to ensure effective environmental and social management. This ESMF aims to ensure the following:

- Integration of environmental and social aspects into the decision-making process at all stages of the entire G-ACRP project and all its sub-projects; including planning, design, implementation, and work closeout, operation, and maintenance (O&M) of sub-projects by identifying, avoiding, and/or minimizing adverse environmental and social impacts early-on in the project cycle,
- Enhancement of positive/sustainable environmental and social outcomes through sensitive planning, design, and implementation of sub-projects,
- Avoidance or minimization of risks and impacts on cultural properties and natural habitats and/or other direct/indirect impacts through careful planning and environmental and social mitigation measures,
- Ensure ongoing consultations with stakeholders throughout the project, the relevant outcomes of which will inform the project design/activities/assessments/mitigation measures.

As the exact project locations of some of the interventions are not yet known, to integrate environmental and social considerations in sub-projects and its effective management, the borrower has prepared an ESMF. The ESMF describes the existing environmental and social sensitivities of Ahmedabad, potential risks and impacts due to proposed development, suggested improvements to existing systems, and interventions for better environmental and social outcomes of proposed facilities, and mitigation hierarchy, and monitoring arrangements. Long-term risks and impacts are avoided through exclusions and screening. The ESMF includes guidance for interventions near habitats and heritage areas, assessments of cumulative impacts, in addition to indicative Environmental and Social Management Plan (ESMP) for various types of activities³, it also guides requirements to ensure resilience, resource efficiency, and reduce emissions. As per World Bank Policies, ESMF applies to the entire project; also to linked activities or associated facilities. All sub-projects and linked/associated facilities shall also be categorized, impacts identified and mitigation measures, and monitoring planned and implemented. Environmental Codes of Practices (ECoPs) and guidance to follow World Bank Group EHS General and Industry-specific Guidelines (for Water, and Sanitation). It also includes guidance from World Health Organisation and the World Bank on COVID 19 waste management, health care, and labour management during this pandemic period. The ESMF guides screening, assessing, planning, and implementing mitigation measures; supervision and monitoring mechanisms; and disclosure requirements. Proposed ESF support, training/capacity building activities for ESMF implementation will be supported through Component 1 of G-ACRP at an estimated cost of INR 0.2 Crores (USD 0.027 Million), for the Project period. The ESMF budget does not include Resettlement costs of any nature. These costs shall be borne from the counterpart funding, details of which are further discussed in RPF. The project-specific ESIs have been prepared for sub-projects which will be taken up initially during the first two years (30 percent of Project Cost), such as upgradation of existing Sewage Treatment Plants and networks, construction of new treatment plants, and upgradation of sewage/drainage networks.

Procedure for Environmental and Social Management

Each sub-projects under the project shall be screened to determine the level of environmental and social impacts and management plans that would be needed. This will be done to ascertain the level of environmental and/or social impacts and risks due to sub-projects that require mitigation measures as well as the appropriate sub-project categorization. Sub-projects with no material E&S impacts will be required to follow standard environmental and social mitigation measures while those with risks

³ The sub-projects proposed are of different types ranging from upgradation and construction of Sewage treatment plants and tertiary treatment facilities, sewerage network improvements, storm water drainage, improving Lakes and canals. Indicative ESMPs for all types of sub-projects known at this stage are provided in Guidance Manual as part of ANNEXURES. This will enable implementing agencies / contractors to update and use these in ESIs and follow during implementation.

and potential impacts shall be subjected to a more in-depth level of environmental and social assessment which will have to be approved by the implementing agencies and reviewed and cleared by the Bank before the commencement of implementation.

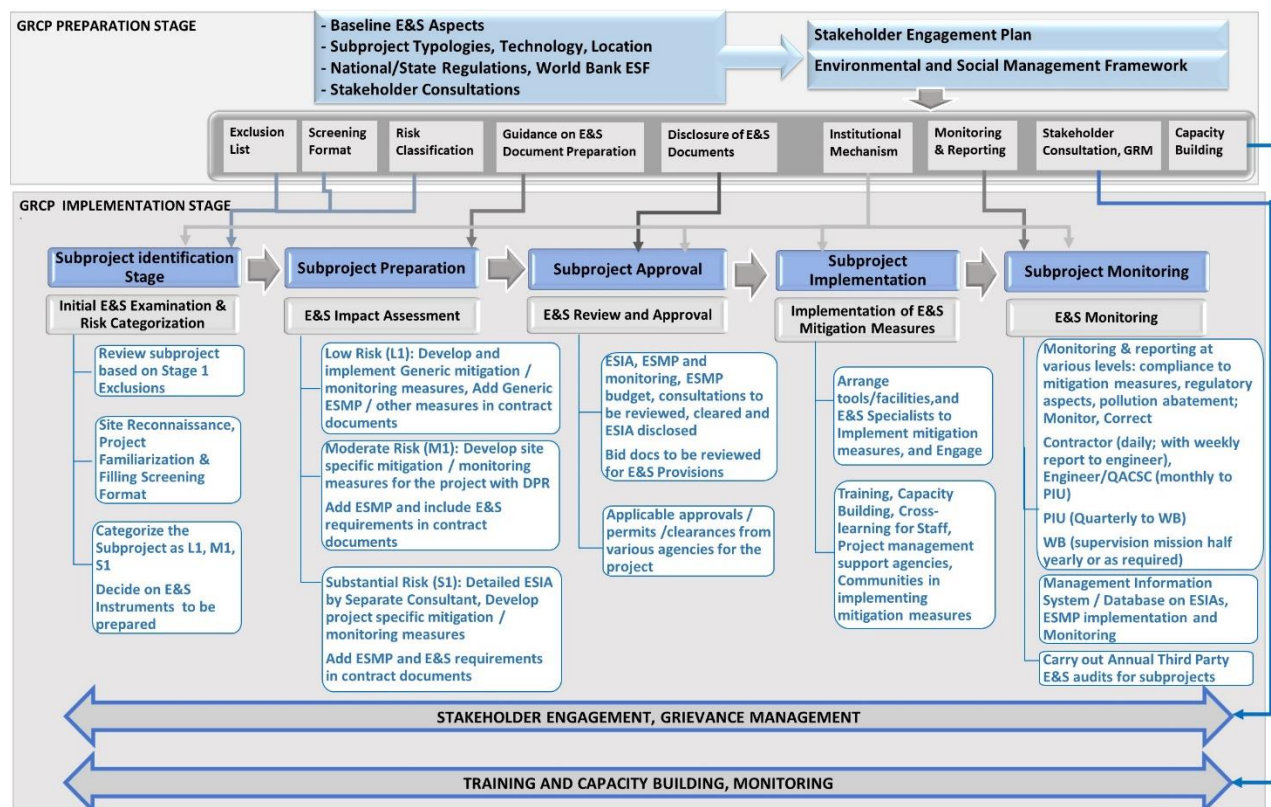


Figure B: ESMF Process

F. Stakeholder and Citizen Engagement

Consultations were conducted with concerned stakeholders during the preparation of ESMF. Residents/ communities especially those near the Sabarmati River, inundated areas and canals/ water bodies, and existing/ proposed STP or drainage/ sewerage lines were consulted. Community groups, NGOs, industries, engineers/ employees/ contractors of sewerage and drainage works in Ahmedabad were also consulted. Most of the consultations were virtual given the COVID 19 related restrictions.

Stakeholders categories include –(i) *Project Affected Parties*: residents, taxpayers who are directly affected by poor drainage in the city, (ii) *Other Interested Parties*: Resident Welfare Associations, , elected representatives, NGOs, and others who work with communities, (iii) *Disadvantaged or vulnerable and identified individuals or groups*: includes individual/ group that may be excluded from/ unable to participate fully in the mainstream consultation process and as such may require specific measures and/ or assistance to do so like urban poor who live as squatters without formal title of their land.

A summary of the key points raised during the stakeholders' consultations is given below and full details of various discussions with stakeholders are presented in **Annexure C (Annexures)** of this Report.

Project Affected People: Regular clogging of sewer lines, Mixing of water with sewer, Overflow of drain water during the rainy season, People staying close to STP raised concerns about the foul odor,

People living in villages downstream of Sabarmati brought up concerns about the poor quality of water of the river, Health issues (odour, air quality) for certain people living near CETP and STP.

Other Interested Parties: ESMF also benefited from the stakeholder inputs from other Govt institutions relevant to the project, elected members, contractors currently engaged with AMC, and NGOs. Relevant inputs were used to refine the process of preparation of ESMF, such as specific considerations for works near heritage areas, minimizing temporary impacts during construction works, etc.

Others:

Vulnerable Groups: Stakeholder inputs from vulnerable groups include - Issue of mixing sewage water with drinking water, inadequate service delivery, land ownership issues, air pollution due to proximity to industrial areas, no clear understanding of temporary livelihood disturbances, and access issues during construction works.

To facilitate ongoing consultations during the lifecycle of the project a SEP is prepared and disclosed. Relevant outcomes of the consultations will inform the design/preparation of project activities/assessments/ mitigation instruments throughout the project lifecycle. The sub-project environment and social documents will be consulted as disclosed as per ESS10. Special attention will be paid to consultation with vulnerable groups to address their concerns and ensure that they can access project's benefits following the stakeholder engagement process described in the SEP.

G. Gender

More than 95% of the contract labor is expected to be men, and women's participation in contract labor is going to be very low. Data from the gender assessment shows that informal women workers lack the information, networks, and financing to gain the required skill sets for accessing better paying jobs and achieving specialization. In particular, jobs that are traditionally considered to be male dominated; (i.e., masons, heavy capacity vehicle drivers, foreman, rod binder, etc.) are found to be completely inaccessible by women informal workers, evidently causing occupational segregation. The project will address this challenge by developing a unified modular (on-the-job) training delivery system at the AMC level, for informal women workers. This system will roll-out modular trainings over a period of 3-6 months on AMC project sites and target informal women workers who are somewhat familiar with the job role but lack specialized skillsets and/or certification (f.i. mason helpers, loaders). A platform will be established to leverage state's skill development programs and enable more coverage.

The SEA/SH risks of the project has been rated as "low". The PIU will ensure that contractors maintain harmonious relations with local communities and that laborers/workers adhere to the Code of conduct (CoC). The CoC includes sanctions for non-compliance, including non-compliance with specific policies related to gender-based violence, sexual exploitation, and sexual harassment (e.g., termination). Further, during the project implementation, the following measures will be taken up by the contractor – setting up separate, safe, and easily accessible facilities for women and men in the place of work and the labor camps, displaying signs that the project site is an area where SEA/SH is prohibited, Codes of Conduct are clearly understood and signed by those with a physical presence at the project site, training the project staff on the behavior obligations under the CoCs and disseminating CoCs (including visual illustrations) and continually discuss with employees and local communities.

H. Institutional Arrangements for Environment and Social Management

Implementation arrangements for the infrastructure and service development component of G- ACRP are mainstreamed into the existing City Authority, the Ahmedabad Municipal Corporation to ensure the best management during the life of the created assets and services. The program activities will be overseen by PIUs established at AMC and GUDM. These will be headed by Project Director and supported by Assistant Project Directors and/or Managers for each type of intervention; such as (i)

wastewater, drainage, and other general interventions including capacity building, and support studies under AMC sub-projects; and (ii) capacity building activities/ TAs/ studies under GUDM. Each PIU will have four (4) ESF specialists, to coordinate actions on ESSs. The Project Management Consultant (PMC) appointed by AMC will also have E&S experts who will coordinate and support ESF specialists of PIUs during the preparation, implementation, monitoring, and reporting of E&S aspects. PMC of AMC will also coordinate with GUDM for monitoring and reporting of their activities. AMC will collate details on project implementation, monitoring and reporting from GUDM with the help of PMC appointed by AMC; and report to the Bank as part of QPR, and missions. They will ensure that all records on E&S aspects are up to date and well maintained in hard and soft form. E&S Units of PIUs will be known as **Sustainable Urban Development Units (SUDU)**, which could be a lighthouse on E&S aspects for all Urban Local Bodies (ULBs) in Gujarat and upscaled in the long run.

The project level ESMF and RPF will be approved by the government. The Project Director is the designated officer for approving the mitigation plans including the ESMP and RAP, with recommendations from E&S specialists. Consultants who prepare E&S documents and deliver capacity building activities will have Environmental, OHS, Biodiversity, Heritage, R&R, Gender experts as required to prepare E&S mitigation/management measures and work with design consultants on integrating E&S aspects in design and supporting ESF specialists of PIUs to ensure that ESMPs and other aspects are incorporated in bid documents. This requirement will be incorporated in the ToR for consultants. Contractors who will implement sub-projects on site will have E&S experts and EHS Site officers to prepare, update ESMPs to reflect actual site/design aspects, to monitor, ensure, report, and maintain up-to-date documentation on the implementation of environmental and social aspects on site regularly. Construction Supervision and Quality Assurance (CSQA) will be ensured by the Project Management Consultant (PMC) who will supervise OHS in an integrated manner with civil work quality to ensure the best results, and monitor Life and Fire Safety on-site during all stages and report regularly to PIU. PIUs have the responsibility to review the sub-project ESF documents prepared by contractors and consultants. ESF documents should only be sent to WB for prior review after PIU's good quality initial review and sign off. It is also suggested that PIU shares ESF documents with WB by mentioning specific areas in which they need clear guidance. Annual third party E&S Audit will be conducted to monitor compliance to ESMF and other ESF documents (including OHS) on-site and report with suggestive corrective actions in case of non – compliance. The World Bank will review and clear ESF documents for Substantial and Moderate Risk projects, while PIUs will clear Low Risk projects, monitor all sub-projects using the project Management Information System, provide implementation support, and support PIUs in providing trainings on ESF for long term benefits.

The proposed institutional framework for E&S management under G-ACRP is in **Figure C**.

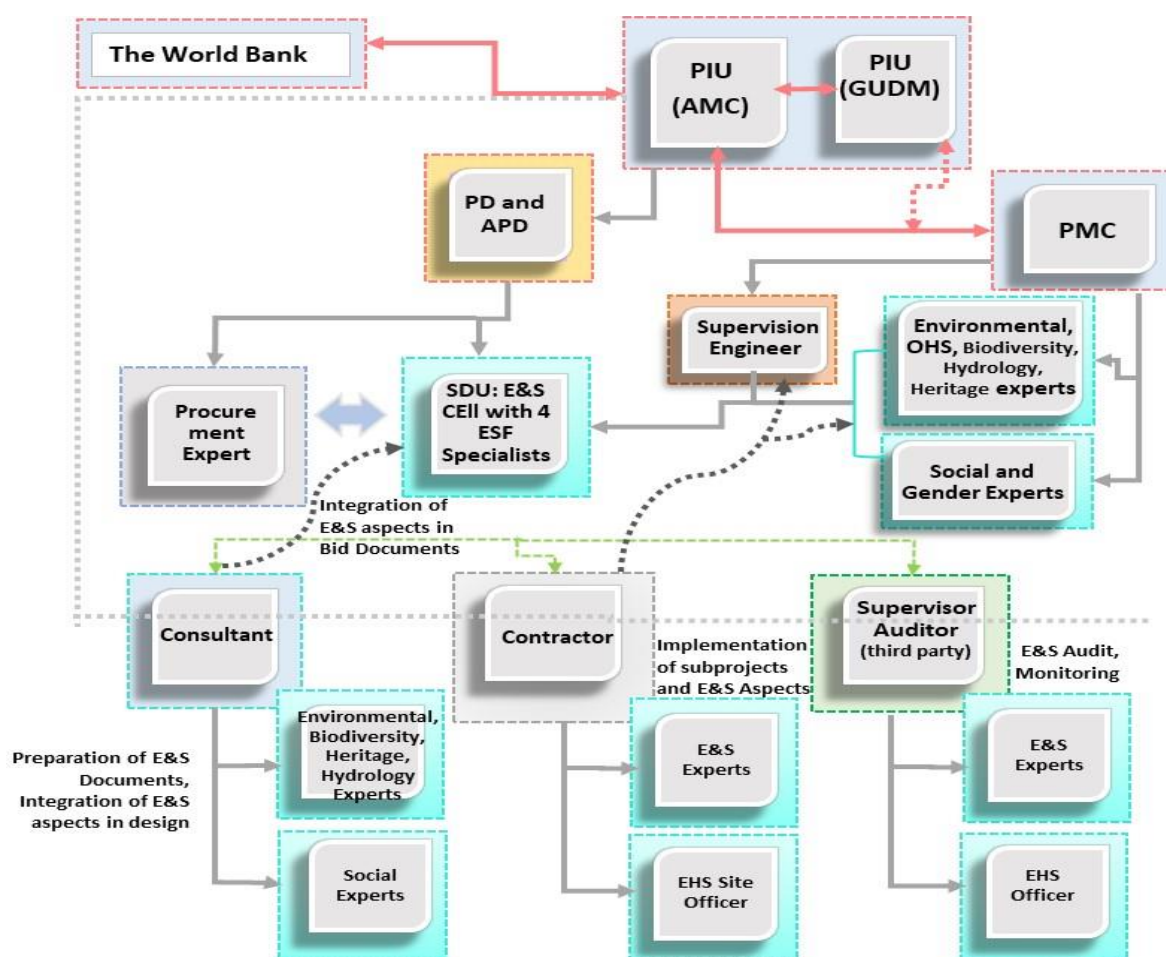


Figure C: Proposed Institutional Framework for E&S Management under G-ACRP

I. Capacity Building

G-ACRP envisages capacity building for all agencies involved in the project including PIUs (including Line Departments, Local Bodies, Statutory Boards, Public Undertakings applicable or each sub-projects), and Potential Private Operators, PMCs, Consultants, and Contractors to ensure that the ESMF is effectively operationalized. This will be accomplished by organizing sensitization programs, workshops, and training programs, which will be coordinated and anchored through training institutions and experts. The training program is presented in the ESMF.

J. Monitoring and Reporting

Three types of monitoring and reporting are envisaged here including third-party, external, and internal. Internal monitoring is a continuous process undertaken by contractors E&S persons, OHS monitoring by PMC and PIU as part of construction supervision, E&S monitoring by SUDU, and third party will undertake annual independent E&S audit. Contractor's E&S Experts and EHS specialists will monitor daily ESMP compliance on-site at the sub-projects level, and report weekly to the site engineer. The site engineer will submit this to PMC E&S experts who will verify every quarter or as required, and compile these to submit monthly monitoring reports to PIU. PIU also undertakes site visits to monitor once a month or as appropriate, and compile E&S reports over the quarter and submit to the Bank as part of the project's Quarterly Project Monitoring Report (QPR) or as a standalone E&S quarterly monitoring report highlighting key issues, how issues were managed and any support required.

The environment and social management instruments at the sub-projects level such as ESIA, and RAP guide the monitoring and evaluation parameters and describe the institutional arrangements to facilitate the 'process' and 'progress' monitoring.

Designated E&S Specialists/experts at various levels shall be responsible for overseeing compliance of the sub-projects to Bank ESF, GoI regulations, and applicable ESMF guidelines. They shall also regularly review the timely implementation of environment provisions as per the ESMP. PIUs and the World Bank review and clear ESF documents. PIUs (with PMC support) will be guided by the Bank continuously on ESF implementation, will report to Bank on progress and issues quarterly through Quarterly Reports and also report to the Bank during its six-monthly supervision missions.

Reporting formats shall be developed by PIUs to get progress and results data of the project from the field. This will also help in synchronizing and streamlining reporting requirements from the various work sites. These should be part of the Project Operations Manual.

Detailed E&S Management Information System named Environmental and Social Management Information System (ESMIS) linking project details, scheduling, and documentation of the ESIA process, integration of E&S aspects in design, ESMP in bid documents, and ESMF implementation will support the project in the effective preparation and updating of ESF instruments, implementation, supervision, and monitoring.

K. Grievance Redress Mechanisms

AMC has a functional complaint system (CCRS, <http://www.amccrs.com>) which includes a web portal and a toll-free number. It records almost 40000-50000 complaints every month. Any complaint registered in the system is forwarded to respective zones for action. The CCRS is integrated with the Gujarat Government's CM Helpline and any complaints received at CM Helpline are also recorded in the CCRS system. Grievances of PAPs will be first brought to the attention of the site office level of the PIU which shall be redressed within two weeks from the receipt of complaints. Grievances not redressed by the PIU staff (field level) will be brought to the Grievance Redress Committee (GRC) which shall redress the grievances within four weeks from the date of receiving the complaint at PIU. GRC shall be formed at a zonal level comprising of competent members, who can effectively contribute to grievance redressal. GRC team consists of Zonal Officer AMC, Env and Social staff of PIU, a local CBO/CSO representative. The main responsibilities of the GRC will be to (i) provide support to PAPs on problems arising from land/ property acquisition; (ii) record AP grievances, categorize, and prioritize grievances and resolve them; (iii) immediately inform the PMU of serious cases; and (iv) report to PAPs on developments regarding their grievances and decisions of the GRC and the PMU. Other than disputes relating to ownership rights under the court of law, GRC will review grievances involving all resettlement benefits, compensation, relocation, replacement cost, and other assistance; noise, traffic, odor, and other grievances related to the environment. Records will be kept of all grievances received including contact details of the complainant, the date the complaint was received, nature of the grievance, agreed corrective actions, and the date these were affected and outcome. The GRCs will continue to function during the life of the Project including the defects liability period. Cases not resolved at the GRC level would be brought for resolution by Commissioner, AMC. In the case at this level, the dispute is also not resolved, the aggrieved person may take recourse to the civil court and the decision of the Court will be binding on all parties.

L. Consultation and Disclosure

The ESMF has been prepared following the ESF, relevant International, National, and State Regulations and guidelines. Stakeholder consultations have been conducted at the city level to prepare this ESMF. A stand-alone Stakeholder Engagement Plan has been prepared for the Project. Copies of this ESMF, like other E&S instruments (such as ESIAs/ESMPs/Monthly, Quarterly, Annual Reports, etc) that would be prepared for this project and all its sub-projects will be disclosed and made available to the public by the PIUs.

Once site-specific sub-projects activities are determined, screening and other E&S instruments such as ESIA/ESMPs that would be prepared for sub-projects under the Project and similarly disclosed by PIUs as that of the ESMF, following stakeholder consultations.

The Draft ESMF was disclosed both in English and Gujarati on the AMC and GUDM website for feedback from stakeholders on Feb 10, 2021, before the appraisal. This was further updated following the consultations held during Feb – March 2022. Sub-project-specific ESIA, ESMPs (for substantial risk subproject to be implemented under the project initially), were disclosed in English & summaries in Gujarati for consultations – hard copies in PIUs and the Zonal Offices of AMC, and soft copy on PIU websites.

ESMF and ESIA for initial investment (substantial risk) were disclosed in the country on the website respectively at :

<https://ahmedabadcity.gov.in/portal/web?requestType=ApplicationRH&actionVal=viewAttachment&queryType=Select&screenId=2900003&AttachmentFileName=ESMF.pdf> and
<https://ahmedabadcity.gov.in/portal/web?requestType=ApplicationRH&actionVal=viewAttachment&queryType=Select&screenId=2900003&AttachmentFileName=ESIA-126-MLD-STP.pdf>

and in-World Bank external website on Feb 10, 2022.

Post disclosure consultations were carried out in Feb and March 2022. Public consultation was conducted June 2022 by AMC in Pandit Dindayal Upadhyaya Auditorium, Bodakdev, Ahmedabad. Invitations (in English and Gujarati) was circulated to various stakeholders such as elected representatives (Councillors), Mayor, Deputy Mayor, CSO, NGOs, Municipal Commissioner, Deputy Municipal Commissioner, heads of Committees and others. Notices were also published in the newspapers in both languages.

The key concerns raised by stakeholders have been incorporated in the ESMF and ESIA for 375 MLD STP. The suggestions of the stakeholders by including monitoring of noise, sludge, air and water and its analysis for defining the baseline and mitigation measures. The project suggests improved management of all wastes and treated water quality to confirm with latest NGT suggested standards. Labour health and safety will be given high priority and appropriate measures to follow and monitor labour regulations have been suggested in the ESMP. There will be increased labour opportunities during implementation.

M. ESMF Performance Indicators

The key performance indicators to be monitored for successful implementation of ESMF will be the following:

- The number of sub-projects for which preparation and Implementation of ESIA/ESMP and (other instruments) were carried out in a time-bound manner and included in Bid Documents. To be reported as part of Quarterly Progress Reports to the Bank, and checked as part of third party E&S audit. The number of subprojects will be determined during the implementation stage of the project in line with the master planning for sewerage and drainage that is currently being prepared.
- The number of all incidents (required under Systematic Incident Reporting Tool of the World Bank) during the construction phase. To be reported immediately upon occurrence to the Bank, Safeguard Corrective Action Plan (SCAP) prepared, and actions completed on time.
- Status of compliances with regulatory requirements and clearances. To be reported as part of Quarterly Progress Reports to the Bank, and checked as part of third party E&S audit

- The number of facilities with Improved (as compared to baseline) environmental performance and resource efficiency due to the project. To be reported as part of Quarterly Progress Reports on environmental and social aspects to the Bank, and checked as part of third party E&S audit
 - 80 percent of grievances were resolved within 30 days of registration. To be measured every quarter by PIUs and consolidated half-yearly for reporting to the Bank.
 - Number of RAPs fully implemented before initiation of civil works. To be measured annually by PIU
- N.** 80 percent of the community is satisfied with improved service delivery. To be measured through annual beneficiary satisfaction survey.

O. Conclusion

This ESMF document for G-ACRP is the guidance document for the management of environmental and social aspects for all components of the project. This is a living document and shall be updated, if required, following the consultations, approval, and disclosure requirements of the World Bank.

CHAPTER 1. INTRODUCTION TO THE PROJECT

1.1 Project Description

The Government of Gujarat (GoG) intends to utilize financial support from the World Bank (280m USD) for the Gujarat Resilient Cities Partnership: Ahmedabad City Resilience Project (G-ACRP) which aims to strengthen the institutional and service delivery systems for Urban Service Delivery and financial systems in the city of Ahmedabad and to strengthen the State institutional capacity for management of services in urban areas in Gujarat.

The Project Development Objective of G-ACRP is to develop resilient and sustainable urban service delivery and financial systems in Ahmedabad. The key results areas targeted under this project include (i) resilient urban infrastructure and improved service levels for selected urban services⁴, (ii) improved financial systems and performance, and (iii) strengthened institutional capacity to better plan, deliver, and manage urban services.

1.2 Proposed Project Components

The proposed Project will consist of three main components:

Component 1: Strengthening Ahmedabad Municipal Corporation's (AMC) financial systems and performance: This activity will provide technical support to AMC to address key constraints affecting its financial performance and capacity to deliver and sustain good quality services to a rapidly expanding urban population. The focus of this activity will be on strengthening AMC's systems for long-term capital investment planning, financing and budgeting, generating municipal revenues, and leveraging land-based financing.

Component 2: Improving urban services in Ahmedabad: This activity will provide comprehensive support to AMC in improving the quality, efficiency, sustainability, and resilience of select urban services – waste-water management services, storm water drainage (prioritized in terms of significant infrastructure gaps, poor service levels, and negative environmental & social externalities). This activity will be implemented by adopting a comprehensive service delivery approach in selected service sectors.

Component 3: Developing institutional systems and capacities: This activity will focus on strengthening the overall institutional and governance frameworks for urban management, service delivery, and financing in Ahmedabad, and develop a platform to leverage AMC's good practices to provide capacity-building support to other emerging cities of Gujarat.

1.3 Purpose of Environmental and Social Management Framework (ESMF)

Ahmedabad city is unique in its geographic features (such as almost flat terrain, Sabarmati and Khari rivers draining the city and its region, presence of lakes), climatic conditions (hot-semi arid with less rainfall, scorching summers, and very cold winters), and environmental characteristics; and is prone to extreme events (such as floods and earthquake). It is highly industrialized, with a high-density population living hand in hand with a beautiful heritage. Water availability is less - mainly dependent on Narmada waters, while the demand for industrial effluent and wastewater management, sanitation, and waste management are increasing day by day. Today, with its status as a predicted megacity, upgrading and developing sustainable urban environmental infrastructure is very important for its people and environment.

⁴ Selected urban services include wastewater management, and storm water drainage

Since G-ACRP is supported under the Investment Project Financing (IPF) instrument of the World Bank, Environmental and Social Framework (ESF) and Environmental and Social Standards (ESSs) of the Bank apply to the project.

The ESF defines an ESMF as “an instrument that examines the risks and impacts when a project consists of a program and/or series of sub-projects, and the risks and impacts cannot be determined until the program and/ or sub-project details have been identified.” Depending on the nature and location of the proposed sub-projects or urban investment activities, the project initiatives are likely to contribute to environmental and social risks and impacts on the project area during their construction and O&M phases. These risks and impacts would assume importance when the sub-projects locations are in proximity to sensitive areas. Hence, there is a need for systematic environmental and social management with a pre-defined framework for risk mitigation. As the sub-projects locations and activities are not finalized, to identify and manage associated risks and impacts, it is required to prepare an ESMF for the project. Thus, the purpose of the ESMF is to describe a framework for the management of the environmental and social risks and impacts during the preparation of sub-projects; including (i) procedures for screening the environmental and social aspects related to the programs, (ii) identification and analysis of the risks and impacts, regulatory mechanisms, and management/mitigation measures and monitoring needs, (iii) details on the institutional roles and responsibilities for environmental and social management (including contract provisions and budget), (iii) strategy and plan for capacity building of key stakeholders, (iv) plan for monitoring the implementation of environmental and social mitigation measures, (v) strategy for public consultation.

1.4 Methodology Adopted for ESMF Preparation

The ESMF has been prepared based on environmental and social assessments which involved the gathering of data through both primary and secondary sources. The steps followed in developing the ESMF are provided below:

- Review of the Project details and meeting/discussions with various stakeholders,
- Field reconnaissance at sample candidate sites to determine the key environmental and social parameters and aspects that are likely to be impacted by the Project activities,
- Establishment of the baseline (describing the relevant physical, biological, and socioeconomic conditions) through assessment of the study area, solid and biomedical waste management through desk research, surveys, and discussions with stakeholders. This also included desk research of similar bank operations to understand probable social and environmental risks and impacts,
- Defining the legal/regulatory framework that will influence the implementation of the proposed projects and sub-projects including a review of national and state-level acts and policies applicable to the proposed project and the World Bank (WB) Environmental and Social Framework (ESF) and identifying existing gaps in the current implementation practices associated with the type of sub-projects,
- Carrying out consultations with all relevant stakeholders those who have been identified through stakeholder and institutional analysis: these include government, communities, and institutions. The objective of the consultation sessions is focused to improve the project's interventions about the environment and social management and seeking views from the stakeholders on the environmental and social issues and the ways these could be resolved,
- Identifying the risks and impacts of the activities supported by the project on the environment and the society to develop screening criteria, environmental and social instruments that need to be prepared for each sub-projects,

- Defining the framework for management and mitigation methods to manage the impacts, enhance project environmental and social benefits, and for improving stakeholder capacities to manage the project,
- Outline the procedures to be followed to comply with the WB ESF and National/State/Local level rules and regulations including preparation of various environmental and social documents, monitoring mechanism, stakeholder engagement, disclosure requirement, grievance redress, and institutional arrangement,
- Preparing the monitoring plan to oversee the implementation of management and mitigation methods,
- Discussing the existing grievance redressal mechanism and citizen engagement measures and defining the proposed mechanisms for the project,
- Identifying the institutional capacity building and training requirements for implementing the mitigation measures,
- Preparing an estimated budget to undertake the provisions of the ESMF.

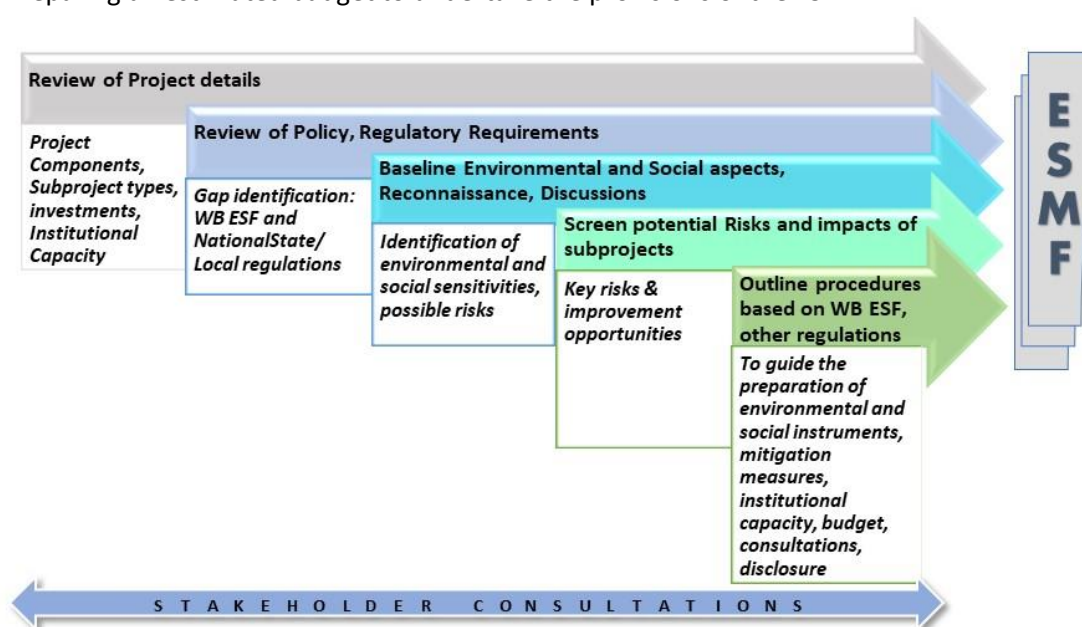


Figure 1: Methodology adopted for ESMF Preparation

1.5 Structure of the Report

The ESMF has been structured as follows:

EXECUTIVE SUMMARY: A non-technical summary of the ESMF

CHAPTER 1. INTRODUCTION TO THE PROJECT: provides a brief overview of the project background, provides a description & objective of the project, its various components, scope & purpose of the ESMF, approach & methodology.

CHAPTER 2. BASELINE ENVIRONMENTAL AND SOCIAL CHARACTERISTICS OF AHMEDABAD: Presents a synthesis of the baseline physical, economic, infrastructural, environmental, and social aspects and sensitivities of the city and its region and presents the existing institutional structure. It compiles the key points derived from baseline analysis, relevant to the environmental and social management of G-ACRP. A detailed baseline description is presented in **Annexure A (of Annexures)**.

CHAPTER 3. REGULATORY FRAMEWORK: discusses applicable National/ State/ local regulations, WB ESF/ ESSs, and applicable standards/guidance

CHAPTER 4. ASSESSMENT OF PROBABLE IMPACTS DUE TO SUB-PROJECTS: presents the expected risks and impacts of the proposed project

CHAPTER 5. ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK: discusses the framework to be adopted for sub-project Identification and Initiation, screening, and categorization of the Projects, mechanism for assessment of impacts during project preparation, preparation of mitigation and monitoring measures, public consultations, and addressing the concerns of the disadvantaged groups. It also presents the linkage of ESMF to ESCP and other project documents and ESMF updating mechanism.

CHAPTER 6. INSTITUTIONAL FRAMEWORK AND BUDGET FOR ESMF ADOPTION discusses the role and responsibilities of various institutions and capacity building needs for management of environmental and social aspects, budget for ESMF implementation

CHAPTER 7. STAKEHOLDER ENGAGEMENT, GRIEVANCE REDRESSAL MECHANISM, AND INFORMATION DISCLOSURE present the mechanisms for grievance redressal, consultations, and disclosure of information on environmental and social aspects of G-ACRP.


ANNEXURES of the report includes

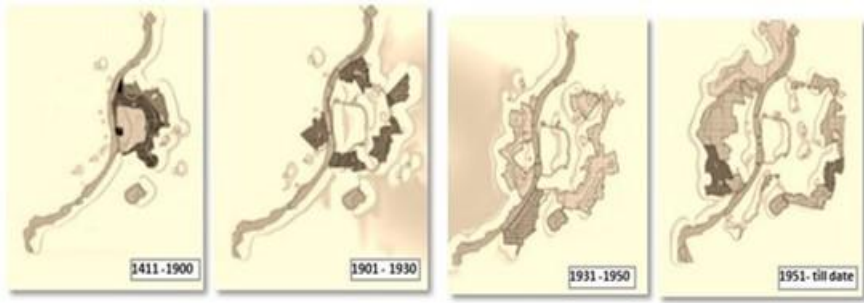
1. ESMF GUIDANCE MANUAL with:
 - a) Documentation formats to be used for screening of sub-projects
 - b) Sample terms of references - for Impact Assessment, engaging environmental and social specialists, and for auditing compliance to ESMF
 - c) Guidance materials for licenses, permits, clearances under various regulations, site selection, public consultation, and consensus, indicative Environmental and Social Management Plans, monitoring plans for typical typologies of sub-projects, grievance management, Outline of Biodiversity Management Plan to be prepared with ESIA.
2. ANNEXURES with:
 - a) Annexure A: Detailed Environmental and Social Baseline of Ahmedabad
 - b) Annexure B: Details of Applicable National and State Regulations
 - c) Annexure C: Details on Stakeholder Consultations
 - d) Annexure D: Dam Safety

Cultural Heritage Management Framework (ESS 8), Resettlement Planning Framework (ESS 5) and Labour Management Procedures (ESS 2) are being prepared as separate documents.

CHAPTER 2. SUMMARY OF BASELINE ENVIRONMENTAL AND SOCIAL CHARACTERISTICS OF AHMEDABAD REGION

A summary of the baseline environmental and social characteristics of the project area, namely, the city of Ahmedabad is presented in this chapter. A detailed description of the baseline conditions with analysis is presented as **Annexure A (Annexures)**.

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
2.1	Geographic Location	<p>Gujarat in the North-Western coast of India is among its most urbanized states with a strong industrial base. Located to the north-central part of the state at nearly 100km from the coast (Gulf of Khambhat), is Ahmedabad its most important mega city witnessing high industrial population growth in the and its larger region.</p>  <p style="text-align: center;">Figure 2: <i>Geographical Location of Ahmedabad</i></p>	Increasing demand for infrastructure and services to ensure sustainable development.
2.2	The City, its form, and functions		
2.2.1	Evolution of the city	<p>The city could be segmented as (i) the ‘walled’ city (within the fort walls - 15th century) – the old central city of Ahmedabad; (ii) industrial and residential localities to the Eastern peripheral areas of the Old City (dating back to the year 1860); and (iii) plotted residential colonies and institutional areas in the ‘new city’ to the west of the old city across Sabarmati – depicting a clear evolution over time. Today, the city is divided into seven administrative zones - Central, East, West, North, South, Southwest, and Northwest. It has evolved as a concentric compact city around the Sabarmati River, with a density of around 14,450 people/sq.km. The city is in a high growth trajectory, being at the locus of industrial development</p>	Specific development patterns and issues in each of the three urban morphologies here need to be considered to avoid, minimize, and manage environmental and social risks and impacts related to developing infrastructure and laying networks.

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
			
<p>Figure 3: Evolution of the City of Ahmedabad</p>			
2.2.2	Urban Planning and Development mechanism	Gujarat (and Ahmedabad, its city) has a very robust urban planning mechanism under the Gujarat Town Planning and Urban Development Act (GTPUDA) of 1976 which uses Development Plans and Town Planning Schemes as the planning tool for managing peripheral urban growth, mostly in case of agricultural land repurposed for sustainable urban use. This helps in the development of a gridiron road network, and allot required space for roads, open greens, utilities, housing, and commercial/industrial uses.	The efficient spatial planning scheme could be utilized for upgrading existing industrial/other developments which impact the environment and the people. There are opportunities for robust environmental and social considerations and resilience in planning and developing Ahmedabad as a light house/mode city for sustainable development.
<p>2.3 Demographics</p>			
2.3.1	Population Profile and Decadal Growth Rate	The population of Ahmedabad the fifth largest city in India was 5.57 million in 2011 (Census) estimated to be 6.3 million by 2020. With the increasing opportunities for trade and commerce and as a center for higher education, this heavy growth continues. The city has a sex ratio of less than 1 (male Population 2,938,985, female Population 2,638,955) and shows a 2.4 percent annual growth in population.	There is an urgent need to strengthen/ provide new environmental infrastructure and services to cater to the needs of the existing urban population and expected future growth.
2.3.2	Child and youth population Working Age	The total child population (0-6 Age Group) in Ahmedabad city as per census 2011 was 621,034. The total male child population was 336,063 and the total female child population was 284,971. The percentage of the youth population (15-24 years) is 19.26. The working-age group (15-59 years) population is 66.78 percent	While the city is growing at a fast pace in terms of its density it fares poorer in terms of social indicators such as sex ratio and literacy. It has a large working-age population. ST population in the city is just around 70,000.
2.3.3	Sex Ratio (Females Per 1000 Males)	The sex ratio of Ahmedabad city is 897 females for 1000 males. The child sex ratio of girls is 848 girls per 1000 boys.	

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
2.3.4	Literacy	The literacy rate of Ahmedabad is 89.60%. The total literate population of the city is 4,376,393. The population of literate males is 2,402,523 and while that of literate females is 1,973,870.	
2.3.5	Density of Population	The Gross density of AMC in 2011 was 120 persons per hectare, which is the average gross density for a metropolis as per Urban Regional Development Plan Formulation and Implementation guidelines.	
2.3.6	SC/ ST population	The SC/ ST Population in the city is 10.66 and 1.2 percent respectively	
2.4	Population Distribution		
2.4.1	Administrative Divisions	AMC has 6 zones named based on their respective locational directions, with wards in each zone headed by corporators/councillors. As per sections 63 and 66 of the Bombay Provincial Municipal Corporation Act, the AMC is responsible for certain obligatory and discretionary services.	Sewerage, Drainage services, Water Supply, and maintaining Heritage are among the important obligatory services to be ensured by AMC for all its citizens.

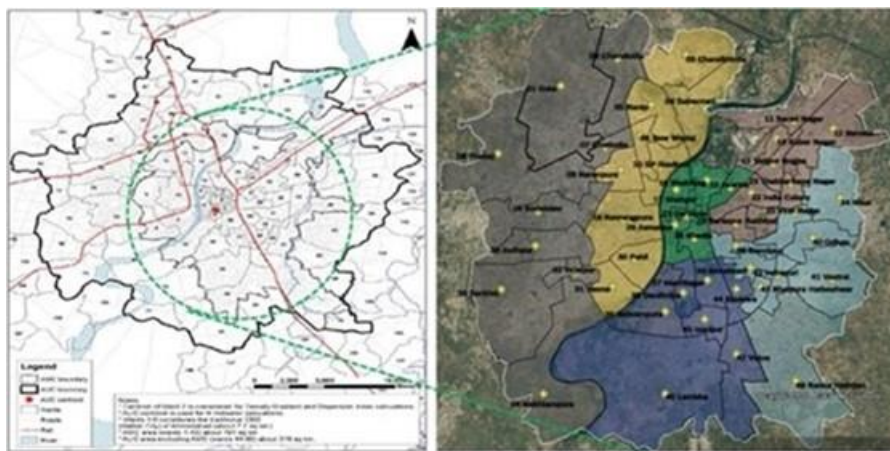


Figure 4: Administrative Divisions of Ahmedabad City

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
2.4.2	Housing & Urban Poor	The percentage of the population living in urban slums is 4.49 and in congested houses is 36.42. Overall, 77.39 percent are residing in their own houses while 20.57 percent are residing in rented houses. Service levels and access to infrastructure vary across various housing/income levels.	It is important to ensure that all areas are served with the best environmental infrastructure, for the safety of the city, and its environment.

2.5 Physical Characteristics

- 2.5.1** Physiography and Terrain
- The city, in the west coastal plan physiographic region, is 40-60m above sea level with a master slope towards the South. The area is monotonously flat except few mildly undulating topographies: small hills of Thaltej-Jodhpur Tekra and Vastrapur. The Sabarmati flows for 14 km through the city and divides it into eastern and western parts. The ground slopes gently towards the river and to the south with more slope along the western side.

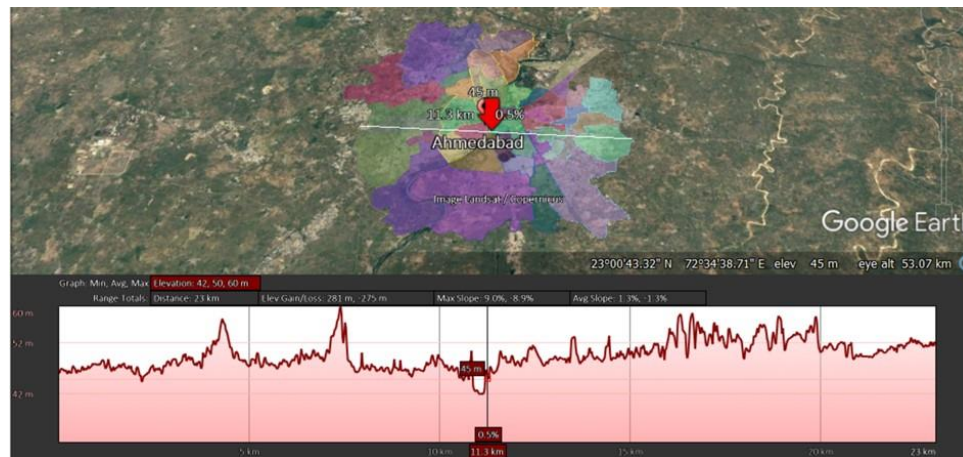


Figure 5: Physiography and Terrain

Topography is almost flat; hence, it will be difficult to get a natural slope for sewage, drainage networks. The lowest point available is near the Sabarmati River edge and hence, most STPs are located along the River edge at the South of the city. Also, since the city is bifurcated into east and west sides STP for the eastern side preferably are located on the east bank and vice versa. These are important pointers for the future location of STPs.

- Master plan suggested locations for STPs are mostly near river edge. It is important to consider flooding and arrange protection weirs and / or buffers along the river edges while designing STPs, drains and outfalls.

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
2.5.2	Climate	The city has a semi-arid hot climate with summers from March to July, monsoons from mid-July to near around September, and dry winters from November to February. The average temperature of the city ranges between 12 to 41° Celsius. The average annual rainfall received is 932 mm. The monsoons are often characterized by torrential <i>infrequent</i> rains, sometimes leading to flash floods. Water is maintained in the River mostly through supply from the Narmada canal. Wind speeds are high from May to July. Predominantly, the winds are from the south west tending to carry sand and odors from south west to the east of the city where industries are mostly located.	<ul style="list-style-type: none"> ▪ River pollution would be more pronounced during summers and hence monitoring of quality and quantity parameters for the design of STPs shall preferably be conducted then. ▪ Preferably avoid construction works during peak rains and there should be a system to alert construction sites to avoid causalities. ▪ Adopt disaster preparedness in all infrastructure for flash floods. ▪ Monitor waste water and bypass arrangements continuously. The direction of the prevailing winds is to be ascertained with regard to other polluting landuses (such as industries), the location of various units of the treatment plants, distance to habitations, and other sensitive receptors during environmental and social assessments.
2.5.3	Geology and Soils	Soils are fertile. The soil is either coarse sandy or fine sandy loam, with less clay content and has good to excellent drain-ability, with soil depths more than 100 cm. Spread of alluvial bed from and to end of the district is an important feature. Alluvial bed/sediments carry polluted discharges through villages downstream up to the Gulf of Khambhat and can impact downstream villages	<ul style="list-style-type: none"> ▪ It is important to avoid/minimize the pollution of riverbeds. ▪ Good ground and tree cover/ green belt shall be integrated into designs as the soil conditions support this. ▪ Dust pollution due to construction (movement of vehicles, storage of materials, wastes, construction, and demolition) to be prevented using buffers and screens, mainly during summers when air-borne sand movement may be higher in the region

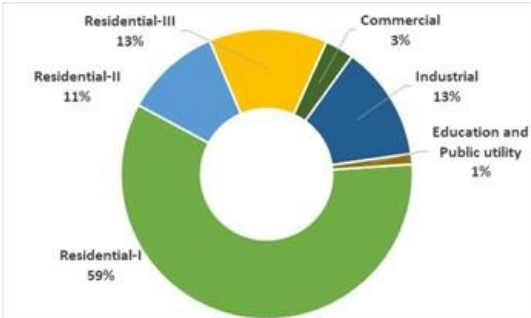
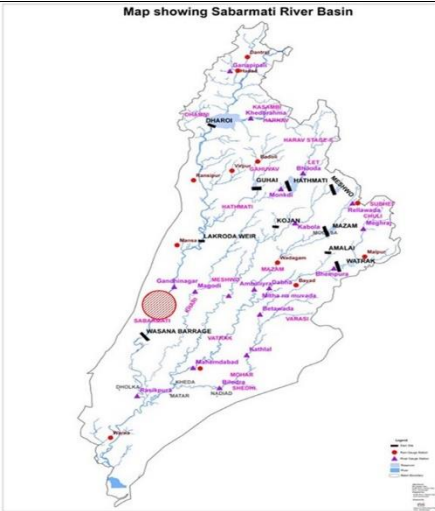
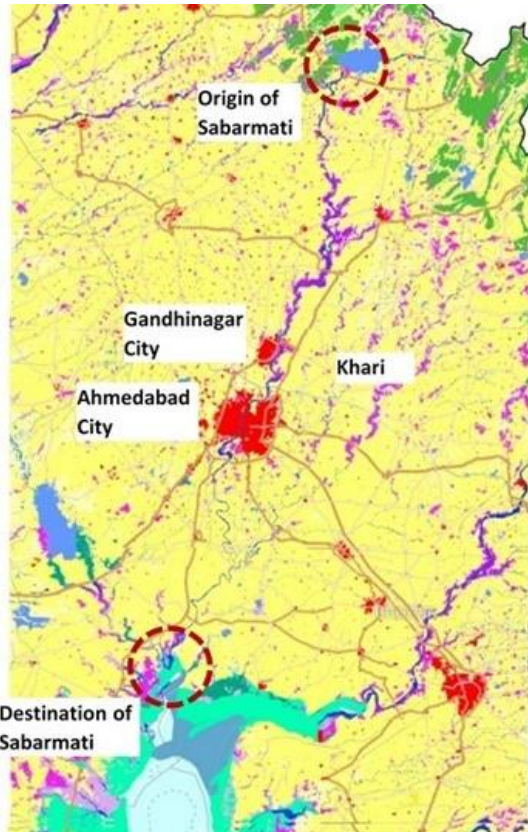
List NO:	Aspects	Description	Key pointers for E&S risk identification and Management														
2.5.4	Land use and Landcover	<p>The city forms part of two major industrial growth corridors of Gujarat (Mahesana, Ahmedabad-Vadodara-Surat-Valsad(together 72% urban population) and Ahmedabad-Rajkot-Junagarh (9% of state’s urban population by 2021, excluding Ahmedabad)). The urban-rural disparity in terms of access to infrastructure, services, and facilities is high. The ratio of Built-up area to Agriculture/waste/open land is 10:90 in the case of Ahmedabad district. The city has 80% residential and 13% industrial landuse.</p>	<ul style="list-style-type: none">Industrial landuse of the city and agricultural landuse of the neighboring areas are important pointers to risks and impacts and stakeholders of the sewerage/drainage projects.														
<p>Figure 6: Landuse of Ahmedabad City</p>  <table border="1"><thead><tr><th>Category</th><th>Percentage</th></tr></thead><tbody><tr><td>Residential-I</td><td>59%</td></tr><tr><td>Residential-II</td><td>11%</td></tr><tr><td>Residential-III</td><td>13%</td></tr><tr><td>Commercial</td><td>3%</td></tr><tr><td>Industrial</td><td>13%</td></tr><tr><td>Education and Public utility</td><td>1%</td></tr></tbody></table>				Category	Percentage	Residential-I	59%	Residential-II	11%	Residential-III	13%	Commercial	3%	Industrial	13%	Education and Public utility	1%
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2.5.5	Hydrology and Rivers	<p>Map showing Sabarmati River Basin</p>  <p>Sabarmati, a rain-fed river originating in Rajasthan bifurcates the city into east and west parts, flows to the south, and reaches the Gulf of Khambhat (which opens into to Arabian sea) 100 km south of the city. Kharicut canal through the city drains to Khari river running through its eastern periphery. These regional arteries pass through many other towns, villages with mainly Agricultural landuses before and after the city carrying the waste, agricultural runoffs, wastewater and chemicals/ from various landuses, effluents from the city and its region. Summer flow through Sabarmati depends on the release of Narmada water through the canal.</p>	<ul style="list-style-type: none">The rivers are seasonal with less flow, with many users in the region. It is important to conserve, clean, and reuse available waste water and ensure good flow through the rivers.It is important to monitor the quality of water reaching Sabarmati through the Narmada Canal and from downstream (ground and surface) areas through which these rivers flow after receiving the treated sewage from the city.Designs shall withstand any safety impacts or risks on all project components, activities due to natural / manmade disasters and any impacts due to Vasna Barrage and this shall be comprehensively reviewed, and appropriate interventions adopted for safety and resilience in DPRs.Undertake hydrological and flood assessment, including a study on Dam break analysis & flooding Stimulation, preparation of inundation maps and														

Figure 7: Sabarmati Basin

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
			<p>Emergency Action Plan for Vasna Barrage, Ahmedabad, Gujarat</p> <ul style="list-style-type: none"> ○ Outcome/output of these assessments shall be incorporated in the design and subsequently assessed in C-ESIA & mitigation measures if required included in C-ESMP. ○ Emergency Preparedness and Response Plan and Disaster Management Plan shall be part of all ESIAs <ul style="list-style-type: none"> ▪ Also, impacts of effluents/bypass from STPs during heavy rains on the rivers and Vasna barrage shall be assessed and a suitable design and STP operations protocol/manual shall be prepared. ▪ Disaster Management Plan shall incorporate considerations for any impact due to Vasna barrage and flooding on STPs to its south during heavy rains/flooding/other disasters. ▪ There is no International Water Way involved in this case either Sabarmati, Khari or Gulf of Khambat. Sabarmati and Khari rivers all originated and are only flowing in and through India whereas Gulf of Khambat is only within the jurisdictional boundary of India and is not shared with other riparian states.
2.5.6	Groundwater Scenario		
2.5.6.1	District Ground Water Scenario	Multiple aquifers exist thanks to alluvial plains. However, ground water is overexploited for various purposes, including industrial uses. Due to over-exploitation, the water levels in the phreatic aquifer have declined alarmingly rendering them almost dry. In North Gujarat, about 93% of the area falls within the water level of 20 m bgl.	<ul style="list-style-type: none"> ▪ Ground water quality pre-and post-construction of the proposed investments could be a good pointer of regional pollution load. This should be built into the Monitoring Plan for contractors.

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
2.5.6.2	City Ground Water Scenario	AMC draws water from some 363 tube wells (406 installed, but 43 are non-functional). There are many private borewells/tube wells across the city. An increase in the withdrawal from the groundwater table over years has increased the failure rate of the tube wells. It can be observed that the TDS in borewells is beyond the BIS standard 500 mg/ l and thus the hardness of water is quite high.	<ul style="list-style-type: none"> Project activities shall also ensure ground water conservation and recharge (for example reuse of wastewater for industrial/agricultural purposes; drainage projects to incorporate rainwater harvesting structures)
2.5.7	Extreme Events	The mega city of Ahmedabad tops the list of cities in the composite risk and vulnerability ranking of cities in Gujarat.	<ul style="list-style-type: none"> Disaster Management Plan should be part of all sub-projects' ESIA's
2.5.7.1	Earthquakes	The city of Ahmedabad falls in the Moderate Seismic Zone – III. During the earthquake of 2001, sewage networks of Ahmedabad were subject to damage.	<ul style="list-style-type: none"> It is important to incorporate earthquake-resistant design features in all infrastructure proposed under the project, for the safety of the people and structures, and to prevent the accidental spill of pollutants.
2.5.7.2	Cyclones	Though the southern part of the Ahmedabad district near the coast is highly vulnerable to tropical cyclones generated in the Arabian sea; it is not so in the case of the city area which is in the northern part. The city falls in the mean wind speed zone of 34-39 m/ sec zone.	<ul style="list-style-type: none"> Movement of dust and sand (and other air borne pollutants) in this semi-arid area viz a viz the wind speed shall be considered in all ESIA's
2.5.7.3	Flooding	Cities like Ahmedabad, Surat, and Bharuch are located on the flat alluvial plains of large rivers, which are flood-prone. Infrastructure and services were impacted due to floods in 2018 and 19.	<ul style="list-style-type: none"> Design should integrate features to protect networks, and infrastructure facilities created from the effects of flooding. High Flood Level shall be considered for the design of all infrastructure, electrical and mechanical systems; equipment and storage of chemicals, fuels, and materials for construction and operation
2.5.8	Sensitive Ecosystems		
2.5.8.1	Protected Areas	Nal Sarovar protected area and wildlife sanctuary is 62 km west of the city	No impact is expected on this area considering the catchment, distance, location of STPs, Rivers, and wind direction
2.5.8.2	Key Biodiversity Areas around Ahmedabad	Kanewal Lake (72 km from Ahmedabad), Baskarpara wetlands (60 km near Viramgam), Bhal area (near around 80 to 100 km), and wetlands of Kheda – Pariej (60 km) are major sensitive ecosystems in the larger region. The biodiversity area of Thol Lake Wildlife	<ul style="list-style-type: none"> In the case of large infrastructure facilities (such as STPs, Tertiary Treatment Facilities) planned in north or northwest zones of the city, impacts on environmental components of the Thol Sanctuary

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
		<p>Sanctuary is around 30 km to the North of the city. Other key nationally recognised wetland is Santej Lake and Chandola Lake.</p> <p>Kamla Nehru Zoological Garden Kankaria (Kankaria Zoo) is within the AMC boundary and has a considerable number of birds apart from the caged animals. Also, animals inside the zoo are sensitive to the activities contributing to Noise & Vibration pollution.</p>	<p>shall be assessed. Thol area being a harbor to migratory birds it becomes essential to assess the STP locations and the vicinity for the presence of migratory birds (i.e. roosting sites, feeding sites, etc.</p> <ul style="list-style-type: none"> ▪ Similarly impacts of any infrastructure development under the project in areas near Santej and Chandola Lake need to be assessed. ▪ Impact on zoo animals shall be assessed in case of any sub-project near the zoo (east central part).
2.5.8.3	Key sensitive landuses in Ahmedabad City	Key sensitive landuses in Ahmedabad city include (i) its main river Sabarmati which bifurcates the city into two, (ii) Khari cut Canal which passes through the east part of the city and meets Khari River which eventually joins Sabarmati near Kheda, (iii) Near around 122 big and small lakes in the city including the larger Vastrapur, Kankaria and Chandola lakes; which are also receptacles for untreated waste, drainage, and sewage, (iv) many gardens, parks and open grounds in the city. No. of Public Parks is 256 and the area under Public Parks is 2,240,000 sq. m.	<ul style="list-style-type: none"> ▪ Sabarmati, Khari and many of the urban lakes are modified habitats due to urban activities and pollution ▪ Impacts on Sabarmati and Khari, and villages along these need assessment if treated sewage is discharged into these. ▪ Impacts on Lakes and their catchments need assessment for infrastructure which might impact these
2.5.8.4	Forest Cover	There are no important forests in the city area except urban forests developed by the AMC. As per the Tree Census of 2012, there were 618,000 trees in the City. The area covered under green space is 4.66%, and there are 9 Municipal Nurseries and 43 Urban Forestry Sites in the city.	<ul style="list-style-type: none"> ▪ The concept of urban forests and sponges could be utilized in various sub-projects and plans including plans, urban resilience studies, lake, or canal redevelopment; for reducing heat effects and pollution, effective drainage management, and water recharge.
2.5.8.5	Flora	Tree cover in the study area is either as farmland, homestead, or roadside plantations. There are many dominant tree species in the study area including large native trees like <i>Azadirachta indica</i> (Neem), <i>Mangifera indica</i> (Keri), <i>Tamarindus indicus</i> (Amali/ Imli). Gardens Department of AMC plants many varieties of trees/ plants in their gardens and road verges.	<ul style="list-style-type: none"> ▪ The area is rich in important native flora. All STPs and infrastructure created shall ensure good green belts (with indigenous species) as part of layout design to mitigate air/noise pollution and to improve water retention and soil conservation. ▪ All ESIA's shall assess risks and impacts on flora, and suggest minimizing tree cutting and other

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
			<p>impacts, and ensure mitigation measures including a compensatory plantation.</p> <ul style="list-style-type: none"> Treated sludge shall be monitored for confirming accepted standards for use in gardens and plantations. If it is non hazardous, where it is converted into 'Bio manure' and sold provided it gets Fertilizer (Control) Order certification as city compost. Or else it shall be used for permitted uses or landfilled / used as landfill cover as per National Regulations. Sludge monitoring shall be included in the monitoring plan.
2.5.8.6	Fauna	Some of the common fauna found in the study area are marked as vulnerable in the IUCN Red List. This includes Sarus crane, Black-Headed Ibis (<i>Threskiornismelanocephalus</i>), Oriental Darter (<i>Anhinga melanogaster</i>), Peafowl (<i>Pavocristatus</i>), Indian Flapshell turtle (<i>Lissemys punctata</i>), many varieties of reptiles, mammals, and insects.	<ul style="list-style-type: none"> All ESIA's shall present a list of fauna including vulnerable/sensitive ones. Any threats to such fauna shall be assessed and presented in ESIA by specialists and mitigation shall be ensured following mitigation hierarchy.
2.5.8.7	Heritage	This is the first Indian city to get inscribed on the World Heritage list by UNESCO in July 2017. The heritage resources in Ahmedabad include: (i) The entirety of the walled city with many protected monuments, (ii) The pols - houses grouped into pols, (iii) The traditional individual houses. Ahmedabad is also home to some renowned modern buildings which are considered landmarks. The heritage cell of AMC looks after tangible and intangible cultural heritage.	<ul style="list-style-type: none"> It is important to engage with the Heritage Cell and Archaeology Department to assess and monitor the risks and impacts of proposed developments in heritage areas. Prior approval is required for construction activities in a regulated area of these monuments from the Director of Archaeology, Gandhinagar, Archaeological Survey of India. Screening matrix shall include this requirement ESIA consultants and contractors shall have appropriate capacities (such as Heritage Conservation expert) for assessing and preparing mitigation measures in case of such sub-projects; if so found during screening.
2.6	Economic Activities		

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
2.6.1	Employment Characteristics	A third of the population is in the working-age group with a work participation rate being 37% as per the 2011 census, high percentage of self-employed (50%). Employment is almost distributed among secondary (47.76%) and 50.30% tertiary sectors. Primary commodities manufactured in the ULB are chemicals, medicines, and cotton cloth	<ul style="list-style-type: none"> Industrial growth is high and the hon'ble High Court of Gujarat has taken action to disconnect all industrial effluent inflows into sewer system. Possible reuse of treated sewage for industrial use will be assessed as part of the project Construction activities might see labor influx from surrounding regions or other parts of the country
2.6.2	Agriculture and Fisheries	Agriculture or fisheries is not the mainstay in the city area. With workers in these sectors being just around 0.73 percent of the total population. The fish population is reported in the lakes of Ahmedabad and the Sabarmati River. Fishes are seen in Narmada Canal and the inflow into Sabarmati city stretch. These are mostly exotic. Fishing as a temporary activity occurs downstream of Vasna barrage usually post-monsoon when water is released from the Dharoi dam.	<ul style="list-style-type: none"> Fauna flora in the rivers shall be listed and assessed for impacts at the ESIA stage and shall also be used in screening and as a monitoring indicator.
2.6.3	Tourism and recreation	There are many tourist destinations in Ahmedabad city and around, including monuments and lakes, while the surrounding region has some wetlands and sanctuaries. City also celebrates most national festivals and State level festivals and processions.	<ul style="list-style-type: none"> Tourist/festival seasons shall be considered, and construction activities shall be accordingly scheduled; especially during Navratra.
2.6.4	Industries	Ahmedabad is an industrial base for sectors such as chemicals, textiles, drugs and pharmaceuticals, and food processing industries. Total water consumption by industries is around 299.7 MLD and industrial effluent generation is 150.88 MLD. There are 7 CETPs with a total treatment capacity of 132.45 MLD. Gaps are observed in terms of the quality of treated effluents and hence Up-gradation/expansion of CETPs are proposed. Three GIDC estates, in Naroda, Odhav, and Vatva, were located beyond the textile industrial areas, where unorganized industries developed, employing many unorganized workers. These areas witnessed the rapid development of slums. The eastern periphery of the city thus developed with the emergence of industrial suburbs with small-scale industries and housing for workers and low-income groups. Major treated industrial effluent outlets to rivers are MEGA Pipeline Outlet and ATPA CETP outlet. Projects on Industrial effluent management are not part of this project.	<ul style="list-style-type: none"> Industrial effluents (treated/untreated) from CETPs, the mega line, and emptied into urban drains and sewer networks need to be arrested to ensure optimal functioning of STPs. Hon'ble High Court of Gujarat has constituted a task force comprising of AMC, GPB, and other stakeholders to tackle this issue by identifying and disconnecting all industrial connections to sewers, and these industries will be allowed to operate only after setting up ETPs or connecting their effluents to CETPs. The task force has disconnected more than 380 connections till Dec 2021. AMC shall ensure periodic monitoring of the quality of treated trade effluents discharged by industries into Khari and Sabarmati (directly into

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
			<p>drains, and from CETPs into Mega pipeline) and data sharing with stakeholders including GPCB for stricter actions on polluters.</p> <ul style="list-style-type: none"> GPCB shall arrange strict monitoring to ensure proper functioning of STPs without impacts due to industrial discharges.
2.7	Major Infrastructure and Services		
2.7.1	Transportation	<p>The number of vehicles on road is increasing at a quick rate in Ahmedabad. Presently transport demand of the city is met by public and intermediate public transport modes including intra-city buses, auto-rickshaws, hired cars, and personalized modes. The major public transport accounts for MRTS (Ahmedabad Metro), AMTS, and the BRTS (Janmarg). The road network in Ahmedabad may be classified as a ring-radial form. There is a total of 20 radials (arterials and collectors), 12 are in the west and 8 in the east. The area under roads is 7.91% as against the desirable 15-18%. Many trips using heterogeneous modes are made daily in both directions across the river. Construction of Phase 1 of Ahmedabad Metro is expected to be completed in 2024.</p>	<ul style="list-style-type: none"> Safety shall be ensured for workers and communities during sewer/drainage network laying and specialized works like micro-tunneling especially in congested central part. Utility shifting will also be a critical aspect, especially in congested central and eastern parts. Conflicts of proposed infrastructure development including network lines with other construction activities such as that of the ongoing metro will need to be addressed. These shall be considered in the design, work schedules, and ESIA's.
2.7.2	Water supply	<p>Sabarmati River was the historical source of water supplemented by additional supply from the barrage on Mahi River. However, with the growth of the city and limited availability of raw water in Sabarmati and Mahi, the city in recent past had invested to source the Narmada River water delivered through the Main Canal as well as branch canals at Shedhi and Dholka. There are 3 water treatment plants of 1450 MLD treatment capacity, 124 MLD groundwater supply from bore wells, 481 km of transmission main length, 3753 km of water distribution lines, supplying water to 124 distribution zones at supply continuity of 2 hours/ day. There are reports that communities to south of Ahmedabad mostly uses deep bore wells for water abstraction as rivers and shallow wells are polluted. Ground water quality assessed for the project in various parts of the city shows pollution by Chromium, Lead, Iron, Nickel (alloys, batteries, and Catalysts), Cadmium (from incineration of municipal waste such as plastics and nickel-cadmium batteries), Zinc (from alloys, pesticides, catalysts, PVC stabilisers, fertilisers, paints,</p>	<ul style="list-style-type: none"> The city essentially needs to incorporate mechanisms to reuse treated water considering the water scarcity. It is important also to ensure the quality of treated effluents and sewage meeting permissible standards is discharged from STPs for the benefit of downstream uses. Ground water monitoring is important for heavy metals It is important to have comprehensive industrial waste and waste water management in the city. This will also make economic sense and minimise diffused pollution.

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
		pigments and dyes) and certain other metals. These are may also be from electronic, batteries and other wastes. Secondary data also conforms Chromium pollution especially in borewells near industrial areas. It is used at a higher rate in dyeing tanning industries.	
2.7.3	Sewage/ Wastewater Management	The city area doubled between 2001 to 2020, with a proportionate increase in the wastewater infrastructure. Around 96 percent of households have access to individual toilets with a third of slums still without access to individual toilets. Ahmedabad city has 1,827 community toilet blocks with (84non-functional) 7,160 seats, 314 toilet blocks with 1,256 pay and use toilet seats, and around 807 bathing units. There is a need to ensure full coverage of all housing typologies and public areas with adequate and appropriate toilet and bath facilities.	<ul style="list-style-type: none"> All premises should be connected to sewer lines to ensure full treatment of liquid waste thus generated. All illegal connections and cross connections shall be identified and curbed. Catchment wise approach is important for comprehensive coverage
2.7.3.1	Sewage Collection	The 14 STPs are connected to 68 pumping stations and 366 km of trunk mains and 3302 km of collection networks, with 1245 MLD treatment capacity. Major STP outfalls are New Pirana 180 MLD and 155 MLD, Old Pirana 106 & 60 MLD STP, Vasna 35 MLD, 240 MLD STP, 126 MLD, 48 MLD, Vinzol 35 MLD, 70 MLD and 100 MLD. Decentralized STPs at Shankarbhuban 25 MLD, Jalvihar 60 MLD, and Lambha 5 MLD.	<ul style="list-style-type: none"> Upgradation or construction of STPs or sewerage system shall consider the current environmental performance of upstream infrastructure as well. Improvements to trunk mains and drains and missing links is important and shall be considered under the project (as separate sub-project or component of same sub-project as required for contracting mechanism and management) for full upgradation
2.7.3.2	Sewage Pumping	There are 10 terminal sewage pumping stations and 58 intermediate sewage pumping stations in the AMC area. Pumping stations and networks are upstream infrastructure for sewage treatment plants. Proper functioning of these upstream infrastructures such as pumping stations, networks, and illegal connections explains the quality and quantity of waste water reaching the influent tanks of treatment units.	
2.7.3.3	Sewage Treatment	<p><i>Existing treatment system:</i> Today, there are 18 STPs in the city with 9 on the East and 5 on the West sides of River Sabarmati. The large capacity STPs are clustered in three locations of Pirana and Vinzol in East and Vasna in West. The total capacity is 1248 MLD. Treatment types include Up-flow Aerobic Sludge Blanket (UASB), Activated Sludge Process (ASP), Sequential Batch Reactor (SBR).</p> <p><i>Proposed STPs:</i> AMC has initiated the construction of new STPs (127 MLD in total) at Makeksaban (30 MLD), Saijpur(7 MLD) , Kotarpur(60 MLD), . The total capacity of sewage treatment would be 1345 MLD as against the projected sewage generation of 1742 MLD for the year 2035.</p> <p><i>Reuse of Treated Wastewater:</i> The government of Gujarat had instituted a water reuse policy, aimed at reusing 100% of waste water by the year 2030. AMC is currently using 446</p>	<ul style="list-style-type: none"> It is important to ensure full treatment of wastewater generated in the city by appropriate development of additional STPs and network upgradation. All STPs shall conform to national regulations – preferably NGT suggested standards (which is stringent in key parameters than the WB EHS suggested in Indian Regulation - EP Rules 1986: General Discharge Standards for Discharge of Treated Effluents to Surface Water and / or Irrigation; NGT order is a modification over this

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
		<p>MLD treated sewage (around a third of the total treated sewage generated) in downstream agricultural, horticulture, industrial reuses. The further potential for reuse water for industrial, horticulture/ agriculture purposes as approximately 300 MLD, implementation of proposed projects.</p> <p>The existing SCADA system captures the performance data partially and does not cover the entire wastewater system.</p>	<p>regulation) and design shall be stringent to ensure environmental quality.</p> <ul style="list-style-type: none"> ▪ Networks shall be monitored with sensors to ensure no industrial effluent reaches the STPs due to illegal dumping through manholes/other mechanisms and DPR/ design should ensure this. ▪ SCADA shall fully cover the entire STP operation and capture all performance-related data (automated quantity and quality data linked to alert system). ▪ Tertiary treatment and reuse of treated wastewater for gardening, downstream agricultural use, and industrial use are important for the water-scarce region.
2.7.3.4	Sewage/ Wastewater Management: Service Levels and Complaints	<p>Performance Assessment System (PAS) Project notes that coverage of toilets, sewer networks and quality of treatment, the collection efficiency of sewage networks, adequacy of treatment capacity are satisfactory. However, the extent of reuse and recycling of treated sewage is only 53% pointing to the opportunity in this regard. Most of the complaints received by AMC are regarding chocking of drains (57%). Followed by frequent blockage/ breakdown of drainage (20%) and silt disposal by the contractor(16%). Complaints are also noted on missing manhole covers, overflowing of mains/ distribution lines, missing, issues with public toilets, and storm waterlogging. The ratio of complaints per 1000 connections stands at a city level average of 144 with the highest ratio of 392 in Central Zone and the lowest of 36 in North West + South West Zones which points to the age of network and density of connections in the respective zones.</p>	<ul style="list-style-type: none"> ▪ Web-based monitoring of the performance of wastewater/drainage system in its entirety, including grievances and its resolution on time would help resolve complaints and support in ensuring best environmental quality.
2.7.4	Storm Water Drainage	<p>The natural drainage of the city is towards the south. The AMC has planned and implemented a stormwater collection and disposal system divided into 6 zones. There are 31 pumping stations together in North-south, east, and west zones (with no stations in central and New West). The major outfalls of treated/ untreated, domestic/industrial wastewater are The outfalls of the Old City area, Stormwater Drain Vasna, stormwater drain from Danilimda Area, and Interceptor outlets.</p>	<ul style="list-style-type: none"> ▪ It is important to monitor industrial effluent and wastes disposed into AMC drains ▪ There shall be continuous monitoring of CETP treated effluents ▪ All industrial areas (outside GIDC areas) shall be clustered and the appropriate treatment/ environmental infrastructure shall be arranged to arrest the flow of trade effluents to drains.

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
		<p>All the <i>nallas</i> (drains) opening in the river were connected through a diversion interceptor line in the Riverfront development stretch on both banks and partially treated in STPs on both the sides of the bank of river Sabarmati excess quantity of sewage from interceptor is discharged into river through an outlet after Vasna barrage.</p> <p>Industrial units outside GIDC areas are discharging their treated effluent into stormwater drains of AMC. Trade effluent (treated effluent from 4 CETPs-Vatva, Odhav, Naroda, Narol) from GIDCs discharged into river through Mega Pipeline. All CETP member units have provided at least functional primary ETP to meet the inlet norms.</p>	<ul style="list-style-type: none"> Hon'ble High Court of Gujarat has constituted a task force comprising of AMC, GPB, and other stakeholders to tackle this issue by identifying and disconnecting all industrial connections to sewers, and these industries which will be allowed to operate only after setting up ETPs or connecting their effluents to CETPs. The task force has disconnected more than 380 connections till Dec 2021.
2.7.5	Solid Waste (including Plastics) and Sludge Management	<p>The city generates around 4000 TPD of solid wastes (70% from households) including 3000 TPD of solid waste 1000 MT of construction and demolition waste. Waste is segregated and stored at the source and collected separately. Existing treatment facilities include 1000 TPD Composting facilities (three plants on PPP format), 1000 TPD for C&D Waste, 100 TPD for Plastic waste, 400 TPD Material Recovery Facilities (MRFs). Waste to Energy Plants (two, 1000 TPD each) is under construction. For disposal, there are 7 RDF facilities, MRFs, one sanitary landfill site (42.3TPD of rejects/inerts), and a 40-year-old municipal dumpsite (biomining in progress). Fires and methane generation are key issues in the dumpsite. Drains, silt pits, and canals are cleaned pre-monsoon. Microplastics of 75micrometer to 5mm are reported in the sediment of the Sabarmati river in the city area. Notwithstanding existing arrangements, it is reported that wastes are found in city drains</p> <p>Around 1000 ragpickers in the AMC area, are grouped as an association, provided with health check-ups, ID cards, safety gears, and incentives for waste collected (only from MRFs, not from dumpsite). In addition to conservancy tax on sewerage and drainage, AMC charges Rs 1 as cess per head per day, and Rs 2 per commercial unit per day as part of property tax as directed by SWM Rules, 2016.</p> <p><i>Sludge Treatment by Radiation:</i> AMC with Bhabha Atomic Research Centre (BARC) has installed a Gamma Irradiation Plant (100 TPD capacity) for the Hygienization of Sewage Sludge (based on Cobalt-60) at Shahwadi to convert the sewage sludge to Bio-fertilizer, with a design life of 50 years (since 2015). Around 450T of sludge is processed in the unit till March 2021. The STPs at Vinzol show heavy metals in quantities higher than accepted standards and not accepted for radiation. Sludge is not treated during monsoons</p>	<ul style="list-style-type: none"> It is important to ensure no waste reaches the drains/sewage network. Manhole/cover design and its security are important. In addition, it is important to ensure proper waste collection and transport from all parts of the city including from project facilities and activities, there should be facilities for managing wastes during emergencies as well so that it does not find a way to drain/sewage network. Periodic cleaning of drains, sewers, canals, mechanisms to trap wastes before entering the river are essential. Monitoring of waste management, awareness, and grievance management system is essential. It is required to improve sludge dewatering mechanisms (better screw presses etc.) at STPs and transporting sludge to the plant and keep the sludge quality at acceptable levels. Grit shall be recycled/reused safely and sent to C&D waste processing facility. Screenings shall be sent to SWM facilities for recycling, treatment or disposal as appropriate. Complete data on these shall be managed by STP operators.

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
		considering high moisture content. AMC has applied for FCO approval for use of this finished product in agriculture. Field trial on the use of the finished product on wheat, potato, tomato crops suggests the addition of up to 1 T/ ha. Currently, AMC is using this in its gardens. Grit generated from this plant is disposed of in the open areas around while the grit at STPs is dumped in dumpsites or low-lying areas.	<ul style="list-style-type: none"> Arrangements to continuously monitor and ensure safe sludge parameters shall be made at all STPs, and the sludge from plants that show non-acceptable quality shall not be accepted at the hygienization facility. Sludge treated in hygienisation facility shall be used in gardens, provided it gets Fertilizer (Control) Order certification and for wider use subject to FCO certification for such use.
2.8	Baseline Environmental Quality		
2.8.1	Air Quality	CEPI Index of Ahmedabad (Naroda and Odhav industrial areas) is 57.11 and is classified as Other Polluted Industrial Area (CEPI <60). Sulfur Dioxide and Nitrogen Dioxide show an increase since 2016. The main sources of air pollution here are vehicles and emissions from coal-fired power plants. The burning of rubbish and garbage at the Pirana dumping yard and ceremonial burning (religious) add to air pollution. To protect local communities from rising air pollution levels, AMC has developed two key tools: an air quality index (AQI), and Air Information & Response (AIR) Plan. Some of the STPs have facilities to collect and use gases generated as biogas (Eg: Pirana)	<ul style="list-style-type: none"> Mitigation measures shall be planned for dust/ air pollution during construction and O&M, mainly in areas closer to habitations and other sensitive receptors. There is an opportunity to tap and use gases (eg: Biogas, bioCNG) generated as a fuel substitute and this shall be ensured in the design of STPs.
2.8.2	Soil Quality	Key soil polluted areas of Ahmedabad include its waste dumping sites and Industrial areas. Sludge and grit disposal from treatment plants are mostly in the open, except a tenth of it is currently treated in the radiation facility and used in gardens. Sabarmati sediment may be polluted from runoffs from industrialized/urban areas along its flow path. Vatva TSDF in Ahmedabad has been closed and capped. There is at present no TSDF/ incineration facility in the city and the nearest one is at Viramgam (60 km from the city). Grit from STPs and Hygienization facilities are disposed of in open or low-lying areas.	<ul style="list-style-type: none"> Designs, construction protocols, and schedules shall guide minimizing the impacts on soil quality. Construction materials, wastes, chemicals, and fuels shall be covered and safely placed to avoid spillage (even during extreme events). Grit and sludge storage, drying, and disposal need to be well planned at the layout/design stage.
2.8.3	Water Quality	CPCB River water quality monitoring data (2019) shows that DO levels of Sabarmati waters drop while BOD and COD rise drastically as one moves downstream from Dharoi dam. Water near Vasna Narol bridge shows parameters beyond permissible limits with high pollution. GPCB (2020) observed improved quality of river Sabarmati at Miroli, A/C with River Vatrak at Vautha and V.N. Bridge during the lockdown, with reduction of BOD and COD. The National Green Tribunal (December 2019) observed high pollution levels in the	<ul style="list-style-type: none"> It is important to conduct appropriate quality testing of inflow sewage & outflow of treated sewage while conducting ESIs/Audits. From various STP units for audit; minimum 1-day composite sample constructed by hourly Grab samples of at least 1lit at end of every hour from

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
		<p>Khari River and KhariCut Canal. A study by IIT Gandhinagar points to the presence of heavy metals in the River Sabarmati - copper levels were 7 to 9 times higher than Bureau of Indian Standards (BIS) limits. Nickel was found to be 2 to 5 times higher; iron, 4 to 5 times higher; selenium, 4 to 10 times higher; and chromium, 8 to 9 times higher.</p> <p><i>Sewage Discharge and Resultant Pollution due to existing STPs:</i> Existing STPs were designed to comply with the sewage discharge standards (BOD<20mg/l, COD<100mg/l, TSS<30mg/l. However test results indicates that these need process/technology up-gradation to comply with the suggested discharge standards. AMC aspires to achieve the latest stringent standards suggested by National Green Tribunal for best environmental effects. Existing STPs shall be upgraded so that they meet the discharge criteria set by NGT (BOD<10mg/l, COD<50mg/l, TSS<20 mg/l, TN<10 mg/l, TP<1mg/l) and as desired by AMC, and WB EHS. In addition, monitoring mechanisms shall be improved for sewage quality and overall environmental improvement.</p> <p><i>Industrial Pollution:</i> Many farmers mainly to the east and south of the city raise the issue of illegal dumping of chemical effluent from industrial areas (mainly to the east of the city). GIDC Industrial estates have CETPs, most of the industries have established ETPs, mega pipelines and is planning to have a mega line to Deep-Sea Disposal Outfall discharge trade effluents to the ocean.</p>	<p>each unit process of STP and then taking 100ml from each of these 1-liter samples collected thereby totaling quantity of 2400ml for 24hrs.</p> <ul style="list-style-type: none"> It is important to ensure arresting the inflow of industrial wastes, wastewater wastes, litter/leaves while designing new networks, managing existing networks. Waste traps and sensors at pumping stations and the network would help in monitoring polluting sewer stretches and prepare action plans to arrest flows from such areas. While upgrading existing or constructing new STPs it is important to encourage policy, area improvements, and design interventions to (i) integrate mechanisms to detect inflow of heavy metals and phenolic compounds into all STPs, (ii) Design to include appropriate treatment mechanisms for pollutants, phenolic compounds, and other parameters following MoEFCC/ NGT guidance (shall be assessed in the DPRs or feasibility reports).
2.9	Institutional Baseline	<p>Urban Development and Urban Housing Department, Government of Gujarat; AMC, Ahmedabad Urban Development Authority (AUDA), Gujarat Urban Development Mission, are the key institutions implementing this project. Various state government departments are involved in water supply and drainage in Gujarat, including; ii) Narmada and Water Resources, Water Supply and Kalpsar Department, (ii) Gujarat Water Supply and Sewerage Board (GWSSB) (iii) Gujarat Water Infrastructure Limited (GWIL) (iv) Irrigation Department (v) Industries Department, and (vi) Forest Department in addition to Gujarat Pollution Control Board (GPCB). These institutions and applicable directions of the National Green Tribunal will be directly/indirectly consulted/approached for various project activities.</p>	<ul style="list-style-type: none"> Capacities to manage environmental and social aspects is moderate. AMC has environmental engineers and planners to oversee infrastructure development and operation. However, dedicated environmental and social capacities are essential at the PIUs and for long term comprehensive environmental and social management of the region. Of particular importance in the case of this project are the Drainage department, Garden Department and Biodiversity Management Committee, Town Planning Department of AMC,

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
			Heritage Department, industries department, Irrigation/water resources department, and GPCB. Estates wing and Urban Community Development wings of AMC are involved in assisting the land/Row procurement, R&R of PAPs, livelihoods support activities. PIU shall closely coordinate with these two departments regarding identification and mitigation of impacts on account of land acquisition/ construction stage economic displacement. AMC and GUDM with augmented capacities for environmental and social management, the Industries Department/GIDC, Water Resources Department, and GPCB can together effectively plan, monitor, and ensure a good living environment for the people.
2.10	Regional Impacts	<p>The geographic scope of larger cumulative impacts would be Ahmedabad city and downstream villages, till Vautha where Sabarmati& Khari meets other rivers like Vatrak, and there are coastal impacts on water (tidal influence, water mixing and salinity).</p> <p>Natural environmental drivers/stressors are the slight natural slope of the city to the south, wind direction predominantly from the southwest, river flow paths, and extreme events. The key ecosystem components in the project area are</p> <ul style="list-style-type: none"> (i) Water: the two rivers Sabarmati and Khari; Lakes: Water quality degradation from multiple point source discharges. (ii) Air (odor): The population and heritage areas mostly to the central and southern parts of Ahmedabad (iii) Land and Soil: Diminished land fertility and agricultural productivity in downstream villages affected by polluted inflow from upstream areas including the city of Ahmedabad (iv) Biodiversity: Thol sanctuary and Santej Lake, in case of sub-projects in the North or northwest zones of the city, Chandola Lake to south east and other Lakes if found important for biodiversity during ESIA. 	<ul style="list-style-type: none"> ▪ Sabarmati, Khari and most Lakes in the city are non-perennial, and modified habitats. However, impacts on Thol, Santej wetlands outside AMC limits and that on Chandola Lake and any other lake which hosts migrant / other species shall be examined during ESIA. Cumulative impacts shall be considered as part of ESIA for sub-projects with impacts on listed VECs. Proposed infrastructure shall consider impacts of / on other projects (existing and proposed) in their influence or impact area (for example: proposed barrage near Koteswar STP). ▪ Impacts on heritage components shall be assessed and Heritage Management Plan shall be

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
		<p>The stretch from Vasna to Vautha is considered as the critical stretch, carrying pollution (but diffused – industrial pollution from the entire region, wastes and sewage from rural and peri-urban areas as well - not fully attributed to pollution from STPs in the city) from both the rivers and canal. Further, the stretch from Ahmedabad (Sabarmati Ashram) to Vautha is considered as among the most polluted stretches in India by River action Plan for Ahmedabad, NGT and CPCB. This region south of the city will be the impact area for the project overall though pollution is heavily contributed by the entire region - north of Ahmedabad through the irrigation canals, to the west of Ahmedabad through canals, land pollution from highly industrialised peri-urban and rural areas, east of Ahmedabad through Kharicut canal and Khari river. Unless reuse of treated sewage is suggested, the Impact area for STPs at Vinzol area will be till the point Khari meets Sabarmati River, while impact area for those STPs at Pirana, Vasna and upstream discharging into Sabarmati (ie. If no reuse is suggested) will be villages downstream of Sabarmati. Impact area for those STPs which reuse treated sewage through Fatehwadi will be villages (industrialised) near Visalpur and changodar in the command area of Fatehwadi Canal. All these will fall under the larger project impact area till Vautha. STPs have Consent from CPCB to discharge of treated sewage in Sabarmati or Kharicut Canal. Currently discharge of treated sewage through Fatehwadi Canal for supporting downstream agriculture follows a request from Irrigation Department, to serve the water scarce region.</p> <p>Sabarmati has no flow most of the days in a year. It receives required water to retain water at the city's riverfront for aesthetics and recreation. Water in the riverfront can be stagnant for 25 – 45 days during summers. Dilution of pollutants due to river water / flow happens only during monsoons.</p> <p>Barrages are certified safe by State Dam Safety Organisation and owner, Irrigation (Water Resources) Department during their pre and post monsoon inspection reports annually and required maintenance activities are carried out regularly. A new barrage is proposed upstream of Vasna Barrage to extend the riverfront. This will be near proposed Koteswar STP, but not considered an associated facility under ESS1 definition. Flooding during monsoons / extreme events need consideration while designing and upgrading STPs, and other infrastructure. River Action Plan for Sabarmati (suggested by NGT and reported monthly by GPCB) considers aspects like managing environmental flow, good irrigation practices, Flood Plain Management, and greening the river edges.</p>	<p>prepared as part of ESIA in case of any impacts identified.</p> <ul style="list-style-type: none"> Health Impacts due to no-flow on Sabarmati shall be minimised. It is not advisable to let sewage or drainage into city riverfront. Aerators may be a temporary solution, but flow shall be ensured for best effects. Climate Resilience and Disaster Management Plan shall be made as part of DPR for all infrastructure under the project, specially those in proximity to Vasna Barrage (diversion structure). All types of infrastructure downstream of Vasna Barrage (including all existing structures and their upgradation) need to take precautions to protect facilities and operations during such extreme events. Guidance on management and mitigation measures to be followed under (i) Policy and Institutional aspects, (ii) Infrastructure and service improvements for Wastewater and Drainage, and (iii) Improving regional environmental conditions; during design/ESIA and implementation, operation & maintenance of sub-projects are presented in Annexure A (Annexures). Flooding and other issues downstream of the Vasna Barrage will be analysed during implementation stage, and required measures will be incorporated in the detailed design for

List NO:	Aspects	Description	Key pointers for E&S risk identification and Management
		<div><div><p>COMPARISON OF THE CUMULATIVE IMPACT OF MODELLED SCENARIOS ON KHARI (KG/DAY)</p></div><div><p>COMPARISON OF THE CUMULATIVE IMPACTS OF MODELLED SCENARIOS ON SABARMATI RIVER (KG/DAY)</p></div></div>	<p>STPs for safety (Refer Annexure D on Dam Safety, <i>Annexures</i>)</p> <p>The project would ensure reducing the pollution load (BOD, COD, TSS, Ph, N) in Sabarmati and Khari, and reducing GHG emissions. . Reuse of treated sewage shall be encouraged. For discharge of treated sewage into Fatehwadi Canal, (i) this shall be agreed with GPCB, and Consent shall be amended to reflect such discharge through Fatehwadi Canal, (ii) detailed study, consultations and perception survey shall be undertaken on all impacted downstream villages on usage of this water for irrigation during the Detailed Design Stage, before confirming reuse of treated water for irrigation, as requested by Irrigation Department.</p> <ul style="list-style-type: none">Screening, categorisation and extent and type of E&S due diligence for sub-projects are guided by this ESMF.Key agreements including due diligence requirements, reporting requirements, and institutional capacities, are included in ESCP.

Figure 9: Expected Improvement in Discharge of Treated Sewage due to the Project

It is estimated that the project can ensure around 85 percent reduction in pollution load on Sabarmati and Khari (*Vahela*, and then the River) by upgrading and constructing new STPs conforming to NGT standards. AMC plans to convert at least 50 percent of its existing treatment system to SBR technology by 2025. G-ACRP aims to support AMC in achieving this goal. G-ACRP would better manage around 875 MLD of sewage with attention on energy efficiency and reuse (however, type of treatment technologies for each STP will be finalised only by the DBOT contractor during implementation stage). By providing treatment for additional 350 MLD of sewage, the project would reduce 261100 tCO₂e annually. In addition, the project also would improve canals and lakes which are Stagnant, overloaded open collection sewers or ditches/canals are likely significant sources of CH₄.

CHAPTER 3. POLICY, LEGAL AND REGULATORY FRAMEWORK

Applicable National and State regulations and the World Bank Environmental and Social Framework and Standards guide effective management of environmental and social aspects; including siting criteria, environmental pollution control requirements, institutional mechanisms, occupational health and safety requirements, resource utilization, considerations for cultural heritage, and social aspects as well as land acquisition, labor and working conditions, livelihoods, consultations, and information disclosure. A compilation of the key environmental and social regulations and guidelines applicable to various aspects under consideration in this project is presented here.

3.1 Environmental and Social Laws/ Regulations Applicable for G-ACRP

There are several national/state-level regulations and policies potentially applicable to G-ACRP sub-projects. Following section details out regulatory framework applicable to G-ACRP.

3.1.1 National Regulations

The need for protection and conservation of the environment and sustainable use of natural resources is reflected in the constitutional framework of India and the international commitments of India. The Constitution under Part IVA (Art 51A-Fundamental Duties) casts a duty on every citizen of India to protect and improve the natural environment including forests, lakes, rivers, and wildlife, and to have compassion for living creatures. Further, the Constitution of India under Part IV (Art 48A-Directive Principles of State Policies) stipulates that the State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country.

After the Stockholm Conference, the National Council for Environmental Policy and Planning was set up in 1972 within the Department of Science and Technology to establish a regulatory body to look after the environment-related issues. This Council later evolved into a full-fledged Ministry of Environment and Forests recently renamed as Ministry of Environment, Forests and Climate Change (MoEF & CC).

MoEF & CC was established in 1985, which today is the apex administrative body in the country for regulating and ensuring environmental protection, and lays down the legal and regulatory framework for the same. Since the 1970s, several environmental legislations have been put in place. Today, MoEF & CC and the Central and State Pollution Control Boards (CPCB and SPCBs) together form the regulatory bodies; while National Green Tribunal is tasked with providing an effective and expeditious remedy in cases relating to environmental protection, conservation of forests, and other natural resources, and enforcement of any legal right relating to the environment. Some of the important legislations at the national level for environment protection are as follows:

Act/Rule/ Guidelines

Regulations/Policies related to Environmental Conservation & Management

- National Environment Policy, 2006
- The Environment Protection (Act) 1986 and The Environmental Protection Rules 1986
- Environmental Impact Assessment Notification, 2006
- The Water (Prevention and Control of Pollution) Act, 1974 and The Water Cess Act 1977
- The Air (Prevention and Control of Pollution) Act. 1981
- The Noise Pollution (Regulation and Control) Rule, 2000
- The Wildlife Protection Act, 1972
- The Wetlands (Conservation and Management) Rules, 2017

- The Biodiversity Act of India, 2002
- The Manufacture, Storage And Import Of Hazardous Chemical Rules, 1989
- Batteries (Management and Handling) Rules, 2001
- The Motor Vehicle Act, 1988 & Motor Vehicles Rules, 1989

Regulations Related to Waste Management

- Solid Waste Management Rules, 2016
- Construction and Demolition (C&D) Waste Management Rules, 2016
- Plastic Waste Management Rules, 2016, amended 2018
- Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016, amended 2019
- E-Waste Management Rule, 2016, amended 2018

Pesticides/ Insecticide related Regulations:

- Insecticide Act 1968 and Rules 1971
- Draft Bill on Pesticide management, 2020 introduced in Rajya Sabha in March 2020

Other Regulations/Policies/Guidelines applicable to various construction/implementation activities

- Central Ground Water Authority- 'Guidelines to control and regulate groundwater extraction in India' September 2020
- The Building & Other Construction Workers (Regulation of Employment & Conditions of Service) BOCW Act, 1996
- Child Labour (Prohibition and Regulation) Act, 1986 and Rules, amended 2016 and
- Child Labour (Prohibition and Regulation) Amendment Rules, 2017
- Minimum Wages Act, 1948
- The Bonded Labor System (Abolition) Act 1976
- Workmen's Compensation Act, 1923 & Rules 1924
- Interstate Migrant Workmen Act 1979
- Ancient Monuments and Archaeological Sites & Remains (Amendment and Validation) Act 2010
- Indian Treasure Trove Act, 1878
- Right to Information Act, 2005
- Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act 1989 and further Amendments 2018.
- The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013
- The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013
- Acts/ Rules applicable to land acquisition, RoW use, encroachments on municipal drains, etc.: The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Act, 2013. The Honourable Supreme Court of India order, on removal and restriction of encroachment of religious structures on the public space.

These important environmental and social legislations have been briefly explained in **Annexure B (Annexures)**, with a description of its relevance in this project, availability of technical guidelines for its implementation, and institutional responsibility.

3.1.1.1 Technical Guidelines on Sewerage and Drainage at National Level

Central Government agencies have issued various guidelines for various aspects and associated aspects of sewerage and drainage projects. The most important guidance applicable to this project is listed herewith a description of the guidelines presented in **Annexure B (Annexures)**.

Central Public Health and Environmental Engineering Organisation (CPHEEO), Ministry of Urban Development (MoUD)

- Manual on Sewerage and Sewage Treatment Systems, 2013
- Manual on Storm Water Drainage Systems, 2019
- Manual on Operation and Maintenance of Water Supply System, 2005
- Manual on Solid Waste Management (applicable to screenings, sludge, grit, other wastes from premises)
- Manual on Municipal Solid Waste Management – 2000
- Manual on Water Supply and Treatment -1999

Guidelines and Advisories

- Guidelines for Decentralized Wastewater Management
- Standard Operating Procedure (SOP) for Cleaning of Sewers and Septic Tanks
- Advisory note on Septage Management in Urban India
- National Policy on Fecal Sludge and Septage Management
- Advisory on Public And Community Toilets
- Advisory on Tariff for Water supply and Sewerage
- Recent Trends in Technologies in Sewerage System.

Central Pollution Control Board

- Guidelines for Management of Sanitary Waste, 2018
- Guidelines on Environmental Management of Construction & Demolition (C & D) Wastes

3.1.2 State-Level Regulations

Key State-level regulations applicable to the project include the following. Specific regulations applicable for sub-projects shall be updated and discussed in ESIs. A detailed description of these regulations is presented in **Annexure B (Annexures)**.

- Gujarat Provincial Municipal Corporations Act, 1949
- The Gujarat Infrastructure Development Act, 1999
- Gujarat Irrigation and Drainage Act, 2013
- Gujarat Irrigation and Drainage Rules, 2014
- The Gujarat Water Supply and Sewerage Board Act, 1978
- Saurashtra Felling of Trees (Infliction of Punishment) Act, 1951
- The Gujarat Highways Act, 1955
- The Gujarat Water and Gas Pipelines (Acquisition of Right of User in Land) Act, 2000
- Gujarat Industrial Development Act, 1962
- The Gujarat Special Economic Zone Act, 2004
- The Gujarat Vacant Lands in Urban Areas (Prohibition of Alienation) Act, 1972
- The Gujarat Town Planning and Urban Development Act, 1976
- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Gujarat Amendment) Act, 2016 (effective from August 2016)
- The Gujarat Ancient Monuments and Archaeological Sites and Remains Act, 1965
- The Gujarat Fisheries Act, 2003
- The Gujarat Public Premises (Eviction of Unauthorised Occupants) Act, 1972
- The Gujarat Slum Areas (Improvement, Clearance, and Redevelopment) Act, 1973
- Gujarat Special Investment Region Act, 2009
- Gujarat State Disaster Management Act, 2003
- Gujarat Municipalities Act, 1963
- Gujarat Regularisation of Unauthorised Development Act, 2011

- Gujarat Street Vendors (Protection of Livelihood and Regulation of Street vending) Rules, 2016
- Gujarat Government-Policy for Reuse of Treated Wastewater, 2018
- Gujarat Government-The 'Urban Sanitation and Cleanliness Policy, 2018
- Gujarat (Right of Citizens to Public Services) Act, 2013
- Gujarat Fire Prevention and Life Safety Measures Act, 2013
- Gujarat Green Cess Act, 2011

Essential Compliance Requirements

In the absence of compliance with existing regulations, environmental parameters would be impacted. To ensure avoidance, mitigation, and management of impacts, all proposed sub-projects must meet the compliance requirements set out by regulators. **Annexure B (Annexures)** also presents the compliance requirements for sub-projects.

3.1.3 The World Bank's Environmental & Social Standards (ESS)

The World Bank's Environmental and Social Standards (ESS) are a cornerstone to its support for sustainable development. The Environmental and Social Standards set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts associated with projects supported by the Bank through Investment Project Financing. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. Any project that is likely to pose any form of adverse environmental and social risks and impacts will trigger the relevant ESSs. The relevance of project activities to various ESSs and gaps with respect to country regulations are described below in **Table 1**.

Table 1: World Bank's Environmental and Social Standards, Gaps vs National Systems, Gap filling measures

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
ESS 1 Assessment and Management of Environmental and Social Risks and Impacts	<ul style="list-style-type: none"> ▪ To identify, evaluate and manage the environmental and social risks and impacts of the project in a manner consistent with the ESSs. ▪ To adopt a mitigation hierarchy approach to: <ul style="list-style-type: none"> - Anticipate and avoid risks and impacts - Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels - Once risks and impacts have been minimized or reduced, mitigate - Where significant residual impacts remain, compensate for, or offset them, were technically and financially feasible - To adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project ▪ To utilize national environmental and social institutions, systems, laws, regulations, and procedures in the assessment, development, and implementation of projects, whenever appropriate 	<p>The ESS1 applies to all projects/sub-projects with the environment and/or social risks and/or impacts. G-ACRP involves construction and upgradation of sewerage and drainage networks, treatment plants, improvement of water bodies and will have environmental and social impacts during the planning and implementation phases.</p> <p>ESS 1 is relevant</p> <p>An Environmental and Social Management Plan (ESMP) must be prepared to take into consideration the potential social and environmental impacts or risks already identified & assessed in ESIA.</p> <p>Organizational structure with roles and responsibilities of the team within the implementing organization is required.</p> <p>Considering the land acquisition, burrowing & trenching activities, and disturbance to the local public due to construction activities and additional traffic along common property/ roads, a Stakeholder Engagement Plan (SEP) needs to be developed and implemented as well as adequate disclosure needs to be done. This should aim to inform the community about project-related adverse impacts or</p>	<p>ESS1 is applicable for all projects, sub-projects, and Associated Facilities⁵. As per EIA Notification, 2006, Sewerage/drainage projects do not require prior Environmental Clearance (EC). <i>However, ESF/ESS1 requires that risks and impacts of projects are assessed and managed. Gaps with national systems exist regarding assessments, consultations, monitoring, and ESCP.</i></p> <p>The following additional measures are required:</p> <ul style="list-style-type: none"> • Conduct an environmental and social assessment of the proposed project duly identifying risks and impacts; also including cumulative impacts in case of STP clusters • Undertake stakeholder engagement and disclose appropriate information following ESS10. • Develop project level GRM in accordance with SEP and worker GRM in accordance with LMP • Develop an ESCP, and implement all measures and actions set out in the ESCP (part of the legal agreement), and • Strengthen organizational capacity and competency to manage E&S risks • Training for security and safety workers • Emergency preparedness and response • GBV/ SEA/ SH risk mitigation plan • Conduct monitoring and reporting on the environmental and social performance of the project against the ESSs

⁵Ref para 11, ESS1, ESF 2016

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
	<ul style="list-style-type: none"> To promote improved environmental and social performance, in ways that recognize and enhance Borrower capacity 	<p>risks. Grievance Redressal Mechanism (GRM) will be implemented in this project</p> <p>System of ESS implementation monitoring with periodic audits will be established at the site.</p>	
ESS 2: Labour and Working Conditions	<ul style="list-style-type: none"> To promote safety and health at work To promote the fair treatment, non-discrimination, and equal opportunity of project workers To protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, following this ESS), and migrant workers, contracted workers, community workers, and primary supply workers, as appropriate. To prevent the use of all forms of forced labor and child labor. To support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law To provide project workers with accessible means to raise workplace concerns 	<p>The ESS 2 applies to workers (construction & operation) directly engaged by the borrower (direct workers), EHS, workers engaged through third parties (contracted workers), as well as workers engaged by the client's primary suppliers & contractor (primary supply chain workers).</p> <p>The project will involve the employment of direct and contracted workers during construction and operation phases.</p> <p>The nature of work on all projects has requirements of skilled manpower.</p> <p><u>ESS 2 is relevant</u></p>	<p><i>The National legal provisions almost cover all requirements in ESS2 except relating to community workers and a functional GRM for different types of workers.</i></p> <p>Hence, an overall project-level Labour Management Procedure (LMP) will be prepared to meet the ESS2 requirements.</p> <p>The project-specific OHS management plan will use appropriate good international practices/standards (such as WBG EHS guidelines, ILO standards, International Tunnelling Association standards) which will be followed in conjunction with requirements defined under various Indian legislations. Legislation related to Interstate migrant workers and their rights to be assessed for each sub-projects. Guidelines and directives issued by the Central Government time-to-time for migrant workers due to pandemics should also be taken into consideration.</p> <p>Further, the LMP will contain:</p> <ul style="list-style-type: none"> – Risk assessment of labor influx on adjoining host communities, – Assess the risk of social conflicts, pressure on resources, and adaptive behavior of communities to address the associated risk emerging from labor influx – Prepare mitigation Plan – LI as part of the LMP. – How the implementing agency, as a part of oversight procedures will need regular monitoring of compliance to the aforementioned guidelines/ requirements and ensure that these are met at project sites.

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
			<ul style="list-style-type: none"> – Internal audits and follow-up on corrective actions to be undertaken to assess the efficacy of the oversight system at the project site. – Recognizing and addressing the needs and requirements of the female workers/laborers. Refer to Factories Act for health, safety, and welfare facilities/ amenities to be provided for workers and specifically for female workers. – Ensure adequate facilities and amenities, including health & sanitation, security, waste management, and disposal measures, adequate living/ sleeping facilities and space per person; potable water that meets national standards and standards as laid down by ILO; toilets, washing, and cleaning facilities; canteen/ mess or fuel for cooking; locker/storage facilities; and facilities for management and disposal of garbage, sewage and other waste at the labor camp. – Facilities for female workers to be ensured at the site and in labor camp such as separate toilet facilities and creche for children etc. <p>The agency will periodically review and monitor the condition of the labor camps at all the mentioned project sites.</p> <p>The worker accommodation (where needed) standards as laid down by ILO to be followed.</p> <p>The implementing agency as a part of oversight procedures will need regular monitoring of compliance to the aforesaid guidelines/ requirements and ensure that these are met at project sites. Internal audits and follow up on corrective actions will also need to be undertaken to assess the efficacy of the oversight system at the project site</p> <p>Borrowers should develop site-specific HR policies in line with the HR Policy at their State & City level. They or their appointed contractor, if any, should inform their employees about their rights under national labor and employment laws.</p>

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
			<p>Equal opportunity should be given to both men and women depending on their skills and capacity wages, work hours and other benefits should be as per the national labor and employment Laws at the project sites.</p> <p>Grievance Redressal Mechanism for workers should be framed under the LMP and the same to be implemented at the project level. (Project level GRM described in the SEP) This is applicable both during the construction and operation phase and should be supervised by AMC.</p> <p>Provide workers (contractual and AMC workers) with a safe and healthy work environment, considering risks inherent to the project sector.</p> <p>Manual scavenging is prohibited under the act namely 'The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013'. Any such activity needs to be reported to the concerned authorities.</p>
ESS 3: Resource Efficiency & Pollution Prevention and Management	<ul style="list-style-type: none"> ▪ To promote the sustainable use of resources, including energy, water, and raw materials ▪ To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities ▪ To avoid or minimize project-related emissions ▪ of short and long-lived climate pollutants ▪ To avoid or minimize the generation of hazardous and non-hazardous waste ▪ To minimize and manage the risks and impacts associated with pesticide use 	<p>The project aims to prevent pollution of the city and its region by ensuring full treatment of wastewater by upgrading and constructing STPs and improving resilience through drainage improvements.</p> <p>Risks and impacts on all environmental components due to construction and operation of sewage plants, networks (drainage and sewage) canal developments, etc.</p> <p>In case the construction & operation phase involves any hazardous material, chances of groundwater and soil contamination cannot be ruled out. Contractor (construction & OM) will be accountable for the collection and safe disposal of hazardous material and needs to keep a</p>	<p><i>The majority of ESS3 requirements are addressed directly by existing regulations and indirectly for resource efficiency, pollution prevention, and management aspects.</i></p> <p>More specifically the following compliance requirements shall be followed:</p> <ul style="list-style-type: none"> – Water for construction activities should be sourced & managed according to local permission & capacity. – Localized and temporary impact on water quality is likely during the construction phase. However, impacts would be temporary and manageable. – Contractors should implement measures during construction for the management of construction debris generated during construction. Further, PIU will ensure through its contractors that wastes like packing material, metal, debris, cement bags, drums/ cardboards, etc. are collected, stored, and disposed of to re-users or inappropriate authorized debris disposal areas.

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
		<p>record of mitigation measures to safeguard against any future liability. Waste oil and other hazardous chemicals, construction, and demolition wastes from construction activities may result in contamination of ground and nearby surface water. Assessment to include a reasonable evaluation of the volume of water extracted and wastewater produced Operation phase will generate Sludge and Grit</p> <p>ESS 3 is relevant</p>	<ul style="list-style-type: none"> – The project site should be having appropriate facilities for collection, treatment, and disposal of sewage (septic tank and soak pit) which is used both during construction and operation phases should be ensured – Estimates of water abstraction and wastewater generated during the operational phase and expected impacts on the existing sewerage system. – Extraction of gas generated due to treatment processes, and energy extraction – Use of resource-efficient pumps, fuelling mechanisms – Ensure the best treatment standards for sewage, and Monitor incoming and treated wastewater for pollution levels – Assess risks and impacts up/downstream of Vasna barrage; pollution and health and safety impacts, as part of the ESIA for the STPs in the southern part of the city near Sabarmati, and mitigation measures applied accordingly. – PIU through its contractors to ensure the implementation of mitigation measures for pollution impacts in ESMP
ESS 4: Community Health and Safety	<ul style="list-style-type: none"> ▪ To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and nonroutine circumstances ▪ To promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure ▪ To avoid or minimize community exposure to project-related traffic and road safety risks, diseases, and hazardous materials ▪ To have in place effective measures to address emergency events 	<p>This Standard applies to projects which entail potential risks to the health and safety of affected communities from project activities. The project will involve the transportation of large components, which may pose safety risks to the affected communities. Impacts due Electrocutation and Firing due to short-circuit, Accidents during trenching, burrowing, cutting, chipping and piling, Physical injuries, accidents by entering construction site by locals, side slip of embankments, loose soil, Trip and fall hazards or by diseases due to unhygienic condition, etc.</p>	<p><i>National and State Acts cover for all ESS 2 and ESS 4 requirements, gaps exist for community exposure to health issues.</i></p> <ul style="list-style-type: none"> – Assess risks and impacts of the health and safety impacts related to the Vasna barrage before finalising Detailed designs and mitigation measures applied accordingly. – A rapid assessment conducted during Nov 21 indicates that Phase 2 sub-projects sites and conditions (Kharicut canal, Chandrabhaga Nala, and lakes) may cause community health and safety impacts and require mitigation measures – The gaps need to be addressed through suitable provisions in ESMP. Also, contractor obligation as part of ESMP for Community health and safety to include the need for labor Influx Management Plan, Traffic, and road safety management Plan.

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
	<ul style="list-style-type: none"> ▪ To ensure that the safety of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities ▪ To ensure that potential GBV/SEA/SH risks to communities and within the occupants of the labor camps themselves are mitigated 	ESS 4 is relevant	<ul style="list-style-type: none"> – A GBV/SEA/SH risk rating using the World Bank's SEA/SH Risk Rating Tool will be generated and appropriate GBV/SEA/SH risk mitigation measures will be implemented using relevant good practice notes developed by the World Bank.
ESS 5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement	<ul style="list-style-type: none"> ▪ To avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives. ▪ To avoid forced eviction ▪ To mitigate unavoidable adverse social and economic impacts from the land acquisition or restrictions on land use by (a) providing timely compensation for loss of assets at replacement cost⁶ and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing before the beginning of project implementation, whichever is higher. ▪ To improve living conditions of poor or vulnerable persons who are physically displaced, through the provision of adequate housing, access to services and facilities, and security of tenure ▪ To conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant 	<p>Land required for up-gradation of sewerage and drainage networks, STP facility. Private landowners, Hawkers & Squatters may be impacted during construction.</p> <p>ESS 5 is relevant</p>	<p><i>The gap exists specifically related to aspects such as identification of non-titleholders as PAPs; cut-off dates for non-titleholders and valuation of structures with depreciation. The gaps identified are addressed with suitable provisions in RPF (See ESMF guidance manual section XI). Any adverse impacts related to physical or economic resettlement or loss of income due to loss of access are assessed during sub-project DPR preparation or implementation, then sub-project level RAPs will be prepared and implemented under the broad RPF guidance, as a mitigation measure. The RPF also addresses impacts regarding temporary restrictions in movement due to the laying of sewerage lines, phase 2 activities at Kharicut canal, Chandrabhaga Nalla, and lakes where encroachments of 50-100 households, temples, parks (CPRs) are observed (based on the rapid survey, exact impacts will be known during ESIA)</i></p> <p>Vendors, Squatters, Encroachers displaced and/or livelihoods impacted.</p> <p>Grievances will include adverse land-related impacts, loss of access, loss of income and livelihood, disruption in existing livelihoods, disturbance, and related environment-related concerns caused by the construction activities. It should incorporate procedures for lodging grievances, processing of grievances, resolving grievances, and closing of grievances.</p>

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
	<ul style="list-style-type: none"> To ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected 		<p>The grievances would be addressed through direct & indirect methods, call, email, SMS, social media, written, online, Suggestion Box, Community Meetings, and Meetings with Authorities responsible for welfare and development of the city.</p> <p>There would be one Grievance Redressal Cell (GRC) in AMC specific to the project.</p>
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	<ul style="list-style-type: none"> To protect and conserve biodiversity and habitats To apply the mitigation hierarchy and the precautionary approach in the design and implementation of projects that could have an impact on biodiversity To promote the sustainable management of living natural resource To support livelihoods of local communities, including Indigenous Peoples, and inclusive economic development, through the adoption of practices that integrate conservation needs and development priorities. 	<p>The proposed project is in Ahmedabad city wherein the presence of zoological park, gardens, many lakes, canal, and the Sabarmati and Khari river and the project may pose a threat to the biodiversity through habitat loss, degradation and fragmentation of habitat, invasive species, overexploitation, hydrological changes, nutrient loading, pollution, etc.</p> <p>However, since most of the specific sites for the project have not yet been known, the ESIA will assess whether project activities will have impacts on natural habitat and biodiversity. Impacts on Sabarmati, Khari rivers due to discharge of treated sewage from all STPs, and Thol sanctuary in case of sub-projects located to north or northwest zones of the city will be assessed</p> <p>ESS 6 is relevant</p>	<p><i>No specific Gaps to be addressed as policy/regulations support biodiversity conservation, and livelihoods based on these exist.</i></p> <p>Biodiversity Management Plan will be implemented if significant risks and adverse impacts on biodiversity are identified at the sub-projects stage.</p> <p>If the project occurs within or has the potential to adversely affect an area that is legally protected, designated for protection, or regionally or internationally recognized, it will be ensured that any activities undertaken are consistent with the area's legal protection status and management objectives</p>
ESS 8: Cultural Heritage	<ul style="list-style-type: none"> To protect cultural heritage from the adverse impacts of project activities and support its preservation To address cultural heritage as an integral aspect of sustainable development To promote meaningful consultation with stakeholders regarding cultural heritage 	<p>ESS 8 is relevant. Ahmedabad is a World Heritage City with many heritage precincts, monuments, and features, mostly in the 'old city' area. Works related to sewerage network augmentation are proposed in the old part of the city, and hence there is a likelihood that the areas have several sites</p>	<p><i>No Gaps exist as existing regulations guide the protection of cultural heritage. Provisions from the National Act meet the ESS 8 requirements. Intangible cultural heritage aspects are also conserved by City regulatory requirements – by the Heritage Department of AMC.</i></p>

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
	<ul style="list-style-type: none"> To promote the equitable sharing of benefits from the use of cultural heritage 	<p>and structures with religious, cultural, archaeological, and historical significance. The risks and impacts to cultural heritage include vibration and activities such as drilling, excavations, demolitions, causing a disturbance, or other physical changes, including air or water pollution-related damage and risks to heritage structure, access restrictions to communities during works, etc. The possible chance finding of the notified cultural heritage site, beliefs, etc. may be located near the project areas.</p> <p><u>ESS 8 is relevant</u></p>	<p>Areas within the radii of 100m and 300m from the “protected property” are designated as “prohibited areas” and “regulated areas” respectively. No development activity is permitted in the “prohibited areas”. Development activities are not permitted in the “regulated areas” without prior permission from the Archaeological Survey of India (ASI) if the site/remains/ monuments are protected by ASI or the State Directorate of Archaeology. Based on the location of the preserved and protected sites and the nature of the proposed project activities, the assessment will be undertaken for identifying adverse impacts on any such Cultural Heritage sites and CHMP will be developed for sub project.</p> <p>The Chance Finds Procedure will be provided in the ESMP in case of discovery of any artefacts/ structures, places with beliefs, and/ or settlement of yore in the future at the proximity of the project area. Implementation agencies including contractors, sub-contractors, and PMC officials will be provided with capacity building training on Chance finds procedures compliance.</p> <p>All impacts and risks on heritage will be addressed using a Cultural Heritage Management Plan (CHMP) as part of ESMP if screening indicates impacts on cultural heritage.</p> <p>Consultations with some stakeholders were held as part of ESMF consultations. Heritage core (the UNESCO World Heritage City) is excluded for any project interventions. Meaningful consultations will be held with stakeholders regarding cultural heritage in areas other than heritage core- All heritage in the city has been officially mapped, documented by AMC (Heritage Department). Special emphasis will be given on the importance of identifying cultural heritage in collaboration with communities during the stakeholder engagement process as part of ESIAs.</p>

ESSs	ESS Objectives	Relevance to G-ACRP (Component 2)	ESMF compliance requirements, Policy Gaps in National regulations vis a vis ESSs and proposed gap filling measures
ESS 10: Stakeholders Engagement and Information Disclosure	<ul style="list-style-type: none"> ▪ To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular, project-affected parties ▪ To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be considered in project design and environmental and social performance ▪ To promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them ▪ To ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format ▪ To provide project-affected parties with accessible and inclusive means to raise issues and grievances and allow Borrowers to respond to and manage such grievances. 	<p>The G-ACRP includes the construction and upgradation of wastewater and drainage networks, treatment plants, improvement of water bodies, etc. All the proposed projects will immensely benefit the local population and may also expose them to environmental & social risks during the construction & implementation phase.</p> <p>As such, to have prior informed social approval and mitigate the social implications, stakeholder engagement, consultation, feedback is required.</p> <p><u>ESS 10 is relevant</u></p>	<p><i>There is a provision of public hearing in EIA notification. Further RFCTLARR Act 2013 mandates consultations with affected persons. However, the statutory process does not require the preparation of a SEP or equivalent document as well as conducting meaningful consultations and information disclosure, that is accessible to all stakeholders. Measures to address the gap include –</i></p> <p>Stakeholder Engagement Plan (SEP) preparation: Identification of project affected persons, interested parties - civil societies, residents, Vulnerable groups – aged, women, disabled, children need to be engaged, informed, record their views, suggestions & grievance and address the concerns.</p> <p>Project Grievance Mechanism by addressing ES performance feedbacks by the formal and informal process. Grievance redress system development – support task team, the single-entry point at the AMC level. An appeals committee will be set up for the grievant if they are not satisfied by the outcome of GRM.</p>

Note: ESS 7 and ESS 9 are not included in the table as they are found not applicable to the Project.

The World Bank Group's Environmental Health and Safety Guidelines

The World Bank Group's Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). EHS Guidelines are applied as required by their respective policies and standards. These industry sector EHS guidelines are designed to be used together with the General EHS Guidelines document, which guides users on common EHS issues potentially applicable to all industry sectors. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS Guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them. The applicability of the EHS Guidelines should be tailored to the hazards and risks established for each project based on the results of an environmental assessment in which site-specific variables, such as host country context, the assimilative capacity of the region. Defined as the exercise of professional skill, diligence, prudence, and foresight that would be reasonably expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally. The circumstances that skilled and experienced professionals may find when evaluating the range of pollution prevention and control techniques available to a project may include but are not limited to, varying levels of environmental degradation and environmental assimilative capacity as well as varying levels of financial and technical feasibility. Applicability of specific technical recommendations should be based on the professional opinion of qualified and experienced persons. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent. If less stringent levels or measures than those provided in these EHS Guidelines are appropriate, given specific project circumstances, a full and detailed justification for any proposed alternatives is needed as part of the site-specific environmental assessment. This justification should demonstrate that the choice for any alternate performance level is protective of human health and the environment.

The World Bank Group EHS Guidelines for Water and Sanitation, and General EHS Guidelines contain information on cross-cutting Environmental, health, and safety issues that can be downloaded via the following links.

<https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=jOWim3p>

https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

As the component includes developing guidelines and systems for COVID-19 related waste management, sanitization, and public hygiene practices to be rolled out across all urban areas" – this activity should be informed by available guidelines on the COVID response E&S documents

(<https://worldbankgroup.sharepoint.com/sites/wbunits/opcs/Pages/pc/Operations-COVID19-Coronavirus-Information-03092020-081859/Overview-03092020-081941.aspx>)

In addition, the Bank Directive on disadvantaged and vulnerable individuals/groups (2016)⁶ and the labor influx guidance note (2016)⁷ will also be consulted for addressing various project activities.

⁶<https://policies.worldbank.org/sites/ppf3/PPFDocuments/e5562765a5534ea0b7877e1e775f29d5.pdf>

⁷<http://pubdocs.worldbank.org/en/497851495202591233/Managing-Risk-of-Adverse-impact-from-project-labor-influx.pdf>

CHAPTER 4. ASSESSMENT OF PROBABLE IMPACTS DUE TO SUB-PROJECTS

4.1 Sub-projects Typology

The G-ACRP project is envisaged to support the drainage and sewerage network and its management in Ahmedabad across three components:

The proposed sub-projects mainly focus on wastewater infrastructure, stormwater infrastructure, and the improvement of lakes/canals within the AMC area. In this section, the potential sub-projects are further divided into specific sub-project components and activities under each component to assess the potential environmental and social impacts.

The following **Table 2** presents the various components under the possible sub-projects and the activities that may come under various components.

Table 2: Potential Sub-project Components and Activities

Sub-projects	Components	Activities
Wastewater/Sewage Management	i. Expanding and rehabilitating the sewerage network and treatment infrastructure: <ul style="list-style-type: none"> Up-gradation of existing STPs Construction of new STPs and support infrastructure, Rehabilitation of existing sewage networks, expanding sewage network ii. Developing treatment infrastructure for reuse of treated wastewater: <ul style="list-style-type: none"> Tertiary treatment facilities for treated sewage New/expanding distribution network for sewage, only (Note: Industrial waste water management facilities or networks or support infrastructure will not be set up under this project) 	<ul style="list-style-type: none"> Demolition of some/ all the existing structures Site clearance, excavation/ earthworks/ trenching Dismantling/discarding old equipment/parts New construction activities, site development, supportive infrastructure including, pumping stations, manholes, disposal facilities, alternate energy means, reuse/recycling facilities Installing pipelines/machinery/ equipment Shifting of existing roadside structures, under/above ground utilities Electrical and mechanical installations Storage of materials, wastes, by-products, fuel, and chemicals Labor camps Laboratory and offices, testing, monitoring facilities, and analytical activities Green belt Operations and management
Stormwater drainage management	iii. Expanding and rehabilitating the drainage network in the city: <ul style="list-style-type: none"> Rehabilitation of existing networks, expanding drainage networks Reviving the natural drainage system of the city including major canals running across the city through coordinated technical solutions to address water contamination issues: Canal improvements, rehabilitation of existing networks, expanding drainage networks 	<ul style="list-style-type: none"> Excavation/earthworks/ trenching Installing pipelines/machinery/ equipment Construction work employing traditional techniques, micro tunneling, and other technology Removal of silt/waste Sidewalls and supportive infrastructure including rainwater harvesting, silt trapping, pumping stations, manholes, sensors, and monitoring facilities

Sub-projects	Components	Activities
	<ul style="list-style-type: none"> Installation of Storm Trap structures 	<ul style="list-style-type: none"> Shifting of existing utilities Labour accommodation Operations and maintenance Greening
Rejuvenation of Water bodies, Canal Redevelopment	Lake development/ Rejuvenation <ol style="list-style-type: none"> In-Situ Cleaning Catchment Area Treatment (Afforestation, improvement of stormwater drainage) Strengthening of Bund Fencing (compound wall, chain link fencing) Shoreline Development (Peripheral Pathway, Tree plantation) Waterfront Eco-Development (Construction of Gate, parking area, play/ sitting area) Measures for Prevention of Pollution (Interception & Diversion of sewage flow, Package STP, Public toilets) 	<ul style="list-style-type: none"> De-silting, De-weeding, Bioremediation Excavation/earthworks/ trenching Earthwork in embankment with compaction, pitching to prevent rain cuts New construction work Installing pipelines/ machinery/ equipment
	Canal Development <ol style="list-style-type: none"> CC lining in the Canal Drainage Lines parallel to either side of Canal Miscellaneous work (cleaning, slope stabilization) 	<ul style="list-style-type: none"> Excavation/earthworks/ trenching, Removal of silt/waste Construction work
	River Rejuvenation <ol style="list-style-type: none"> Installation of Weirs Creation of French Well Industrial Effluent outfall Tapping RCC Pipeline 	<ul style="list-style-type: none"> Excavation/earthworks/ trenching Desilting, drilling

4.2 Environmental and Social Risks and Impacts

Sub-projects include sewerage and drainage network laying and improvement of existing networks, construction of new STPs and upgradation of existing STPs, Lake/canal redevelopment. The project will ensure the overall health of the inhabitants, environmental improvement, and resilience of Ahmedabad city by improving stormwater drainage, sewerage systems, providing technical support for municipal revenue mobilization, developing a GIS-based real-estate asset inventory management system, appropriate tariff strategy for core urban services, technical support for land-based financing. The project also aims at longer-term sustainable development of the State and its cities through support to the Gujarat Urban Development Institute through GUDM to develop a lighthouse approach to absorb international best practices, implement them in leading cities and replicate them in the rest of the State. In addition, the project would support institutional capacity building, awareness creation, and studies (Technical Assistance). Proposed sub-projects would improve the environmental quality and thereby the quality of life in Ahmedabad. Sensitive environmental components such as the Sabarmati river and canals which run through the city, Khari River which passes near the city, urban lakes of Ahmedabad, and its open spaces would benefit by reduced pollution due to wastewater and overall environmental improvement of air water and soil, thereby supporting biodiversity. This would result in positive impacts on the flood management scenario in the city during monsoons and extreme events. Proper management of the improved facilities would promote resilience.

Expected risks and impacts due to construction and upgradation of sewerage and drainage networks, treatment plants if facilities are not properly planned, designed, and managed include (i) impacts on water environment of the water body receiving treated water or near construction/ storage areas, (ii) increased possibilities for pedestrian-vehicular conflicts and accidents during laying of networks mainly through congested inner city areas, (iii) noise and vibration due to construction activities disturbing surrounding structures including heritage structures in the vicinity, (iv) noise, light, water, dust, air, land pollution and disturbance to fauna/flora and nearby communities due to construction, activities, usage, O&M activities, (v) occupational and community health and safety (OCHS) risks on workers and communities, (vi) public inconvenience due to shifting of utilities, material transport, storage, construction and maintenance of proposed infrastructure, (vii) liquid and solid wastes during network laying, upgradation and construction of treatment plants and operations, construction and demolition waste which may include existing asbestos, batteries, hazardous wastes and e-wastes which need to be disposed carefully, (viii) sludge, other wastes and effluents/backwash water during O&M stages, (viii) labor camp related pollution and burden on shared resources, (ix) disturbances to activity spaces, parks, open spaces, natural habitats in the vicinity of work areas due to storage of materials and parking and movement of laborers, and construction vehicles, (x) solid, hazardous and e-wastes, (xi) physical and/or economic displacement due to land acquisition requirements and construction stage impacts, (xii) SEA/SH impacts due to influx of labour etc. Proposed components will involve several interdependent facilities and activities and all may not be financed under the project. Hence, the impacts of associated facilities may become relevant and will be identified during the design stage.

G-ACRP is aimed at improving the environmental quality and overall quality of life of the city by improving sewage/drainage infrastructure and services to ensure the latest standards/guidelines set as per regulations. Hence, the overall impact would be beneficial to the people of Ahmedabad and those downstream of the receiving waterbodies. Most of the risks will be limited and largely localized, temporary i.e. during the construction stage.

4.2.1 Environmental and Social Risks and Impacts in Local Area

The proposed project involves various activities during the construction and operation phases. The potential environmental and social risks and impacts of the proposed project in the local area on water quality and quantity, air quality, noise levels, and socioeconomic aspects of the area.

Water: The main surface waterbodies in the city are rivers and lakes. The river Sabarmati bifurcates Ahmedabad into the western and the eastern parts. The Khari River runs almost parallel to the Sabarmati towards the east, beyond the city limits. One of the oldest irrigation schemes of Gujarat, the 'Kharicut canal scheme' passes through the eastern part of the city, also serving as a stormwater drain during monsoon, draining into the Khari River. The Kankaria, Vastrapur, Thaltej, and Chandola are among the many important ponds/ lakes in the city.

The proposed project activities may potentially impact water quality and quantity during the construction, operation, and maintenance phases of sub-projects.

Air Quality:

Ahmedabad city with an estimated population of 7.3m residing in the municipal area spread over 488q. km, under the jurisdiction of AMC, is the country's seventh-largest metropolis. The city can be described with three major zones a) the 'walled' city (within the fort walls) – old city of Ahmedabad in the central area to the east of River Sabarmati; b) industrial and residential localities to the eastern peripheral areas of the Old City; and c) plotted residential colonies and institutional areas in the 'new city' to the west of the old city across Sabarmati.

With the high population density and the metropolitan nature of the city, it has many vehicles, industrial and commercial activities which results in various sources of urban air pollution in the city. The proposed project activities may potentially impact the air quality during construction, operations, and maintenance of sub-projects with the addition of construction vehicles, construction activities, use of machinery, and fuel combustion. In addition, the odor may emanate from STP processes/release of gases, use of chemicals, sludge, and treated sewage and may impact the communities near STPs, pumping stations, and discharge points.

Ambient Noise:

The city has a dense population, commercial and industrial activities, a dense road network, and several sensitivities such as residential areas, heritage monuments, hospitals, schools, religious buildings, etc. Therefore, the proposed activities may potentially impact negatively on the ambient noise in the proximity.

Socio-economic:

Proposed infrastructure developments are in different parts of the city. Proposed sewerage and drainage networks will be along the main city roads, some in the very congested central city. Some of the sites may have sensitive land uses, receptors, heritage sites, and natural habitats, nearby. The proposed activities may negatively impact the traffic movement, may add to inconvenience of local public, may also impact the religious activities by an increase of air pollution, noise levels, construction vehicles and machinery, access restrictions, etc. The city has 54 heritage monuments (many dating back to the 15th century) protected by the Archaeological Survey of India - 32 in the Central Zone including fort walls and gates, traditional houses ('pols'), and their features. Many cultural/heritage areas which are mainly in the central city will be impacted by ongoing works - mainly network laying and lake/ Canal Improvement works.

4.2.2 Regional Environmental and Social Risks and Impacts

The regional impacts of existing systems are mainly due to the discharge of treated sewage into the Rivers and Canals and sludge disposal. People of downstream villages of Sabarmati and Khari depend on the rivers mainly for irrigation. Pollution levels in the rivers are very high currently. Vasna barrage across Sabarmati to the South of the city regulates water flow downstream of Sabarmati. Any impact due to floods/disasters may also impact the STPs in the vicinity on the east and west banks of Sabarmati and its discharge of effluents.

4.3 Impact Assessment Methodology

The methodology to assess the impacts at the sub-project level is presented here. Impacts are assessed based on Magnitude, Duration, Significance, and Likelihood of the impacts and Sensitivity of the receptors.

4.3.1 Magnitude and Duration of Impacts

The assessment of magnitude is undertaken in two steps. Firstly, the key issues associated with the G-ACRP are categorized as beneficial or adverse. Secondly, potential impacts shall be categorized as High, Average, Low, or negligible based on consideration of the parameters such as:

- Temporal extent (duration) and the likelihood of the potential impact;
- The spatial extent of the potential impact;
- Reversibility of the Impact;
- Likelihood of the impacts

The magnitude of the potential impacts of G-ACRP is identified according to the categories outlined in **Table 3**.

Table 3: Aspects for Determining the Magnitude of Impacts

Aspects		Magnitude		
Duration of the potential impact	Long term (more than 20 years)	Medium Term - The lifespan of the Program (5 years)	Short Term - 1 to 2 years or Less than the lifespan of the project	Temporary - with no detectable potential impact
The spatial extent of the potential impact	Regional – much beyond project boundaries	City - Beyond immediate Project components, site boundaries, or local area	Site - Within project site boundary	Micro - A specific location within the project component with no detectable potential impact
Reversibility of potential impacts	Irreversible - Potential impact (including positive impact) is effectively permanent, requiring considerable intervention to return to baseline	Largely Reversible- Potential impact requires a year or so with some interventions to return to baseline	Reversible - Baseline returns Naturally or with limited intervention within a few months	No change - Baseline remains constant
Likelihood of potential impacts occurring	Certain - Commonly occurs under typical operating or construction conditions	Likely - Usually seen occurring under most situations	Occasional - Occurs under abnormal, exceptional, or emergency conditions	Unlikely to occur

4.3.2 Sensitivity of Receptor

The sensitivity of a receptor shall be determined based on a review of the population (including proximity/numbers/vulnerability) and the presence of features on the site or the surrounding area. The criteria for determining receptor sensitivity of the program's potential impacts are outlined in **Table 4**.

Table 4: Criteria for Determining Sensitivity

Sensitivity Levels	Description
High	The vulnerable receptor with little or no capacity to absorb proposed changes or minimal/limited opportunities for mitigation
Medium	The vulnerable receptor with some capacity to absorb proposed changes or moderate opportunities for mitigation
Low	The vulnerable receptor with good capacity to absorb proposed changes or/and good opportunities for mitigation
Negligible	Non-vulnerable receptor

4.3.3 Significance of the impact

The significance of potential impacts is established using the impact significance matrix shown in **Table 5** below.

Table 5: Assessment of Significance of Negative and Positive Impacts

		Sensitivity/ Vulnerability/ Importance of Resource/ Receptor		
		Low	Medium	High
Magnitude of Negative Impact	Negligible	Negligible	Negligible	Minor
	Low	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	High	Moderate	Major	Major
Magnitude of Positive Impact	Negligible	Negligible	Negligible	Minor
	Low	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	High	Moderate	Major	Major

4.3.4 Potential Key Environmental and Social Risks and Impacts

The project activities are taken up over several years in phases (work packages) and the sub-projects proposed for implementation during the Initial Phase (first two years) are presented in **Table 6** below. Separate ESIs are being prepared for these after screening and categorization as guided by this ESMF.

Table 6: Initial Sub-projects

Phase 1		No of works	Capacity (MLD)
East	Component 1 Sewage Treatment Plant Rehabilitation		
	Pirana 180 MLD STP (ASP) – Improving Treatment Technology and associated infrastructure	1	180
West	Component 1 Sewage Treatment Plant Rehabilitation/Construction		
	Vasna 126 MLD STP (UASB) – to be upgraded to 375 MLD STP, – Improving Treatment Technology and associated infrastructure	1	126 to 375
	Vasna 240 MLD STP (ASP) – Improving Treatment Technology and associated infrastructure	1	240

Most of the sub-projects would involve similar risks and impacts considering the nature of activities and broad locations.

The sub-projects proposed for implementation during the subsequent phase (year 3 onwards) include Kharicut Canal Development, Chandrabhaga Nalla and Lake development, Conservation of Lakes, etc. A rapid assessment was conducted during Nov 2021 for phase these sub-project activities. Potential key environmental and social risks and impacts for the overall project activities are presented in **Table 7** below. Separate ESIs will be prepared for all project activities after screening and categorization as guided by this ESMF.

Table 7: Potential key environmental and social risks and impacts for sub-projects typologies

SI No	Sub-projects Typology	Components	Potential E&S Risks, Impacts, and Opportunities (during pre-construction, construction & O&M)
1	Wastewater/ Sewage Management	i. Expanding and rehabilitating the sewerage network and treatment infrastructure: • Up-gradation of existing STPs	Preconstruction/ construction: Landuse changes <ul style="list-style-type: none"> Negative: expansion of existing footprint, more coverage due to new construction/upgradation

SI No	Sub-projects Typology	Components	Potential E&S Risks, Impacts, and Opportunities (during pre-construction, construction & O&M)
		<ul style="list-style-type: none"> Construction of new STPs and support infrastructure, Rehabilitation of existing networks, expanding sewerage network ii. Developing treatment infrastructure for reuse of treated wastewater: <ul style="list-style-type: none"> Tertiary Treatment Facilities for Treated sewage New/expanding distribution network 	<ul style="list-style-type: none"> <i>Positive: Use of allotted space for appropriate land use, improving tree cover through a green belt & greening lake fronts, recreational facilities</i> Impact on-site and current users <ul style="list-style-type: none"> <i>Negative: Topography and drainage impacts on site, utility shifting, site alterations, clearance, siltation, drainage clogging, waterlogging</i> <i>Positive: Opportunity to improve efficiency</i> Impacts on Air <ul style="list-style-type: none"> <i>Negative: Burning during site clearance, diesel Gensets and vehicle emissions, dust due to transport, increase in traffic & congestion while laying pipes, debris stockpiles, open storage of materials, trenching, borrowing, topsoil removal, wind-blown dust, fire, and spills; increased impacts during disasters</i> <i>Positive: Controlled activities on-site minimize gaseous emissions</i> Impacts on Water Bodies <ul style="list-style-type: none"> <i>Negative: Works on or near water bodies, material spill and leakages near storage areas, lack of waste/water containment on-site, lack of facilities (sanitation, waste management) at labor camps, bypass into waterbodies due to works, increased impacts during disasters</i> <i>Positive: Careful sourcing/reusing of treated water for construction</i> Impacts on Soil <ul style="list-style-type: none"> <i>Negative: wastes, existing sludge and grit, reduced permeability heavy runoff/sediments due to soil compaction, soil erosion, spilt cement, oil or chemicals, construction/demolition, hazardous and plastic wastes, topsoil loss, excavation/bulk earth movement, compaction)</i> <i>Positive: compaction, grading minimizing erosion; greenbelt development improves tree cover</i> Impacts on health of Fauna, Flora (biodiversity) <ul style="list-style-type: none"> <i>Negative: clearance of natural vegetation and roadside trees, birds/ animal habitats, clearance of weeds/herbs/ grass leading to the displacement of insects & birds, dust accumulation on plants, animals due to vehicle movements through unpaved areas, construction works, runoff polluting streams, waterbodies and flora/fauna therein, noise and vibration effects due to equipment, machinery, vehicles, activities. Direct impact by increment in noise & vibration due to construction activities on animals present in the zoo.</i> <i>Positive: More trees planted by developing green belt</i> Occupational Health and Safety of workers involved <ul style="list-style-type: none"> <i>Negative: waste, wastewater, accidents due to work types/ activities, vehicles/ heavy equipment, slips, fall, fire; lack of PPEs, training, guidance; increased impacts during disasters (esp. flooding, impact on project works/ activities leading to loss of time/ resources, site isolation)</i> <i>Positive: Employment opportunities and facilities</i> Community Health and safety <ul style="list-style-type: none"> <i>Negative: Disturbance and safety issues during works, Waste dumps creating dust, health impact, visual blight, accidents, congestion; excavation & trenching leading to falling, trip, congestion, pollution, Damage to building & infrastructure, roads, common property during pipeline laying, shifting of utilities, material transport, and storage, Risk of Communicable Diseases, the burden on shared resources by locals and the workers, pollution, and disturbance due to sourcing of</i>
2	Stormwater drainage management	i. Expanding and rehabilitating the drainage network and Pumping Stations, allied works in the city	
3	Rejuvenation of Water bodies, Canal Redevelopment	iii. Lake development/ Rejuvenation iv. Canal Redevelopment	

SI No	Sub-projects Typology	Components	Potential E&S Risks, Impacts, and Opportunities (during pre-construction, construction & O&M)
			<p>materials, high noise & vibration due to machinery and work activities affecting sensitive receptors, Health, and safety of downstream users of polluted waters</p> <ul style="list-style-type: none"> Positive: Traffic Control during construction, better facilities arranged for communities, emergency responses, awareness increased <p>Disturbance to Cultural Heritage, Visual blight</p> <ul style="list-style-type: none"> Negative: noise disturbances to visitors and users, vibration due to earthwork, compaction, micro-tunneling nearby affecting the safety of structures Positive: Improvement for the area, increased awareness, facilities <p>Impact on Socio-Economic, Households, communities</p> <ul style="list-style-type: none"> Negative: Displacement of squatters/ encroachers occupying Chandrabhaga river/Nalla bank who may be at risk due to Nalla overflow and erosion of banks during floods, limited impact of livelihoods as livelihood not observed in the specific locations, some impact on loss of access and traffic flow during implementation. There may be temporary impacts on shopkeepers, hawkers/ street vendors in market areas, and pedestrians and businesses in the congested area during implementation. Positive: R&R will reduce health and safety issues related to bank erosion and impact during floods, the additional road on RCC works for better mobility, overall improvement in quality of life due to Nalla enclosure and reduction of solid waste currently discarded in open Nalla which leads to unsanitary conditions and risk to public health, Improvement in traffic flow, increased awareness, facilities, etc <p>Operations and Maintenance:</p> <p>Impacts on Air</p> <ul style="list-style-type: none"> Negative: diesel Gensets and vehicle emissions, dust due to transport, debris stockpiles, and dust, open storage of materials, fire and spills, chlorine leakage, odor from operations, and sludge Positive: lesser generation of gases, emissions & decreased odor nuisance (less dependence on electric fuel due to use of energy-efficient appliances) <p>Impacts on Water</p> <ul style="list-style-type: none"> Negative: runoff of effluent/backwash water, solid waste storage, sludge and leachate, partial reuse of non-chlorinated treated water for site purposes, oil, plastics, and wastes carried through networks, lack of facilities (sanitation, waste management) at site office or camps, bypass into waterbodies due to O&M Positive: Better quality of treated water possible to reuse reducing dependence on freshwater, the better quality of retained water in water bodies, microclimatic improvements; improved recharge and groundwater resource <p>Impacts on Soil</p> <ul style="list-style-type: none"> Negative: wastes, sludge and grit, soil erosion, spilled cement, oil or chemicals, hazardous, plastic, and other wastes, excavation/ compaction during network O&M Positive: better quality of sludge which can be used as a soil enricher, reuse of grit, less pollution of soil, sediments due to better collection and treatment of wastewater, clean lakes <p>Impacts on health of Fauna, Flora (biodiversity)</p>

SI No	Sub-projects Typology	Components	Potential E&S Risks, Impacts, and Opportunities (during pre-construction, construction & O&M)
			<ul style="list-style-type: none"> Negative: dust accumulation on plants, animals due to vehicle movements through unpaved areas or O&M; site runoff polluting streams, waterbodies, and flora/fauna therein; noise and vibration effects due to equipment, machinery, vehicles, and activities; noise, light, and wastes due to increased tourism activities at lakes/rivers/canals. Direct impact by increment in noise & vibration due to construction activities on animals present in the zoo. Positive: Improved tree cover and greenery supporting fauna <p>Occupational Health and Safety of workers involved</p> <ul style="list-style-type: none"> Negative: waste, wastewater, accidents due to O&M activities, vehicles/heavy equipment, slips, fall, fire, lack of PPEs, training, guidance, flooding/disasters impacting project activities and workers Positive: Employment opportunity, Improved OHS, better insurance and work conditions, quality of life <p>Community Health and safety</p> <ul style="list-style-type: none"> Negative: disturbance and safety issues during O&M, odor nuisance, Waste dumps, grit and sludge creating dust, health impact, visual blight, accidents, congestion; excavation & trenching leading to falling, trip, congestion, pollution, Damage to building & infrastructure, roads, common property during pipeline O&M, shifting of utilities, material transport, and storage, Risk of Communicable Diseases, high noise & vibration due to machinery and work activities affecting sensitive receptors, Health, and safety of downstream users of treated waters in case of poor treatment quality Positive: Overall improvement of the environment, health and living conditions, resilience, and image of the city and its communities - forward linkage to overall socio-economic improvement <p>Resettlement and Livelihoods impacts</p> <ul style="list-style-type: none"> Negative: Temporary disturbance to business or economic displacement due to access restrictions during construction; temporary traffic congestion and diversion of traffic. Positive: Works on govt land and existing RoW, no future requirement to cause temporary disturbance to businesses or economic activities. <p>Impacts on Cultural Heritage, Visual blight</p> <ul style="list-style-type: none"> Negative: noise disturbances to visitors and users, vibration due to O&M works Positive: Better environment and services in heritage areas improving the quality of such areas and visitor satisfaction <p>Impact on Socio-Economic, Households, communities</p> <ul style="list-style-type: none"> Negative: temporary or permanent loss of homes, livelihood and income loss, loss of access to public services. Positive: improvement in quality of life post-relocation, better access to public services and access to the sewerage network, Overall improvement in community health and living conditions, health resilience.

Summary of key risks and impacts and their significance before and after mitigation are presented in **Table 8** below.

Table 8: Summary of Risks and Impacts and their Significance before and after Mitigation

Potential Risks and Impacts	Negative Impacts								Positive Impacts
	Duration	Spatial Extent	Reversible or not	Likelihood	Magnitude	Sensitivity	Significance Before Mitigation of Negative impacts	Negative Impacts after Considerations in the Long-Term Plan/ Mitigation	Significance of Positive Impacts
Preconstruction/ construction									
Landuse changes	Long term	Project extent	Irreversible	Certain	Low	Low	Negligible Negative	Nil	Minor Positive
Impact on-site and current users	Short Term	Site	Reversible	Occasional	Low	Low	Negligible Negative	Nil	Moderate Positive
Impacts on Air	Short Term	Regional	Largely Reversible	Likely	Medium	Medium	Moderate negative	Negligible negative	Minor Positive
Impacts on Water Bodies	Short Term	Regional	Largely Reversible	Certain	Medium	High	Moderate negative	Minor Negative	Moderate Positive
Impacts on Soil	Short Term	Project extent	Largely Reversible	Likely	Low	Medium	Minor negative	Negligible negative	Minor Positive
Impacts on health of Fauna, Flora (biodiversity)	Short Term	Site	Reversible	Occasional	Low	Medium	Moderate negative	Negligible negative	Moderate Positive
Occupational Health and Safety of workers involved	Short Term	Site	reversible	Likely	Low	High	Moderate Negative	Minor Negative	Moderate Positive
Community Health and safety –	Short Term	Local	reversible	Likely	Low	High	Moderate Negative	Minor Negative	Minor Positive
Disturbance to Cultural Heritage, Visual blight	Short Term	Local	reversible	Occasional	Low	High	Moderate negative	Minor Negative	Minor Positive
Resettlement and livelihoods impacts – Phase 1 sub-projects	Temporary	Local	Reversible	Unlikely	Low	High	Minor Negative	NIL	Minor positive
Resettlement and livelihoods impacts sub-projects	Long and short term	Sub project or location-specific	Irreversible and reversible	likely	Ranging from low to high	Medium	Moderate negative	Moderate to minor	Moderate to high
Impact on Socio-Economic, Households, communities	Long and short term	Sub project or	Irreversible and reversible	likely	Ranging from low to high	Medium	Moderate negative	Moderate to minor	Moderate to high

Potential Risks and Impacts	Negative Impacts								Positive Impacts
	Duration	Spatial Extent	Reversible or not	Likelihood	Magnitude	Sensitivity	Significance Before Mitigation of Negative impacts	Negative Impacts after Considerations in the Long-Term Plan/ Mitigation	Significance of Positive Impacts
		location-specific							
Operations and Maintenance									
Impacts on Air	Short Term	Regional	reversible	Occasional	Low	High	Moderate negative	Minor Negative	Moderate Positive
Impacts on Water	Short Term	Regional	Largely Reversible	Occasional	Medium	High	Major Negative	Moderate Negative	Major positive
Impacts on Soil	Short Term	Project extent	reversible	Occasional	Medium	Medium	Moderate negative	Minor Negative	Major positive
Impacts on health of Fauna, Flora (biodiversity)	Temporary	Site	Reversible	Occasional	Low	Medium	Minor Negative	Negligible negative	Major positive
Occupational Health and Safety of workers involved	Medium Term	Site	Reversible	Occasional	Low	High	Moderate negative	Minor Negative	Major positive
Community Health and safety	Temporary	Local	Reversible	Occasional	Low	High	Moderate negative	Minor Negative	Major positive
Resettlement and livelihoods impacts	Temporary	Local	Reversible	Occasional	Low	High	Minor Negative	NIL	Minor Positive
Impacts on Cultural Heritage, Visual blight	Temporary	Local	Reversible	Occasional	Negligible	High	Minor Negative	Minor Negative	Major positive

The potential environmental impacts and risks for sub-projects and proposed mitigation measures and E&S instruments which would incorporate/guide on such mitigation measures are summarized in **Table 9** below about the World Bank's applicable ESSs.

Table 9: Environmental and Social Risks and Impact Mitigation Plan

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
1	ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	<ul style="list-style-type: none"> - Sub-projects involve upgradation of existing STPs, construction of new STPs, drainage, sewage networks, tertiary treatment facilities, upgradation of waterbodies, which would enhance sewage collection, treatment, recycling, and overall environmental improvement - Disposal of treated sewage and sludge may have adverse impacts on other users like farmers, in the downstream villages which are outside municipal areas. - Lack of access to services for addressing effluent-related issues in the municipal STP. 	<ul style="list-style-type: none"> - Identify, evaluate, and manage the environmental and social risks and impacts of the project in a manner consistent with the ESSs and National or State regulations - For sub-projects Identification of project-affected persons, interested parties, Vulnerable groups will be undertaken - Evaluation of cumulative impacts, risks, and impacts due to associated facilities - Develop monitoring plans and audits - Outline Institutional responsibility and capacity building - Stakeholder engagement - Stringent monitoring and publication of the test results in the public domain with details of the pollution can be uploaded to the website. 	<ul style="list-style-type: none"> - ESMF - ESIA - SEA/SH mitigation plan - ESMP - ESCP
2	ESS 2: Labor and Working Conditions	<ul style="list-style-type: none"> - Occupational Health and Safety of workers while working on large construction works mainly during upgradation of existing plants - Exposure to hazardous waste will cause occupational health, EHS risks on staff, laborers during construction, laying of networks, and O&M. - The influx of migrant labor, communicable diseases - Gender-based violence - Conflict with the local community - Conflict of locals with security at the site 	<p>Guidance</p> <ul style="list-style-type: none"> - WBG EHS guidelines to be followed - Assess and manage labor influx risk based on appropriate instruments; Prepare site-specific Labor Influx Management Plan and/or a Workers' Camp Management as part of ESMP, in consultation with communities considering the institutional capacity of the implementing agency; the presence of contractors without strong worker management and health and safety policies; anticipated high volumes of labor influx; pre-existing social conflicts or 	<ul style="list-style-type: none"> - LMP - ESMP - C-ESMP

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
			<p>tensions; local law enforcement, prevalence of gender-based violence and social norms, local prevalence of child and forced labor. ESMP implementation by contractors to be ensured</p> <p>Capacity Building</p> <ul style="list-style-type: none"> - Training and awareness among workers on safety and work conditions, physical, Chemical, Biological, and Radiological hazards - Awareness on Fire, Material Safety, Emergency Response, COVID protocols, Incident Response and Monitoring <p>Equipment, Gears</p> <ul style="list-style-type: none"> - Provision of Protective Personal Equipment, First aid Kits, signages, and guidance on site - Provide appropriate fire safety tools <p>Practices</p> <ul style="list-style-type: none"> - Good, safe housekeeping on site - The integrity of Workplace structures - Safe practices for heavy machinery/equipment on-site, OHS, safety while shifting utility and electrical, mechanical works (installation of equipment, testing, etc) - Minimize interactions with hazardous materials, wastes, and tools by providing barricades, safe handling practices - Safe refuge during emergencies - Labour camp: Location to be identified considering risks. Plan to be approved by the site engineer. Rest areas, isolation facility, Water, Sanitation, Lighting, first aid, Stay 	

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
			<p>facilities, Covid-19 protocols at Labour camp. Labor camp to have waste, wastewater, toilet management, access roads, noise/light issues, fuels to minimize environmental impacts</p> <ul style="list-style-type: none"> - Reduce labor influx; use local laborers - Ensure worker registration and insurance, ambulance facility on-site, good tie-ups with specialized hospitals for Worksite accidents <p>Monitoring</p> <ul style="list-style-type: none"> - Conduct health screening at regular intervals - Conduct OHS audit at regular intervals as part of Quality Assurance - Conduct gender analysis, establish grievance mechanism, and prepare labor management plan to address gender-based violence and conflicts. 	
3	ESS 3: Resource Efficiency & Pollution Prevention and Management	<ul style="list-style-type: none"> - Air Emissions and Ambient Air Quality <ul style="list-style-type: none"> (i) Indiscriminate open-air burning during site clearance. (ii) use of diesel-powered generator sets and vehicles with poor or high emission rates. (iii) Dust & emission due to increasing in traffic & congestions while laying networks and transporting construction materials (iv) limited air pollution due to gases produced as part of the sewage treatment process (v) Odor nuisance due to wastes accumulated during construction, O&M, chemicals/fuels used 	<p>Guidance</p> <ul style="list-style-type: none"> - National, State, local regulations, and guidelines, WBG EHS guidelines to be followed - ESIA to also consider Cumulative Impacts of these <p>Capacity Building</p> <ul style="list-style-type: none"> - Training and awareness on monitoring, containing, managing pollutants and materials; also, during emergencies - Awareness to neighbors on upcoming works, and to use/ follow protective measures <p>Equipment, Gears</p> <ul style="list-style-type: none"> - Provision of Protective Personal Equipment, First Aid Kits, signages, and guidance on-site to 	<ul style="list-style-type: none"> - ESIA - ESMP

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
		<ul style="list-style-type: none"> - Noise increases due to transport, machinery, and work activities, also during O&M - Wastewater, Water Conservation, Ambient Water Quality & Contaminated Land <ul style="list-style-type: none"> (i) Improper sludge, wastewater management may lead to leachate, and contamination of water bodies groundwater, and land (ii) Wastes are transported by drains and emptied into receiving water bodies (iii) Construction/operation stage impacts on waterbodies (iv) Improper treatment may lead to odor, health issues for downstream users, and reputational risks (v) Recycle, Reuse of treated Water (vi) Waste generated on-site if not managed properly during Construction and O&M could result in visual blight, and land, water pollution - Pollution Impacts on Biodiversity <ul style="list-style-type: none"> (i) Impacts on the receiving waterbody and its biodiversity - Energy Conservation: Possibilities to minimize energy use, possible reuse/recycle of resources, improve biodiversity 	<p>protect against pollution, Hazardous substances</p> <p>Practices</p> <p><u>Air Emissions and Ambient Air Quality</u></p> <ul style="list-style-type: none"> - Provide construction/ demolition Site enclosures - Avoid indiscriminate burning of wastes, burning/wasting of gaseous bioproducts at the site to reduce air pollution. - Safe & covered storage of materials, chemicals, fuels, wastes; good housekeeping on site - Ensure PUC certificates for all vehicles - Adopt processes to minimize air/ gaseous emissions and reuse <p><u>Noise increases due to transport, machinery, and work activities, also during O&M</u></p> <ul style="list-style-type: none"> - Preference for Silent machinery - Adopt noise reduction strategies - Enclosures, buffers for the site; PPEs <p><u>Wastewater, Water Conservation, Ambient Water Quality & Contaminated Land</u></p> <ul style="list-style-type: none"> - Proper segregated storage, collection, transport, treatment, and disposal of all wastes as per categories (General SW, BMW, Plastics, E-Waste, Hazardous wastes, silt, C&D wastes) during construction & operation, and dispose of wastes at least once a week - Ensure no wastes reach drainage/sewage networks by adopting proper design standards and monitoring 	

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
			<ul style="list-style-type: none"> - Minimize wastes/pollutants reaching waterbodies - Proper treatment of sewage, wastes. Pollutants - Recycle, reuse treated water - Proper storage, transport, treatment, disposal of sludge as per its constituents <p><u>Pollution Impacts on Biodiversity</u></p> <ul style="list-style-type: none"> - Site enclosures, buffers, cut-offs, greenbelts - Undertake activities to improve biodiversity; environmental improvement of receiving areas, provide tree cover, plantations, minimize the discharge of pollutants <p><u>Energy Conservation</u></p> <ul style="list-style-type: none"> - Use energy-efficient equipment, processes; recycle wastes, materials <p>Monitoring</p> <ul style="list-style-type: none"> - Monitoring of Discharge of treated sewage for all parameters which impacts receiving waterbodies, its biodiversity including migratory birds, and downstream uses - Prepare hazardous waste management plan following the National Laws & standards. - Sludge & Grit Management Plan, including treatment, drying, stabilizing, and final disposal of sludge; cleaning and reusing/recycling Grit. Sludge & other waste storage/stockpile should be in designated areas with on the impermeable surface - Monitor gaseous/ air emissions from STP 	

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
4	ESS 4: Community Health and Safety	<ul style="list-style-type: none"> - Water quality & Availability - Structural Safety of Project Infrastructure - Life and Fire Safety (L&FS) <ul style="list-style-type: none"> (i) Incidents/ Accidents at all construction sites due to traffic while network laying, worksite hazards at STP, Drainage Pumping Stations (ii) Fire safety issues due to electrical circuits, storage & use of fuels for supplementary power, accidental fires, labor camps - Traffic Safety <ul style="list-style-type: none"> (i) Increased traffic, Traffic congestion, resultant noise, delays (ii) Road safety during network laying especially in congested areas, areas near schools, residential areas - Transport of Hazardous Materials - Disease Prevention - Assessing the health situation of the people with respect to the pandemic and risks due to use of polluted water for irrigation, livestock and domestic use. <ul style="list-style-type: none"> (i) Debris, noise (disturbance), and air pollution due to demolition, clearing of existing structures, sites, pipe networks - Emergency Preparedness and Response <ul style="list-style-type: none"> (i) Risk due to existing Vasna Barrage (ii) Potential impacts from flooding (iii) Earthquake safety 	<p>Guidance</p> <ul style="list-style-type: none"> - National, State, local regulations, and guidelines, WBG EHS guidelines to be followed - Prepare a plan for the emergency response also considering Vasna barrage <p>Capacity Building</p> <ul style="list-style-type: none"> - Training and awareness on monitoring, ensuring safe practices: Pollution and Work Safety impacting community Health and safety - Training on safe practices & containment of pollution during emergencies - Awareness to neighbors on upcoming works - Fire drill, emergency preparedness drill involving communities <p>Equipment, Gears</p> <ul style="list-style-type: none"> - Provision of Protective Personal Equipment, first aid kits, signages, and guidance on-site to protect against pollution, Hazardous substances <p>Practices</p> <p><u>Water Quality and Availability</u></p> <ul style="list-style-type: none"> - Minimize erosion, disturbance to water bodies - Improved treatment of Sewage to take care of all pollutants in the treated sewage to reach environmentally acceptable results; Proper segregated storage, collection, transport, treatment, and disposal of all wastes as per categories (General SW, BMW, Plastics, E-Waste, Hazardous wastes) and dispose of 	ESIA, ESMP (with Traffic Management Plan, Labour Influx management plan, fire safety plan)

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
		<p>- Rapid assessment conducted during November 2021 for sites of phase 2 sub-projects namely Kharicut Canal, Chandrabhaga Nalla, and 4 representative lakes (Ramo Bandh, Isanpur Gaam, Shilaj Gaam, and Bhadaj Gaam lakes) indicated possible community health and safety concerns such as odor, polluted water, safety concerns related to accidental drowning among others. The findings of the Rapid assessment provide initial insights for possible impacts and mitigation requirements while detailed analysis shall be carried out as part of sub-projects screening and ESIA.</p>	<p>wastes at least once a week; Minimise wastes/pollutants reaching waterbodies</p> <ul style="list-style-type: none"> - Site enclosures, buffers, cut-offs, greenbelts to avoid wastes/wastewater/pollutants reaching waterbodies - Safe & covered storage of materials, chemicals, fuels <p><u>Structural Safety of Project Infrastructure</u></p> <ul style="list-style-type: none"> - Infrastructure and construction to follow National guidelines, standards, and WB EHS; also, to take care of disasters including earthquakes and flooding - Consultation with communities to plan and reduce noise, vibration during construction and operation, Use PPEs, barriers <p><u>Life and Fire Safety (L&FS) and General site hazards minimization during construction, Transport of Hazardous Materials</u></p> <ul style="list-style-type: none"> - Demolition activities to be under controlled environment - Prepare and enforce traffic management plan - Prohibit access to the construction sites by any person having no work permits. - The proposed site should be marked and cordoned off any access by the public - Waste to be well managed, Safe Transport of hazardous material following existing regulations, Store hazardous material and waste in safe impermeable containers above 	

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
			<p>flood level, without leaching to nearby land/waterbodies, or resulting in fire</p> <ul style="list-style-type: none"> - Ensure Fire safety & provide extinguishers, sprinklers, etc. as appropriate <p><u>Traffic Safety</u></p> <ul style="list-style-type: none"> - Follow Traffic Management Plan approved by Traffic Police Department - Arrange Flagstaff, signages - Drivers to have a valid license - Safe practices for heavy machinery/equipment on site <p><u>Disease Prevention</u></p> <ul style="list-style-type: none"> - Communicable & vector-borne diseases prevention - Labour camp management, Health check-ups, Covid-19 Protocol - Reduce air, water, land pollution - Ensure PUC certificates for all vehicles - Undertake activities to improve biodiversity; provide tree cover, plantations, minimize the discharge of pollutants <p><u>Emergency Preparedness and Response</u></p> <ul style="list-style-type: none"> - Ensure that STP structures are earthquake resistant - STPs to be above HFL level - Good, safe housekeeping on site - Minimize interactions with hazardous materials such as Asbestos, wastes, and tools by providing barricades 	

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
			<ul style="list-style-type: none"> - Use energy-efficient equipment, processes; recycle wastes, materials • Conduct gender analysis, establish grievance mechanism, and prepare labor management <p>Monitoring</p> <ul style="list-style-type: none"> • Prepare hazardous waste management plan following the National Laws & standards. • Sludge & Grit Management Plan, including treatment, drying, stabilizing, and final disposal of sludge; cleaning and reusing/ recycling Grit. Sludge & other waste storage/ stockpile should be in designated areas with on the impermeable surface • Monitor quality of treated sewage discharged; receiving waterbody to take corrective action if it exceeds prescribed limits to minimize impacts on downstream users 	
5	ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	<p>Land required for the proposed project is owned by government depts (Vinzol is under AMC, Koteswar is with AUDA) Development activities will be undertaken within the boundary for Vinzol and in Koteswar there is no encroachers or squatters and land is in use for government work.</p> <p>For rehabilitation of existing drains and micro tunneling, work will be undertaken along the existing alignment on the roads. Additional land will not be acquired. During the construction period, there may be disruption of business of shop keepers and hawkers, and street vendors who are doing the</p>	<ul style="list-style-type: none"> - RAP including LRPs will be prepared for resettlement and livelihood compensation aspects. - For pipeline laying, there will be no displacement, but economic impacts may arise only. These will be mitigated through RAP and its Entitlement Matrix implementation. - . - Public Consultations – feedbacks, disclosure, GRM, address E&S performance; grievances by formal & informal process. - Prior information on all activities 	<p>RPF (part of ESMF)</p> <p>RAP</p> <p>LRP</p> <p>SEP</p> <p>Project GRM</p>

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
		<p>business in specific locations in narrow, congested, or market areas.</p> <p>A rapid assessment conducted during November 2021 for some of the drainage sector subproject sites such as Kharicut Canal, Chandrabhaga Nalla, and 4 representative lakes (Ramo Bandh, Isanpur Gaam, Shilaj Gaam, and Bhadaj Gaam lakes) indicated possible R&R impacts on account of encroachments: Ramol Bandh and Isanpur Gaam may result in R&R impacts of 50 and 100 residential households respectively while Bhadaj Gaam may result in R&R impact of temporary tea stall (commercial). No R&R impacts are noticed in the Rapid assessment at Shilaj Gaam lake. Similarly, Chandrabhaga nalla may trigger R&R impacts (squatters and encroachers) at ROW width near Bakri mandi at Ranip for about 50 households. In the case of the Kharicut canal, encroachments are noticed around the Odhav area of the canal. The findings of the Rapid assessment provide initial insights for possible impacts and mitigation requirements while detailed analysis shall be carried out as part of sub-project screening and ESIA.</p>	<ul style="list-style-type: none"> - No forced eviction, best alternatives to involuntary resettlements 	
6.	ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	<ul style="list-style-type: none"> - Assess the impact on natural habitat and biodiversity during the Construction and O&M stages - Assess biodiversity in heavily modified habitats - of Sabarmati or Urban Lakes in Ahmedabad and downstream uses & impacts: on habitat loss, degradation and fragmentation, invasive 	<ul style="list-style-type: none"> - Minimize pollution risks by providing the best available environmental technology for treating all pollutants (good design) - Provide mitigation measures as part of the ESMP of the ESIA. - Ensure participation of Garden Department, existing Biodiversity committee of AMC in 	ESMP and Biodiversity Management Plan as part of ESMP in case screening indicates any biodiverse area being affected

SI No:	World Bank ESSs	Risks/ Impacts/ Opportunities	Mitigation Measures	Instruments applicable
		alien species, overexploitation, hydrological changes, nutrient loading, and pollution. - Assess impacts on zoo animals in case of sub-project development near the zoo.	Preparation and Monitoring of mitigation measures - Ensure participation of zoo department in preparation and monitoring of mitigation measures	
7	ESS 8: Cultural Heritage	- Screening on impacts to cultural heritage - Dust, materials stacking, discharges near heritage structures/areas - Pipeline laying may affect heritage structures, movement routes – temporarily or permanently - Earthwork impact on structures mostly during network laying, lake upgradation - The chance finding of artifacts, structures, sacred places - Need specialized inputs & consultations for identification of impacts, mitigation measures, implementation and monitoring	- Avoidance/Minimising damage to structures; incorporate mitigation measures - Screening mechanism to identify risks and impacts on cultural heritage - The chance finds procedures to be included - Training on managing cultural heritage & chance find procedures - Heritage cell of AMC to be involved in screening, identification of due diligence requirements, finalizing and monitoring mitigation measures	CHMP, if heritage structures are found to be within 300 meters of the subproject sites. ESMP, with Chance Finds Procedures and CHMP as part of ESMP in case screening indicates any major Heritage area within 100 to 300 meters of the existing alignment.
8.	ESS 10: Stakeholders Engagement and Information Disclosure	- The project activities will immensely benefit the local population and at the same time expose them to minor negative environmental & social risks during the construction & implementation phase. - As such, to have prior informed social approval and mitigate the social implications stakeholder engagement, consultation, feedback is required	- Identification of project affected persons, interested parties, Vulnerable groups will be engaged, informed, record their views, suggestions & grievance and address the concerns. Consultations will be carried out to solicit suggestions to plan and address measures for managing risks and impacts arising from proposed project activities during construction and operation.	ESMF, ESIA, RAP, SEP GRM IEC activities

CHAPTER 5. ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

The ESMF has been prepared to assist in the screening, assessment, management of environmental risks of the project at an early stage in project planning and integrate mitigation hierarchy during the sub-project design, implementation and operation. The framework will help provide specific guidance on the policies and procedures to be followed for environmental assessment. The environmental and social assessments need to be carried out based on the provisions of the National laws and the relevant World Bank's Environmental and Social Standards. The Environmental and Social Management Framework procedure specifies measures for addressing the negative risks and impacts and for enhancing the beneficial impacts. In addition, organizational capacity, and training requirements, required to check and ensure the effectiveness of the plan throughout the lifecycle of the project, have also been discussed. A systematic methodology has been provided in the subsequent sections that can be followed along with engineering and institutional interventions required for the sub-project activities for effective integration of the environmental and social considerations and ESF.

The objective of ESMF is to frame guidelines and procedures to address the environmental and social risks and impacts associated with the implementation of G-ACRP. The specific objectives are as follows:

- Outline the process to identify and assess the environmental risks/ impacts/ issues relevant to the proposed project/sub-projects
- Ensure that the environmental and social management plans are aligned with the requirements of the country system as well as with the World Bank ESF requirements
- Establish clear procedures and methodologies for the environmental and social screening, review, approval, and implementation of sub-projects to be financed under G-ACRP
- To ensure that mitigation measures are designed to effectively mitigate the potential adverse environmental and social impacts
- To specify appropriate roles and responsibilities at the national, state, and municipal levels and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to sub-projects and to strengthen the capacity of various institutions on ESF compliance.

5.1 ESMF Adoption Framework

The ESMF adoption framework or procedure for E&S management is presented in the following **Figure 10** which is detailed in the subsequent sub-sections. At the onset of the sub-projects identification stage, the project proponent excludes those sub-projects/activities/locations which are to be avoided as per the exclusion criteria developed as part of this ESMF (refer **Section 5.2.1**). The sub-projects which are eligible to be considered after considering the exclusion criteria are taken ahead for detailed design (or preparation of feasibility reports in case of PPP projects where design/ technology will be developed at a later stage). After a sub-project has been developed with outline design or preliminary feasibility report (with design, indicative technologies in case of PPP projects), location/ site and network/alignment applicable, screening of environmental and social risks is carried out through a process called Initial E&S Examination (IESE). This is carried out using the screening format presented in ESMF Guidance Manual. After screening, the project risk can be rated and the type of E&S instruments to be prepared can be arrived at. The recommendations from these E&S instruments need to be incorporated by the detailed design team while planning the project, preparing the design, costing, technology, and monitoring/management aspects and incorporated into the tender (bidding) documents, to enable the contractor to include the avoidance, mitigation/management measures

while preparing the bid cost estimates and commit to implementing the sub-project based on these aspects. The contractor shall update E&S instruments based on site/design changes or stakeholder discussions and use these for implementing the E&S aspects right from the time of award of the contract by having the requisite institutional capacity for E&S aspects, timely updating of E&S instruments, implementing ESMP and mitigation/monitoring measures and timely reporting of E&S implementation and monitoring.

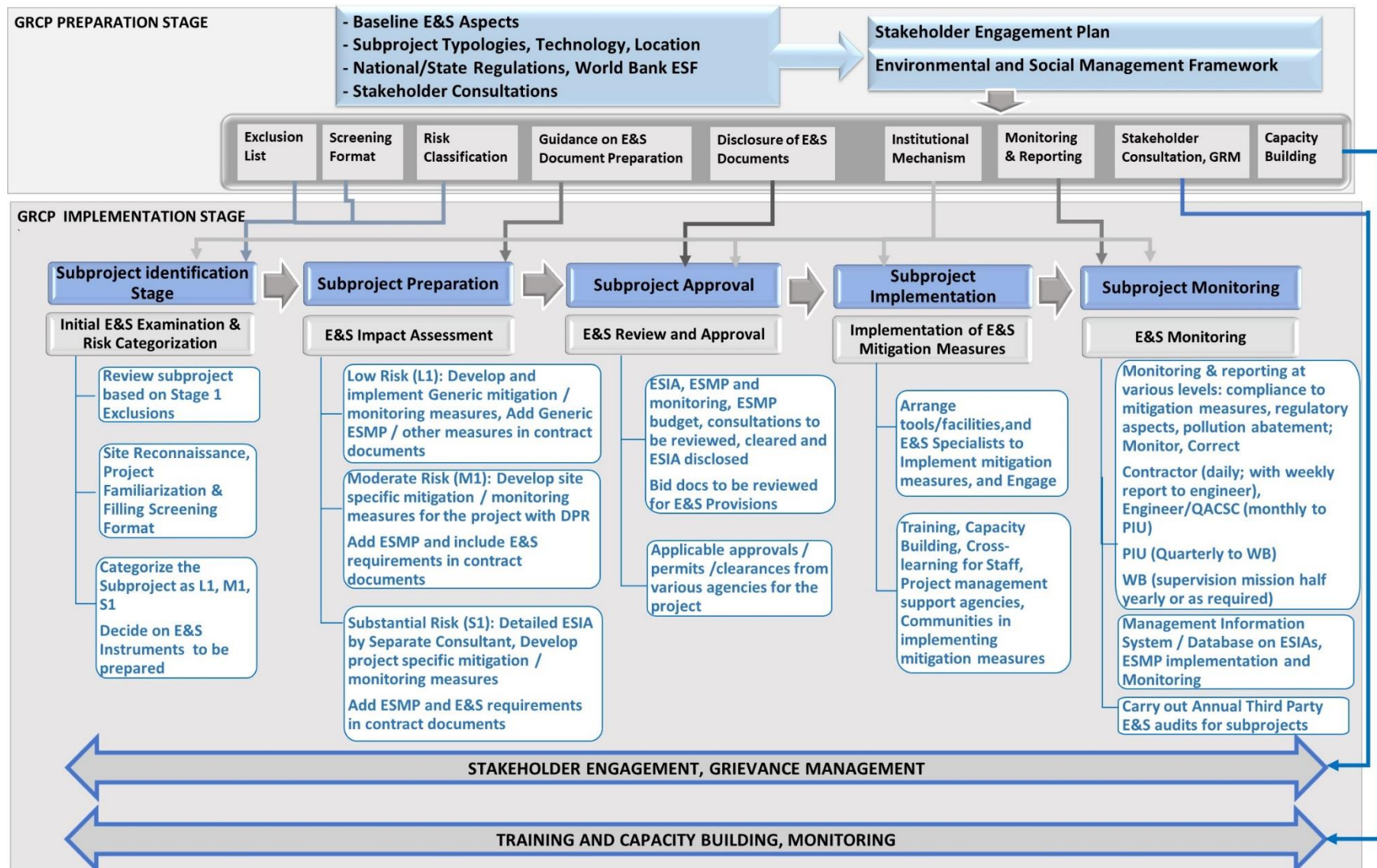


Figure 10: ESMF Adoption Framework

5.2 Sub-projects Identification

G-ACRP is expected to have various types of sub-projects and TA, some of which are in the identification stage at the time of preparation of this ESMF. The key type of sub-projects expected is sewage treatment plant upgradation, sewage networks, the establishment of new STPs, drainage network, pumping stations, lake/canal redevelopment. TA components include preparation of master plans, city resilience plans, etc. The magnitude and likelihood of E&S impacts will differ depending on sub-project components, activities, and locations.

Hence, to understand the probable E&S impacts early on, it is important to screen sub-projects and exclude those which are not eligible to be considered under the program. It is also important to screen the project components and locations of eligible investments to understand the Risk levels (Low, Moderate, Substantial, and High) and to prepare E&S instruments commensurate with the expected risk level. Impacts are not expected to be diverse, unprecedented, or irreversible. It is expected that the sub-projects risk levels would range from low to substantial, mostly during the construction stage, and manageable using appropriate environmental and social management plans.

5.2.1 Initial Environmental and Social Examination (IESE) during Sub-project Identification

Stage 1: Exclusions to be considered during the Sub-Project Identification Stage

G-ACRP **will not** support sub-projects that will involve the following:

Table 10: List of Non-permissible Activities under G- ACRP

Sl No:	Non-permissible Activities
1	Sub-projects in sites/ locations which should be excluded as per prevailing Rules/ Laws on Natural Habitats and Forests or Archeologically Protected Monuments (National, State, Local): (i) any construction in demarcated Forest areas or protected natural areas or their buffers, (ii) any sub-project which would impact critical natural habitats, (iii) any sub-project which shall be excluded as per AMASR Act, (iv) any sub-project components or activities in the Historic Walled City of Ahmedabad – the UNESCO World Heritage Site
2	Sub-projects in sites/ locations which should be excluded as per applicable siting criteria prescribed by GPCB, Master Plan, Excluded Disaster Zones, or other applicable criteria set out by National, State, Local Body
3	Sub-projects involving (i) Activities that impact the safety of Dams/Barrages, (ii) purchase, storage, and use of Banned Pesticides/ Insecticides/ chemicals/Asbestos, (iii) Construction of CETPs / ETPs or any facilities to manage industrial / hazardous wastes or effluents
4	Sub Projects displacing more than 200 tribal households or 100 Primitive Tribal households

Such projects will be excluded during the Project Identification stage itself. PIU/ Line Department shall scrutinize the project for any of the above activities/ components and avoid taking up such sub-projects for implementation. PIU should maintain a record of such sub-projects excluded from G-ACRP using this **Stage 1: Exclusions List**.

Stage 2: Screening

The E&S examination (IESE) of each sub-project under the G-ACRP will be undertaken to determine the anticipated E&S risks, impacts and opportunities based on which the appropriate E&S instruments for mitigating the negative risks and impacts and enhancing the benefits will be ascertained. The requirement of the instrument will be based on the project categorization and will constitute either of - (a) Detailed Environmental and Social Impact Assessment (ESIA), or (b) Limited Environmental and Social Impact Assessment confined to the project area and (c) use of Environmental and Social Management Plan (ESMP). For the upgradation of existing facilities, an E&S Audit of the facility will be also undertaken as part of

ESIA. The E&S instrument will be determined by the Bank's ESF in conjunction with the Government of India's regulatory requirements. The IESE will be undertaken by the E&S specialists of the PIU and will comprise a combination of the literature review, stakeholder consultations and the site reconnaissance survey.

The key steps involved in the process are briefly outlined below.

- Step 1: (a) Review available project details, location map, and regulatory aspects, (b) conduct reconnaissance site visits for ground-truthing and screening, (c) ascertain if the sub-project is an eligible investment as per **Stage 1: Exclusion List**
 - o Wherein the proposed activity is restricted, and change has been made in project design to avoid such prohibitions, Step 1 needs to be performed again
- Step 2: Screen for the presence of any environmentally sensitive areas, project components of high risk, and probable benefits as per **Stage 2: Screening Criteria** (Refer ESMF Guidance Manual)
- Step 3: Determine - the project category based on screening and appropriate E&S instruments that shall be prepared to incorporate necessary mitigation measures. Since G-ACRP is a substantial risk project, all sub-projects / TA activities screened and categorised as High Risk are also excluded from the project
- Step 4: Revisit the screening checklist and ascertain the outcomes of the screening checklist. Undertake the detailed screening process for the proposed investments in consultation with the line department/s.

The PIUs and Line Departments shall have detailed topographic maps of all the proposed sub-projects sites with details of ecologically sensitive areas, habitat areas, Reserve Forest, Wildlife Sanctuary, etc. to undertake screening exercises.

PIU shall organize a meeting with all the Line Departments and the concerned officials of the Pollution Control Board, State Environment & Forest Department, and other agencies before starting the process to gain a better understanding of the clearance process.

The outcome of this screening process will help prioritize the various investments and where required, start the clearance process on time e.g. sub-projects sites (requiring Forest/ other clearances). Projects for which the clearance process may be longer can be sequenced/phased later in the overall project implementation plan. However, the clearance processes for such projects/sites shall be initiated at the earliest. This shall help ensure that no sub-projects are impacted due to delays in the clearance procedures and regulations.

PIU E&S specialists shall submit duly checked and signed screening forms to Project Director, PIU, or his nominee. Based on the IESE undertaken, and discussions with various agencies concerned, E&S Specialists of the PIU would undertake sub-projects categorization.

5.2.2 Categorization of the sub-projects

E&S risk categorization of sub-projects is undertaken based on:

- type, spread, and scale/footprint of the sub-projects
- location sensitivity of the sub-project (See **Table 11**)
- expected magnitude and likelihood of E&S risks and impacts, including risks to resources, sensitive locations, and people, impacts on greenfield/brownfield sites including (e.g., rehabilitation, maintenance or upgrading activities); whether the risks are irreversible, unprecedented or complex and need to be avoided or if the risks could be managed using a proportionate E&S management plan based on mitigation hierarchy

- the technical/institutional capacity and commitment of the Borrower to manage such risks and impacts in a manner consistent with the ESSs, including the country's policy, legal and institutional framework; laws, regulations, rules, and procedures applicable to the Project sector, State and local requirements; the Borrower's track record of past Project implementation; and the financial and human resources available for management of the Project;
- other areas of risk that may be relevant to the delivery of E&S mitigation measures and outcomes, depending on the specific Project and the context in which it is being developed, including the nature of the mitigation and technology being proposed, considerations relating to domestic and/ or regional stability, conflict or security.

Possible sensitive environmental and social components which can be affected by proposed sub-projects and need to be considered while screening includes the following:

Table 11: Sensitive Environmental and Social Components

Sl. No	Sensitive Environmental and Social Components
1.	Habitat for migratory species; Breeding and spawning ground of species (including seasonal); Coral Reefs*
2.	Estuary, Creeks, natural drainage system, Rivers, Natural lakes, swamps, Marine ecosystem, Ramsar Sites
3.	Forests, Urban Forests, Zoological parks, and Mangrove Forests/ Mangrove Covers*
4.	Important Bird and Biodiversity Area (IBA)
5.	Archaeological monuments/sites, Religious, heritage historic sites, and cultural properties
6.	Scenic areas, Hill/mountains, Areas of scientific and geological interests
7.	Seismically and geologically active areas
8.	Defence installations, especially those of security importance and sensitivity to pollution
9.	Airport and other sensitive installations
10.	Areas like National Parks, Sanctuaries, Biosphere Reserves, etc. protected under Wildlife Protection Act, 1972, including Tiger reserves, Elephant Reserves *
11.	Migration route of wildlife/ Wildlife Corridors *
12.	Delineated CRZ Areas as per CRZ Notification *
13.	Tribal Settlements *

* Note: Not known to be in Ahmedabad, but included for exhaustiveness

Based on IESE using screening format, G-ACRP sub-projects will be categorized as High, Substantial, Moderate, or Low based on ESSs of WB. As per National Regulations, there is no requirement of ESIA for drainage, sewerage projects except Common Effluent Treatment Plants (in case of industrial effluents). Considering potential E&S risks and impacts their magnitude and likelihood, proposed sub-projects will be categorized in a four-point scale:

Table 12: Environmental and Social Categorization of Projects

Proposed Sub-projects Categories	Description	
	The extent of Environmental and Social Risks	Type of Projects and Management Tools
S1	Substantial Risk	Projects with potential Significant adverse social or environmental risks or/ and impacts that are significant, mostly irreversible, and possibly addressed through mitigation measures E&S Instruments: Detailed Site-Specific ESIA, RAP (if applicable) and ESMP by Separate Consultant other than DPR consultant; or if

Proposed Sub-projects Categories	Description	
	The extent of Environmental and Social Risks	Type of Projects and Management Tools
		prepared by DPR consultant it should be reviewed by Independent Consultant and cleared
M1	Moderate Risk	Projects with potential moderate adverse social or environmental risks or/and impacts that are few, generally site-specific, largely reversible, and readily addressed through mitigation measures E&S Instruments: ESIA, RAP (if applicable), and ESMP by DPR consultant while preparing DPR
L1	Low Risk	Projects with minimal or no adverse social or environmental risks or/and impacts E&S Instruments: ESMP

Based on the above indicative categorization of key sub-projects is presented in the following **Table 13**.

Table 133: Indicative Environmental and Social risk Category of Sub-projects Types

Sl. No	Type of Sub-Projects	Probable Categorization *
A.	<i>Sewage Collection, Transport, Treatment & Disposal</i>	
	<i>Laying of Sewerage Network</i>	<i>S</i>
	<i>Construction of Pumping Stations</i>	<i>M</i>
	<i>Construction of STP</i>	<i>S</i>
	<i>Upgradation of existing STP</i>	<i>S</i>
	<i>Tertiary Treatment Plants</i>	<i>S</i>
B.	<i>Storm Water Drainage</i>	
	<i>Laying of Drainage Network</i>	<i>S</i>
	<i>Construction of Pumping Stations</i>	<i>M</i>
C.	<i>Urban Lake Improvement</i>	
	<i>Comprehensive improvement of the lake and surrounding areas</i>	<i>S</i>
	<i>Pathways, cleaning, and fencing of the Lake</i>	<i>M</i>
D.	<i>Construction of other small buildings/ training centers</i>	<i>L</i>
E.	<i>Renovation of Canals</i>	<i>S</i>

* Note: This is only an indicative categorization based on sub-projects types. However, actual categorization shall consider project activities/components (as it would differ based on requirements), and its risks/impact and spread in the environment, locational sensitivities (**Table 11**), and regulatory requirements. Also, in case a sub-project has more than one among these subcomponents, the higher risk category applicable for any subcomponent would be considered as the risk category for the sub-project.

As per World Bank Policies, ESMF applies to the entire project, to linked activities or associated facilities (meeting criteria as per para 11, ESS1, WB ESF). All sub-projects and linked/associated facilities shall also be categorized, impacts identified and mitigation measures, and monitoring planned and implemented.

5.3 Sub-project Preparation

Based on the procedures listed above for each type of risk, it is required to carry out ESIA which is materially consistent to manage potential environmental and social risks and impacts commensurate to the scale and nature of the sub-project according to the World Bank's ESF. PIU will identify, manage, and mitigate environmental and social impacts based on the magnitude and nature of potential impacts. In case of existing facilities, ESIA also shall include E&S Audit to determine the extent and nature of all E&S areas of concern at an existing project or activities in case of High and Substantial risk sub-projects; whereas audit can be standalone (without ESIA) in case of Moderate and Low-risk sub-projects.

5.3.1 Preparation of Terms of Reference for Environmental Assessment

Based on the screening and categorization, the Terms of Reference for ESIA shall be prepared by the PIU. This shall include the scope of ESIA, including preparation of baseline and surveys/studies required for this, the need to consider three alternative scenarios including no project scenario, evaluation of impacts and risks, stakeholder consultations, preparation of mitigation plan, institutional set up for managing/monitoring and budget for implementing mitigation measure. PIU shall appoint consultants to prepare ESIA using this TOR. ESIA ToR for investments which might be impacted by flooding issues related to Vasna Barrage shall include the capacities to undertake studies if any required, and incorporate findings in ESIA/ESMP.

5.3.2 Environmental and Social Impact Assessment (ESIA)

ESIA evaluates a project's potential E&S risks and impacts in the project area of influence, examines the alternatives (minimum three; including no project scenario), identifies measures to mitigate the E&S risks and impacts, and improvement of benefits throughout the project implementation. Wherever feasible, preventive measures would be undertaken.

- The borrower is responsible for carrying out the ESIA as outlined in the ESMF and national regulations. ESIA shall start along with the preparation of draft project documents (DPRs)/ Feasibility Report (after pre-feasibility report) ideally so that the findings/avoidance/mitigation/management measures can be incorporated early on into the design.
- In the case of S1 sub-projects, the E&S assessment shall be undertaken by consultants other than DPR consultants based on an agreed ToR to ensure independence in the assessment of the impacts and to avoid conflict of interest. If the environmental assessment for S1 projects are being undertaken by DPR consultants for better integration with project design or considering the lack of available additional firms/expertise for a certain type of sub-projects, it is recommended to employ independent consultants (suitably selected with required expertise) to review the same before approval and to ensure that all critical issues of environmental management are addressed in the project. Based on the outcome of consultations and survey results, mitigation plans as needed depending upon the nature and scale of risks and impact will be prepared. The outcome of consultations will be incorporated into the mitigation plan or designs or both. The draft ESIA with mitigation plans (ESMP) will be disclosed, and consultation will be held with the stakeholders including communities to explain a) the proposal, b) alternatives considered, c) expected impacts, d) content of the mitigation plans, e) process involved in the implementation of mitigation plans, f) responsibility of various institutions involved, g) grievance mechanisms, h) explanations on their comments/queries. Minutes of the stakeholder consultations would be presented in the ESIA. The Guidance Manual of this ESMF presents detailed requirements and guidance for

effectively analyzing, assessing, and incorporating the requirements for biodiversity, cultural resources, energy efficiency, and pollution control in IESE and ESIA.

In case of DBOT projects, since designs would be prepared/or changed after issuing the contract, ESIA/ESMP prepared before bidding will have to be freshly prepared/updated (as the case may be) by the ESIA consultant appointed by the Contractor. This will be reviewed by AMC – moderate risk projects will be cleared by AMC, and substantial risk ESIA's will be cleared by the Bank. Actual flood risk assessments & Emergency Action Plan (ESS 4) will only be undertaken as part of the C-ESIA and reflected in the ESMP that will be prepared for specific investments, during implementation.

- Relevant inputs of the stakeholders and public shall be incorporated in the project through specific public consultations (minimal two public consultations; one at the start of the EA process and the other on the Draft Report) with prior notice.
- Also, the draft ESIA shall be made available in a public place in English and local language – Gujarati - well; accessible to affected groups if any; and local NGOs.
- Implications of the available legislation and regulatory requirements and the requirements of the ESF of the World Bank are also to be reviewed as part of the ESIA. The ESIA report shall meet the requirements of national and state-level legislation and disclosure requirements of the World Bank. Necessary clearances from National/ State agencies and World Bank shall be obtained for ESIA before the start of work as applicable.
- ESIA report shall include an Executive summary, Introduction/ Project background, Project Description including review of (three) alternatives (including no-project scenario), Review of Legislations, Baseline environmental conditions, E&S Audit of existing facilities proposed for upgradation or integrated with the sub-project; Impact Evaluation, Public consultation details, Management and Monitoring Plan, implementation ESIA Budget.
- Considering the multiplicity of sub-projects in various sectors, it is important to develop a Management Information System which will help schedule and alert the relevant project authorities at various levels on the need to prepare ESIA's well in advance before procurement initiation.
- Draft final reports along of the ESIA along with observations/comments of the Technical Review Committee (which will include E&S review) or E&S specialists shall be forwarded to the Executing Agency/ World Bank for its review, comments, and clearance as applicable (H1 (if identified at a later stage)/ S1 sub-projects/ or any special projects will be sent to the World Bank for review and clearance; M1 and L1 projects will be cleared by PIU E&S Specialists; while all sub-projects E&S instruments will be presented in the Environmental and Social Management Information System (ESMIS). The consultant's contract will have adequate provisions to ensure that they would incorporate all the comments and finalize the ESIA report/ ESMPs.
- The final version of ESIA and ESMPs for S1 sub-projects in English with a non-technical summary in the local language – Gujarati, shall be disclosed as per applicable disclosure policy in the websites of the executing agency/relevant departments and will be made available in places accessible to the local people. Final ESIA's for S1 projects shall be sent to the Bank for clearance and disclosure. PIU shall include links to all ESIA's/ ESMPs sub-project wise in ESMIS.

5.3.3 Environmental and Social Management Plan (ESMP)

- The management plan shall consider various activities proposed under the sub-project and provide management measures to be followed for different phases of implementation, along with the responsibility allocation for implementation and monitoring.
- Apart from addressing the issues, management measures shall also explore enhancement opportunities and their inclusion in project components.

- The management measures identified shall be made part of the sub-project components and shall be included in the bid documents appropriately.
- Indicative ESMPs for various sub-projects/activities expected are provided in the Guidance Manual of the ESMF. Also, refer to respective sections on Biodiversity & Living Natural Resources, Energy Efficiency and Pollution Prevention and Cultural Resources which will help in the preparation of sub-project ESMPs.
- For construction/ EHS impacts; guidance includes The World Bank Group General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to construction and can be downloaded via the following link.

https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

WBG Groups industry sector guidelines applicable to Water and sanitation are available at:

<https://www.ifc.org/wps/wcm/connect/0d8cb86a-9120-4e37-98f7-cfb1a941f235/Final%2B-%2BWater%2Band%2BSanitation.pdf?MOD=AJPERES&CVID=ikD216C>

World Bank EHS guidelines applicable to Waste Water and Ambient Water quality can be downloaded and used as international best practices from

<https://www.ifc.org/wps/wcm/connect/3d9a54ae-c44c-488d-9851-afeb368cb9f9/1-3%2BWastewater%2Band%2BAmbient%2BWater%2BQuality.pdf?MOD=AJPERES&CVID=ls4Xbfn>

For Water Conservation, the following will be used:

<https://www.ifc.org/wps/wcm/connect/8e307e4e-7668-4049-b163-f8d00f0cdef7/1-4%2BWater%2BConservation.pdf?MOD=AJPERES&CVID=ls4XhtY>

As the project includes developing guidelines and systems for COVID-19 related waste management, sanitization, and public hygiene practices to be rolled out across all urban areas. This activity would be informed by available guidelines on the COVID response E&S documents.

(<https://worldbankgroup.sharepoint.com/sites/wbunits/opcs/Pages/pc/Operations-COVID19-Coronavirus-Information-03092020-081859/Overview-03092020-081941.aspx>)

5.3.4 Cost for Mitigation Measures including Monitoring Plan

The ESMP Cost shall be integrated into the Detailed Project Report (DPR) and sub-project bid documents. This shall include the cost for all mitigation measures and monitoring required during various stages of the project. Details on including these costs for mitigation measures in the cost tables of the contract shall be presented in ESIA. PIU should ensure the preparation and implementation of Contractors-ESMP and the inclusion of ESMP cost in contract documents. The cost for implementation of the management measures, the institutional arrangements for monitoring, etc shall be included in the sub-project cost and ESMP and Monitoring Plan shall be presented in bid documents so that the contractor/ PPP operator can bid realistically for implementing the mitigation/ management plans.

5.3.5 Proposed Institutional Mechanism and Reporting Requirements for Sub-projects

Successful implementation of ESSs in sub-projects can be ensured by defining the role of various officials in its implementation. ESMP for each of the sub-projects should present the

institutional responsibilities and timeframe for the implementation of mitigation measures and monitoring.

5.4 Sub-project Implementation

Sub-project Implementation starts with inviting bids from the potential implementation partners for each of the sub-projects identified. Right from the RFP preparation stage for inviting the bids, it is important to incorporate E&S conditions, so that the contractors are aware of and are prepared with adequate finances and institutional setup to ensure implementation of E&S enhancement and mitigation measures.

5.4.1 Incorporating ESMP into Contract Documents

This subsection provides guidelines on the integration of the ESMP/Indicative ESMP documents into the contract documents. With the revision to the World Bank's Standard Bidding Documents in January 2017, Environmental Health and Safety (ESHS) requirements are well defined in the bid documents. Also, an ESHS Performance Security has been incorporated into the requirements (in Standard Bid Format) from potential bidders for the implementation of works under project financing. This revision incorporates changes to enhance environmental, social, health, and safety performance during all stages of the sub-project.

ESHS Performance Security

Depending on the associated risk of the sub-projects, an ESHS Performance Security, of 1-3 percent of the total contract value shall be maintained as per the Guidance provided supplementing the World Bank's Standard Bidding Document. The total performance security for contracts will typically be 10 percent of the total contract value of which 3 percent should be allocated to the ESHS performance security, while where a contract has performance security of 20 percent the ESHS performance security is to be maintained at a maximum of 5 percent of the total contract value.

The E&S Specialists and procurement team of the project executing agency will be required to work together closely to ensure that the ESHS aspects are incorporated in the bidding document. Comprehensive MIS database developed by the project which tracks the project progress and aligns the same with the ESF implementation such as ESIA report preparation, procurement of relevant clearances, ESMP implementation will help the executing agency to effectively supervise and monitor all sub-projects.

The Technical team along with E&S specialists of the executing agency/ PIU shall align the language in the ESIA/ESMP with that of bid documents. Adequate E&S staffing should be part of the ESMPs that are incorporated into contract documents for construction contractors and for site-specific plans to be developed by the contractors.

The budget for complying with the ESMP needs to be worked out for each sub-project by working out the cost of implementing each mitigation measure. Where this is not possible, the provision of a minimum of 3 percent of the sub-project cost needs to be earmarked for complying with the ESMP, after carefully adding all design-related mitigation measures in the project BOQ. In any event, the contractor is required to provide a costing at a minimum of this amount in his BOQ, listing itemized values for ESMP implementation. The language should indicate that the contractor will be required to provide an itemized costing with the BOQ with this as the minimum allocation.

For large-scale contracts that are assessed as substantial risk during environmental screening, it is also requested for the contractors to have the following certifications in the Eligibility and Qualifications Subsection, in Section III of the Standard Bidding Documents, under Contractor Requirements.

- Registration with ISO 14001 (Environmental Management)
- Registration with ISO 45001/ OSHAS 18000/ or equivalent on (Occupational Health and Safety Management)
- If not already registered, must be willing to register as such before requesting mobilization amount or any other payment for the contract
- EHS personnel on-site with relevant accreditation (QCI-NABET, ANSI-USA, SQA – SCOTLAND, NEBOSH or similar) who can conduct a hazard risk assessment and manage OHS during large construction works.

5.4.2 Onsite implementation of ESMP

The contractor shall implement all the ESMP measures applicable for the project right from the pre-construction stage and ESMP implementation is part of their responsibility as per procurement conditions. C-ESMP shall be updated as and when there is change/updation of designs or locations. This shall be discussed with site engineers and workers and a record of its implementation shall be maintained. Project supervising consultants will monitor the implementation of ESMP measures during implementation and report to PIU who will be supported by PMC. The contractors/ NGOs/ CBOs who would be implementing the projects/ or are part of implementing team on-site shall have environmental, health and safety specialists for onsite implementation of ESMP.

5.5 Monitoring and Evaluation

5.5.1 Sub-Project Monitoring

PIU through PMC and supervision consultants shall monitor all projects that it finances to ensure conformity to standards during construction, operation, and maintenance. E&S Monitoring will be carried out through E&S compliance reports that form part of Quarterly Progress Reports (refer ESMF Guidance Manual for Format). Based on the a) verification of progress reports and field visits, b) E&S compliance reports and c) compliance with other loan disbursement conditions, subsequent instalments will be disbursed.

PIU shall make adequate internal arrangements to monitor the ESMP implementation quarterly, receive regular monitoring and progress reports from sites, and in turn submit regular progress reports including environmental compliance reports to The World Bank. The model format for the preparation of the ESMP compliance report is provided in The Guidance Manual. Also, the status of compliance to Agreed Actions of previous World Bank missions can be discussed in the QPR. PIU will undertake quarterly field visits (or as required) to those sub-projects which are under implementation to review the implementation of ESMP and the findings will be shared with respective implementing agencies for their follow-up. The non-compliance and their remedial measures will be highlighted in these reports which will be communicated and followed up. ESF document preparation and on-site implementation will be followed up and monitored through the ESMIS which will be integrated with the overall project MIS. This will be developed by the PIUs as part of the project.

5.5.2 Construction Supervision and Quality Control

Construction Supervision and Quality Assurance (CSQA) will be carried out by PMC. PMC will supervise work quality during preparation and implementation. They will also have a dedicated Environment, Health, and Safety officer to monitor hazard risk assessments, ESMP implementation, labor-management, and occupational health and safety risks. For projects involving Natural Habitats and Cultural Resources; the PMC will also monitor the implementation of mitigation measures through experts with specialization in biodiversity conservation and cultural resources.

5.5.3 Annual Environmental and Social Audit

PIU will undertake annual audits of its portfolio to review the status of ESMF compliance. The audit will focus on the process followed for the categorization and approval of E&S reports disclosures and related aspects; audit of pollution monitoring, and on-site audit of OHS measures. Also, in case of any non-compliance to ESMF, the scope of the subsequent audit will cover its examination and suggestion on remedial. The audit will also be based on field visits to all ongoing S1 category sub-projects and sample M1 and L1 category sub-projects to verify the implementation on the ground and solicit feedback from the affected people and other stakeholders. The audit will be carried out every year for the activities completed until the previous financial year. The draft report shall be forwarded to the World Bank for review and suggestions and upon approval after incorporating the comments of the Bank and other reviewers, the final audit report will be disclosed. The Terms of Reference for ESMF Audit are presented in The Guidance Manual. The Auditors shall:

- Support the PIU in preparing the audit plan.
- Prepare compliance reports for sub-project activities in line with ESMF and other statutory requirements as applicable through scheduled or unscheduled audits.
- Conduct random field visits and review compliance, especially in environmentally or socially sensitive areas. Special attention will be paid to consultation with vulnerable groups to address their concerns and ensure that they can access project's benefits following the stakeholder engagement process described in the SEP.
- Review the performance of the project through an assessment of periodical monitoring reports submitted by the line departments, contractors/ PMC.
- Share audit findings with the PIU to aid in timely decision making (12 month interval (implementation calendar year), starting by the end of first 12 months of work start) and adopting appropriate mitigation action/s, if necessary.

PIU will review these audit reports and identify the technical, managerial, policy, or regulatory issues concerning the compliance of the ESIA/ ESMP. The identified technical issues will be duly incorporated in the subsequent projects, policy and regulatory issues will be debated internally by the PIU and line departments to determine appropriate interventions. These interventions/action plans will be communicated to site officers/ implementing agency/contractor for actions. These interventions may include appropriate revision of institutional aspects, monitoring mechanism, revision/updating of ESMF document, or suitable analytical studies to influence policy or programs of the State/City. The audit observations/recommendations will be complied with and followed up as part of monitoring by PIU/PMC.

This ESMF ensures the following monitoring and reporting requirements:

- Reporting on ESMPs: Monthly (or as and when required) Implementation Report by Contractor to Site in-charge/ implementing agency; Monthly Supervision Report by Site in-charge/ implementing agency to PIU, Quarterly report by PIU to the World Bank (based on a monthly report by Site in-charge/ implementing agency, Monitoring report by Quality assurance Consultants and quarterly supervision by PIU). Quarterly Report by PIU quarterly reports to the World Bank should also give an update on the status of each ESMP/ESIA for the ongoing / proposed works, details on ESMP implementation for ongoing works, compliance / non-compliance with regards to each action in ESMP/ESIA, any issues and good practices to be brought to the attention of the Bank Status of Agreed Actions on E&S of previous mission/s etc. It should also present compliance to regulatory requirements, and monitoring outcome/output indicators defined in this ESMF, including no: of projects with improved environmental performance and resource efficiency. (Refer **Annexures**; A.ESMF Guidance Manual, Section III: Documentation Formats B. Format for quarterly reporting on Environmental and Social Aspects)
- An annual visit to sample sites by PIU (including accompanying the World Bank Missions),
- EHS report by PMC as part of CSQA along with monitoring of Civil Works when the works are ongoing and at work exit/operations.
- Annual Environmental Audit for select sub-projects (all S1 and select M1, L1) by independent consultants/auditors,
- Detailed Management Information System – ESMIS - linking project details, scheduling, and documentation of the ESIA process and ESMF implementation will support the PIU in effectively guiding the preparation of ESF documents for other sub-projects, implementation of ESMPs, supervision, and monitoring.

5.6 Public Consultation and Stakeholder Participation

5.6.1 Public Disclosure

The following documents shall be disclosed in the Offices and websites of the PIU/ AMC/ GUDM and/ or other project agencies as applicable.

- ESMF for G-ACRP with non-technical summary in Local language – Gujarati. SEP and ESCP are prepared as stand-alone documents. RPF and LMP are included in this ESMF.
- Approved ESIA reports in English, with its non-technical summary in the local language; namely Gujarati,
- ESMP and other ESF documents
- Monitoring Reports
- Final Reports of Annual E & S Audits

5.7 ESMF and Technical Assistance (TA) activities

This section discusses the applicability of ESMF for Technical Assistance (TA) studies/activities/plan preparations undertaken with support from the World Bank Loan: City Resilience Plans, preparatory studies/research activities, and detailed project report preparation for components not directly implemented under the project are expected to be undertaken under G- ACRP, which may be important for the successful implementation of this project or to ensure sustainable future activities. When Plans, feasibility, or DPRs are prepared, the corresponding ESIA and ESMP preparation will be undertaken following the ESMF requirements after Screening and categorization as discussed in the above subsections. The outputs and reports of these studies will be submitted for the Bank's review and endorsement. These will be approved by the competent authorities as outlined earlier for each risk category and disclosed. These will be prepared in a manner consistent with ESMF for G-ACRP sub-projects. However, the implementation of these RAPs/ ESMPs for TA activities depends upon the decision of PIU and are not subject to the Bank's supervision. However, in case any of these are included for implementation in due course under this project, ESIA's shall

be updated if more than 3 years old and implemented following all mechanisms as applicable to sub-projects (described in previous subsections).

5.8 Institutional Responsibilities across Sub-project Cycle

Sub-projects Cycle and ESMF requirements, with institutional responsibility and tools to be used, are presented in **Figure 11**.



Figure 11: E&S Requirements during Sub-project Cycle

Thus, provisions in the ESMF for ESF implementation include:

- Dedicated E&S Specialists (and Biodiversity/ Cultural Resources Specialists for applicable sub-projects): Contractor, PIU, PMC, for ESIA, RAP preparation/updating, approval, disclosure, supervision, and reporting,
- Monitoring report by PMC (on Construction Supervision and Quality Assurance (CSQA)) who will monitor Civil Works and OHS when the works are ongoing and at work exit/operations stage,
- Reporting on ESMPs: Monthly (or as and when required) Implementation Report by Contractor to Site in-charge/ implementing agency; Monthly Supervision Report by Site in-charge/ implementing agency to PIU, Quarterly report by PIU to the World Bank (based on a monthly report by Site in-charge/ implementing agency, Monitoring report by Quality assurance Consultants and quarterly supervision by PIU),
- Annual Environmental Audit for select projects (all S1, and select M1, L1) by independent consultants, and

- Capacity building and cross-learning for E&S Management.

5.9 Conclusion

5.9.1 Risk-wise Procedures Matrix

For quick guidance, a tabulated summary of key environmental and social impacts and mitigation/management measures for probable types of sub-projects/project components are provided in **Table 14**. This is just indicative and shall be updated and used as per probable impacts linked to project details and locational characteristics.

A matrix is presented here, which could guide the procedures to be followed for each type of potential E&S risks and impacts. Colour codes have been given to signify the risk categories.

Table 144: Phase wise Procedures for different Risk categories of Projects

Sub-Project Phase	Procedures			Responsibility
	Substantial Risk Projects	Moderate Risk Projects	Low-Risk Projects	
Sub-project Identification/ Pre-Feasibility	IESE of the sub-project (Using Exclusion Criteria & Screening Format in ESMF Guidance Manual (Annexures) Risk Categorisation	IESE of the sub-project (Using Exclusion Criteria & Screening Format in ESMF Guidance Manual (Annexures) Risk Categorisation	IESE of the sub-project (Using Exclusion Criteria & Screening Format in ESMF Guidance Manual (Annexures) Risk Categorisation	PIU
	Consultations with key stakeholders (as per SEP) and vulnerable groups such as ST, Women, disabled, etc.	Consultations with key stakeholders (as per SEP) and vulnerable groups such as ST, Women, disabled, etc.	Consultations with key stakeholders (as per SEP) and vulnerable groups such as ST, Women, disabled, etc.	PIU
	Preparation of ToR for ESIA (outline provided in ESMF Guidance Manual (Annexures))	Preparation of ToR for ESIA to be prepared along with DPR (outline provided in ESMF Guidance Manual (Annexures))	Prepare ESMP (outline provided in ESMF Guidance Manual (Annexures))	Prepared by PIU, reviewed, and cleared by the WB
Feasibility Study/ Design	Conduct ESIA (ToR provided in ESMF Guidance Manual (Annexures) by Independent ESIA Consultant. Include E&S Audit in ESIA if it concerns an existing facility. In case DPR consultant prepares ESIA, separate Independent Review to be conducted before finalization & clearance by the Bank	Conduct IEE/ESA or E&S Audit (in case of the existing facility) and prepare ESMP also using ECOPs (in ESMF Guidance Manual (Annexures) by Feasibility/ Design Consultant. Update ESMP based on the design by DBOT Consultant	Use ESMP prepared also using the ECOPs in ESMF Guidance Manual (Annexures) . Conduct E&S Audit in case of an existing facility	PIU, Consultants
	Public consultations (as per SEP)	Public consultations (as per SEP)	Public consultations (as per SEP)	PIU
	Prepare a plan for mitigation of GBV and address gender-related concerns and inclusion of marginalized/stigmatized groups, if required, based on	Prepare a plan for mitigation of GBV and address gender-related concerns and inclusion of marginalized/stigmatized	Prepare a plan for mitigation of GBV and address gender-related concerns and inclusion of marginalized/stigmatized	PIU

Sub-Project Phase	Procedures			Responsibility
	Substantial Risk Projects	Moderate Risk Projects	Low-Risk Projects	
	the outcome of the consultation	groups, if required, based on the outcome of the consultation	groups, if required, based on the outcome of the consultation	
	If required, prepare RAP following the RPF (prepared and included in ESMF) for the project (sample in ESMF Guidance Manual (Annexures)).	If required, prepare RAP following the RPF (prepared and included in ESMF) for the project (sample in ESMF Guidance Manual (Annexures)).	If required, prepare RAP following the RPF (prepared and included in ESMF) for the project (sample in ESMF Guidance Manual (Annexures)).	PIU, independent consultant
	If required, prepare Biodiversity and/ or Cultural Heritage Management Plan as required (as part of ESIA) using the Framework in ESMF Guidance Manual (Annexures) .	Use ECOPs on Biodiversity/ Cultural Heritage (in ESMF Guidance Manual (Annexures) if applicable; to prepare ESMP	Use ECOPs on Biodiversity/ Cultural Heritage (in ESMF Guidance Manual (Annexures) if applicable; to prepare ESMP	PIU, independent consultant
Detailed Design & Tendering	Ensure Mitigation measures (from ESMP) are included in Design	Ensure Mitigation measures (from ESMP) included in Design	Ensure Mitigation measures (from ESMP) included in Design	PIU – PIU technical specialist to send documents to E&S Specialists to ensure required procedures are met, before finalizing the designs
	Ensure ESMP, Monitoring Plan, and LMP aspects are included in Bidding Documents	Ensure ESMP, Monitoring Plan, and LMP aspects are included in Bidding Documents	Ensure ESMP, Monitoring Plan, and LMP aspects are included in Bidding Documents	PIU - PIU procurement specialist to send pre & post review documents to E&S Specialists to ensure required procedures are met, before initiating the bidding process
	Documents shall include a clause for women's employment in project work during the construction and operation period.	Documents shall include a clause for women's employment in project work during the construction and operation period.	Documents shall include a clause for women's employment in project work during the construction and operation period.	PIU
Construction Works	Implement and monitor ESMP	Implement and monitor ESMP	Implement and monitor ESMP	PIU
	Update ESIA (and ESMP) as required SEP, GRM RAP before construction commences	Update IESE (and ESMP) as required SEP, GRM RAP before construction commences	Update ESMP as required SEP, GRM RAP before construction commences	PIU, Contractor/ Consultant
During Construction Works	ESMP & ESHS Audit by external consultants (Annual Audit) Construction Supervision & Safety Audit (Continuous)	ESMP & ESHS Audit by external consultants (Annual Audit)	ESMP & ESHS Audit by external consultants (Annual Audit)	PIU, External Auditors

Sub-Project Phase	Procedures			Responsibility
	Substantial Risk Projects	Moderate Risk Projects	Low-Risk Projects	
	SEP, GRM RAP before construction commences	Construction Supervision & OHS/ Safety Audit by PMC- as part of CSQA (Continuous) SEP, GRM RAP before construction commences	Construction Supervision & OHS/ Safety Audit by PMC – as part of CSQA (Continuous) SEP, GRM RAP before construction commences	
Just before Closure/ Work exit – Post Construction	ESMP, RAP implementation & ESHS Audit and correction	ESMP Audit (self-audit by PIU)	ESMP Audit (self-audit by PIU)	PIU, Consultant, Contractor

5.10 Addressing concerns of disadvantaged or vulnerable individuals or groups

Disadvantaged and Vulnerable households defined under the project include people living in slums and low income areas, ST, family/household headed by women/female, physically challenged, Below Poverty Line (BPL), and illiterate persons/households. This ESMF takes into consideration the risks and impacts on disadvantaged or vulnerable individuals or groups. It shall be ensured that

- i) terms of reference for undertaking ESIAs/RAPs adequately cover such categories of potentially impacted persons.
- ii) questionnaires and consultation checklists used for conducting census & socio-economic surveys and focus group discussions covered such groups.
- iii) ESIAs/ RAPs that are undertaken:
 - cover such groups in the consultation meetings including the issues and concerns raised by these groups and document them effectively.
 - identify additional measures that could be provided to address these groups
 - present mechanisms and modes by which the project will disseminate information to groups and consult with them to elicit their participation in the project interventions and which shall be included in the SEP.

5.11 Linkage to the ESCP

The Environmental and Social Commitment Plan (ESCP) sets out material measures and actions, any specific documents, or plans, as well as the timing for each of these. The ESCP will be part of the legal agreement and will be signed by Implementing agency/s (IAs). IAs will require to comply with the provisions of any other E&S documents required under the ESF and referred to in the ESCP, such as the Environmental and Social Impact Assessments (ESIAs), Environmental and Social Management Plans (ESMPs), Stakeholder Engagement Plan, Resettlement Action Plan, etc. The ESCP will be prepared by the borrower considering the findings of the environmental and social assessment based on the ESMF, the Bank's environmental and social due diligence, and the results of engagement with stakeholders. It will include the commitment of the implementing agency to (i) prepare and implement the plans required as per ESF, with timeframe and responsibility, (ii) improve institutional capacity for environmental and social management right across all stages of the project cycle, and value chain, (iii) integrate environmental and social considerations essential for long term sustainable outcomes. Adherence to the ESMF processes and provisions will therefore be ensured through the ESCP.

Detailed Inputs for ESCP (which can be included in abridged form in respective parts of ESCP)

- A. Comprehensive E&S risk and impact assessments shall be conducted for all sub-projects following ESMF procedures, including screening and categorisation. Implement other instruments prepared to comply with all applicable ESSs
- B. Designs shall withstand any safety impacts or risks on all project components, activities due to natural / manmade disasters and any impacts due to Vasna Barrage and this shall be comprehensively reviewed, and appropriate interventions adopted for safety and resilience in DPRs.
 - Undertake hydrological and flood assessment, including a study on Dam break analysis & Flooding Stimulation, preparation of inundation maps and Emergency Action Plan for Vasna Barrage, Ahmedabad, Gujarat.
 - Outcome/output of these assessments shall be incorporated in the design and subsequently assessed in C-ESIA & mitigation measures if required included in C-ESMP.
 - Emergency Preparedness and Response Plan and Disaster Management Plan shall be part of all ESIAs
- C. Comprehensive program for sensor based monitoring and actions, on industrial discharge into sewer systems while improving the sewer network and pumping stations
- D. Capacities to be improved at AMC in the form a Sustainable Urban Development Unit, to look at environmental pollution issues on ecosystem components comprehensively.
- E. **Feasibility Reports for some of the initial investments (Vasna 40 MLD STP and Vasna 126 MLD STP) suggests that treated water shall be discharged into Fatehwadi Canal, for irrigation. This reuse is important considering the request from irrigation department as the region is water scarce. For this, it is required that AMC (i) agree with GPCB and Consent shall be amended to reflect such discharge through Fatehwadi Canal (ii) detailed consultations and perception survey shall be undertaken on all impacted downstream villages on usage of this water for irrigation during the Detailed Design Stage, before confirming that treated water is to be reused for irrigation, (iii) AMC should engage an agricultural scientist or tie-up with an agricultural university or institute for advice on the utilization or the rate of application of the effluent for irrigation considering the agro-climatic conditions and stakeholders views. Irrigation Management Plan shall be prepared in consultation with the agricultural scientist or agriculture university/institute and submit to GPCB which should verify the same while issuing Consent to the industry. The treated sewage should meet (a) the standards prescribed in the new Consent Conditions (for those parameters suggested in the Consent), and (b) standards for irrigation under Environment (Protection) Rules, 1986 and the standards suggested by the study (for those parameters not mentioned in Consent Conditions).**
- F. In case the discharge is permitted to Fatehwadi Canal, by GPCB, there should be mechanism to continuously and automatically monitor quality of water released from Vasna Barrage into the Fatehwadi canal at (i) the point of outlet from Barrage and (ii) and appropriate downstream point after the last discharge point from STPs at Vasna. Based on this, there shall be mechanism to alert downstream users on the quality of water available in the canal.
- G. All sub-projects which involve irrigation / other canals shall consider catchments and regional impacts in a comprehensive manner while designing investments and ESIA shall assess regional impacts, integrate relevant institutions, and consult with relevant stakeholders, in and beyond AMC limit.

5.12 Updating of ESMF

Revision/Modification of the ESMF: This ESMF will be a “live document” enabling revision, as and when necessary. Unexpected situations and/or changes in the project or subcomponent design would therefore be assessed and appropriate management measures will be incorporated by updating the Framework to meet the requirements of the country’s legislation and the World Bank ESF. Such revisions will also cover and update any changes/modifications introduced in the legal/regulatory regime of the country/ state. Also, based on the experience of application and implementation of this framework, the provisions and procedures would be updated, as appropriate in consultation with the World Bank and the implementing agencies/departments. The finalized version of the updated ESMF will be submitted to WB for its review and approval, and redisclosed by both the borrower and the Bank following the disclosure procedures.

CHAPTER 6. PROPOSED INSTITUTIONAL FRAMEWORK AND BUDGET

The existing institutional framework for project management and E&S aspects in AMC and GUDM are presented in Chapter 2. This chapter draws from the lessons learned from an analysis of the existing institutional setup, gaps and suggests institutional setup to effectively implement E&S aspects of G-ACRP.

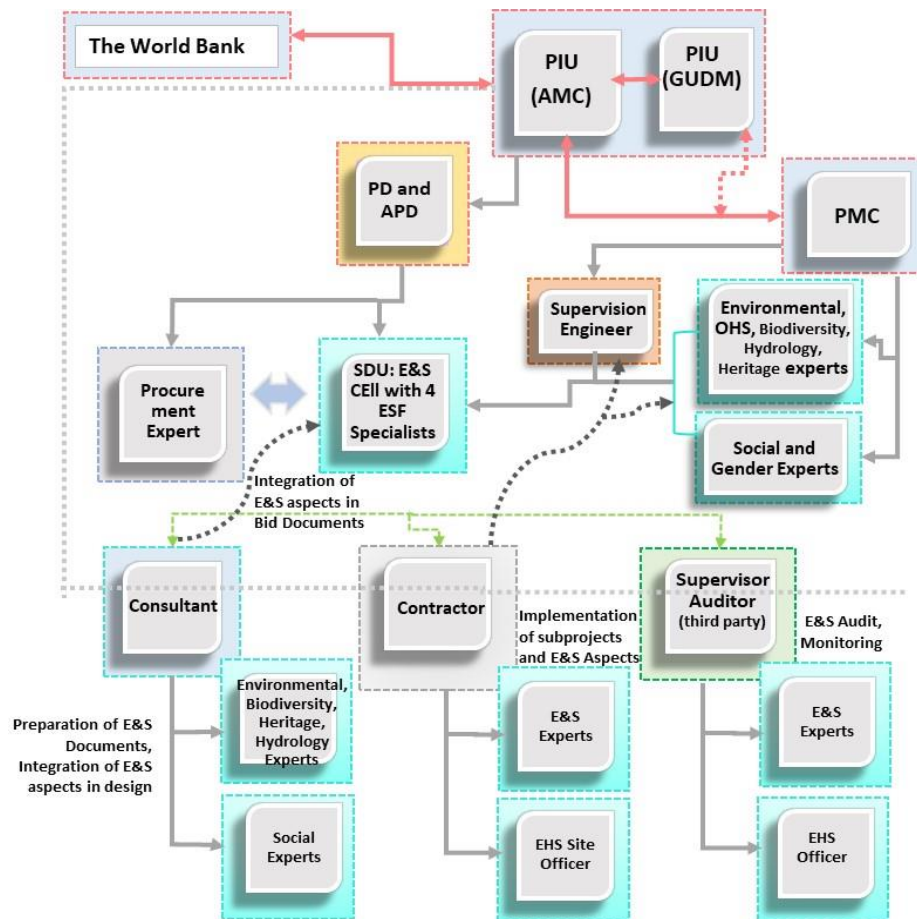
6.1 Proposed Institutional Framework

Considering the need to manage E&S aspects sewerage and stormwater drainage It is recommended to create a Separate ESF Cell in AMC named the **Sustainable Development Unit**, to integrate environmental and social aspects well into all operations of the drainage Department, those under G-ACRP and all other activities carried out by AMC in this sector to ensure long term sustainable outcomes and health benefits to the inhabitants.

The proposed institutional framework for the E&S management for G-ACRP includes the setting up of a PIU in AMC and GUDM for respective sub-projects management. For overall project support, the services of a Project Management Consultant (PMC) will be used.

6.2 Proposed Institutional Framework for E&S Management

The proposed Institutional Framework for E&S Management for G-ACRP is presented in **Figure 12**.



Figure

Proposed Institutional Framework for E&S Management

12:

6.2.1 Overview of Proposed Units to manage E&S aspects at Various Levels

The program activities will be overseen by PIU established at AMC. PMC will also help AMC co-ordinate with GUDM in reporting, by collecting E&S reports from E&S experts of GUDM and submitting to the Bank through QPR. PIU will be headed by Project Director and supported by Assistant Project Directors and/or Managers for each type of intervention; such as (i) wastewater, drainage, and other general interventions including capacity building, and support studies under AMC sub-projects; and (ii) capacity building activities/ TAs/ studies under GUDM.

PIU of AMC will draw expertise of ESF (Environmental and social) from the experts at the Proposed Sustainable Urban Development Unit (SUDU) of AMC. SUDU will have ESF specialists, preferably two to look at environmental aspects and the other two on social aspects with overlaps and coordinated actions on ESSs. Working with G-ACRP PIU will build their capacities on E&S aspects through on-job training.

They will also contribute their ESF expertise on other projects of AMC in this sector initially, and in the long run, is expandable to all activities of AMC for overall better environmental and social outcomes. E&S specialists will be required at GUDM to manage the E&S aspects of TA activities which will be carried out by GUDM. SUDU of AMC and E&S Specialists of GUDM (SUDU of GUDM) proposed here will contribute their expertise and capacity acquired through on-job training to the proposed Center for Excellence in GUDM under the Capacity Development Component, so that E&S considerations get embedded in all urban development activities across the State in the long run. The SUDU GUDM E&S specialists act as E&S secretariat of the Proposed Centre of Excellence and could be a lighthouse on E&S aspects for all ULBs of Gujarat and upscaled in the long run.

The PMC will have two Environmental experts (one Environmental Engineer and EHS specialist, and another Environmental Planner/Specialist) and two (2) Social Development and Gender Experts who will coordinate and support ESF specialists of PIUs during the preparation, implementation, monitoring, and reporting of E&S aspects. Experts on Cultural Heritage, Biodiversity Conservation, Hydrology and EHS shall also be made available by the PMC as required. They will ensure that all records on E&S aspects are up to date and well maintained and easily accessible in hard and soft form.

Consultants who prepare E&S documents and deliver capacity building activities will have Environmental, Biodiversity, Heritage, R&R, Gender experts as required to prepare E&S mitigation/management measures and work with design consultants on integrating E&S aspects in design and supporting ESF specialists of PIUs to ensure that ESMPs and other aspects are incorporated in bid documents. This requirement will be incorporated in the ToR for consultants.

Contractors who will implement sub-projects on site will have E&S experts and EHS Site officers to prepare, update ESMPs to reflect actual site/design aspects, to monitor, ensure, report, and maintain up-to-date documentation on the implementation of E&S aspects on site regularly.

Considering the Occupational and Community Health and Safety (OCHS) issues which would be important while upgrading existing STPs and laying of networks along congested roads, PMC OCHS specialist will monitor OHS aspects on-site and report regularly to PIU as part of CSQA. Annual E&S Audit will be conducted through third party E&S auditors who will monitor compliance to ESMF, OCHS on-site (may be same consultants or separate for ESMF

compliance and OHS) and report with suggestive corrective actions for non – compliance.

6.2.2 Monitoring and Reporting

Three types of monitoring and reporting are envisaged here including Third Party, external, and Internal. Internal monitoring is a continuous process undertaken by contractors E&S persons, PMC (who will carry out regular monitoring on all E&S aspects and special monitoring on OHS and CHS hand in hand with Civil Work Monitoring) and PIU; and a third party will undertake an annual E&S audit. Sub-project level monitoring will be as follows:

Table 155: Sub-project Monitoring schedule

Sub-project Stage	Category	Internal Monitoring			External Auditing			
	Agencies	Contractor / Consultant	PMC	PIU	WB	CSQAC/ supervision consultant during design or O&M	E&S Auditor	
Design Stage	Inclusion of findings of ESIA in Design, Scheduling	Include ESIA findings in Design, BoQ, Bid documents	Design, BoQ, Bid documents	Clear	Design review & suggest corrective actions during semi-annual missions/ technical visits as required	Design Review	Annual E&S Audit, submit to PIU and finalize incorporating PIU, WB comments	
Implementation	Updating of the ESMP	Prepare before the start of site works	Review	Clear		Review QPR, verify & suggest corrective actions during semi-annual missions/ technical visits as required		Review fortnightly and submit a monthly report to PIU
	Labour Housing /Camp							
	ESMP, CHMP Implementation							
	OHS Management Plan							
	Labour Camp							
	Traffic Management Plan							
	Waste Management Plan							
	Tree cutting, compensatory plantation, and Green belt							
	Enhancement measures							
	ESMP Implementation	Daily monitor; submit a weekly report to PMC	Review weekly report of the contractor, verify on-site quarterly or as required, suggest corrective actions, prepare a monthly report with details, corrective actions	Review Monthly report of PMC, verify on-site monthly or as required, suggest corrective actions, compile QPRs and submit to WB				
	OHS							
	Labour Camp							
	Traffic Management							
	Waste Management							
	Biodiversity, Tree cutting, compensatory plantation, and Green belt							
	Enhancement measures							
	Monitoring of environmental and social parameters	Monitor as required/as per plan, submit as part of the week’s report						
O&M Stage	Monitoring of environmental and social parameters	Monitor as per Plan	Verify, suggest corrective actions, monitor					

Contractors E&S Experts and EHS specialists will monitor daily ESMP compliance on-site at the sub-project level, and report weekly to the site engineer. The site Engineer will submit this to PMC E&S experts who will verify every week or as required, and compile these to prepare monthly monitoring reports to PIU. PIU also undertakes site visits to monitor once a month or as appropriate, and compile E&S reports over the quarter and submit to the Bank as part of the project's Quarterly Project Monitoring Report (QPR) or as a standalone E&S quarterly monitoring report highlighting key issues, how issues were managed, and any support required on E&S. The environment and social management instruments at the sub-project level such as ESIA, RAP guide monitoring and evaluation parameters and describe the institutional arrangements to facilitate the 'process' and 'progress' monitoring.

Designated E&S Specialists/experts at various levels shall be responsible for overseeing compliance of the sub-projects to Bank ESF, GoI regulations, and applicable ESMF guidelines. They shall also regularly review the timely implementation of environment provisions as per the ESMP. PIUs and the World Bank review and clear E&S documents. PIUs have the responsibility to review the sub-project ESF documents prepared by consultants. ESF documents should only be sent to WB for prior review after PIU's good quality initial review and sign off. It is also suggested that PIU shared ESF documents with WB by mentioning specific areas in which they need clear guidance. PIUs (with PMC support) also report to the Bank during its six-monthly supervision missions.

The following aspects shall be monitored and reported as per the frequency provided in **Table 16** below. Corrective actions shall be initiated in a planned manner as appropriate to ensure compliance with the ESMF/ESMP measures.

Table 166: Overall Project Monitoring Parameters and Schedule

Sl.No.	Particulars	Frequency	Reporting Responsibility	Monitoring responsibility
Input Monitoring				
1	ESMF Compliance, Status Report, including any issue with screening results, the status of conduct of ESIAs including required plans like CHMP, BMP; and actions taken for compliance on site	Monthly/ Quarterly	PMC, E&S Auditor	PIU - Project Director and ESF Specialists
2	Site visit reports of respective sub-projects in respective sectors	Monthly	PMC, ESF specialists of PIU	APD of PIUs
3	Regulatory clearances - Environment	Quarterly	PMC, ESF specialists of PIU	APD of PIUs
4	R&R plans including livelihoods support, entitlements	Quarterly	PMC, ESF specialists of PIU	APD of PIUs
5	Community consultations	Quarterly	PMC, ESF specialists of PIU	APD of PIUs
6	Grievance redressal	Monthly or as soon as reported	PMC, ESF specialists of PIU	APD of PIUs
Output/ Outcome Monitoring				
1	Water Quality of receiving Waterbodies	Yearly Twice (Pre and Post monsoon)	PMC, ESF specialists of PIU in coordination with GPCB	PD of PIUs

Sl.No.	Particulars	Frequency	Reporting Responsibility	Monitoring responsibility
2	Air Quality near work areas, facilities	Quarterly	PMC, ESF specialists of PIU in coordination with GPCB	APD of PIUs
3	Areas with water stagnation	Pre and During monsoons	Officials of concerned sectors	APD of PIUs
4	Increased no: of premises/area covered with drainage and sewage facilities developed under the project	Annually	Officials of concerned sectors	APD of AMC PIU
5	No: of worksite incidents (all types covered under Systematic incident Reporting Tool (SIRT) in various project sites (during Construction and O&M)	Quarterly or within 4 hours of any incident	PIU ESF specialists	PD of PIU
6	Impacts on cultural heritage or Biodiversity during the project implementation	Monthly	PIU ESF Specialists & PMC	PD of PIU
6	Grievances on environmental pollution issues related to project facilities include issues with STPs not working, untreated water being disposed on land or water bodies, drainage channels clogged, labor issues on work sites	Monthly	PIU ESF specialists	PD of PIU

6.2.3 Reporting Formats

Reporting formats shall be developed by PIUs to get progress and results data of the project from the field. This will also help in synchronizing and streamlining reporting requirements from the various work sites. These should be part of the Project Operations Manual.

6.2.4 E&S Information System

Detailed E&S Management Information System ESMIS linking project details, scheduling, and documentation of the ESIA process, integration of E&S aspects in design, ESMP in bid documents, and ESMF implementation will support the project in the effective preparation and updating of ESF instruments, implementation, supervision, and monitoring.

It is preferable to have an online ESMIS for ease of updating data, management, and retrieval. Even in the absence of such a system or delays in establishing it, the ESF specialists of PIUs shall prepare a datasheet in tabular format and maintain an MIS to track all requisite ESF instruments for sub-projects right at project commencement. This Project Info-Table or MIS shall be continuously updated as and when each sub-project starts or as required. The decision to start preparations for each sub-project shall be conveyed to the PIU ESF specialists and/or procurement plan for each quarter shall be shared well in advance with them to initiate the process to ensure screening, categorization, and preparation of ESIAs. PIU with the support of PMC shall update and maintain ESMIS.

6.3 Capacity Building

G-ACRP envisages capacity building for all agencies involved in the project including PIUs (including Line Departments, Local Bodies, Statutory Boards, Public Undertakings applicable or each sub-project), and Potential Private Operators, PMCs, Consultants and Contractors to ensure that the ESMF is effectively operationalized. This will be accomplished by organizing sensitization programs, workshops, and training programs, which will be coordinated and anchored through training institutions and experts.

Indicative details of the training program are presented in **Table 17**. This will be elaborated and a proper training plan and schedule/module will be devised by PIUs through the support of national training institutions and PMC.

The proposed ESF support, training/capacity building activities for ESMF implementation will be supported through *Component 1* of G-ACRP at an estimated cost of INR 0.2 Crores (USD 0.027 Million), for the Project implementation period as presented in **Table 18**.

Table 17: Outline of the Proposed Capacity Building Program on G-ACRP (2022 – 2027)

Sl No	Training Programs and Modules	Contents	Presenter/s	Frequency and Duration, Location	Targeted Participants
A	Project Level Training Programs				
1	G-ACRP ESF On-boarding of key staff	<ul style="list-style-type: none"> - World Bank's ESF and Concept of ESMF, Project Cycle - Applicable regulations and Sensitivities: National, State, Local/ others 	The World Bank and Reputed ESIA training Organisations	Half or One-day interactive (Year 1: At Project initiation; Year 2: Before Start of activities; Year 3: Mid Term Corrective) Location: Virtual	PIU Project Director/ Assistant Project Directors, other Staff, ESF/E&S Experts of PIU, PMC other project agencies
2	Project Level 360° Orientation Program				
	Module 1: About G-ACRP Program	<ul style="list-style-type: none"> - About project sectors and baseline situation in Ahmedabad; existing and proposed system and involvement of the AMC, GUDM, and The World Bank (including Financing Instrument) - Technical and Financial Aspects - Project Implementation Set up 	PIU Project Director/ Assistant Project Director	Two days interactive (First Three modules – together in a day; fourth module on the second day) (Year 1: After Project Kick-off; before initiating implementation), Year	PIU/ Local Body all staff, PMC (if onboarded) technical review committee members, all sub-project staff selected for all sub-projects to date
	Module 2: ESMF and the Project Cycle; and Regulatory Aspects	<ul style="list-style-type: none"> - World Banks ESF (ESSs) and ESMF for G-ACRP - Applicable regulations: National, State, Local/others - Project Cycle of G-ACRP 	The World Bank, PIU ESF Specialists		

Institutional Framework and Budget for ESMF Adoption

SI No	Training Programs and Modules	Contents	Presenter/s	Frequency and Duration, Location	Targeted Participants
		- ESMF incorporation in Project Cycle during Identification (Screening, Categorization), Preparation, Appraisal, Implementation (Monitoring, Audit)		2: Start of Year 3: Year – After Implementation initiation)	Module 4 (Day 2): All E&S Specialists, experts already onboarded
	Module 3: Overview of Locations and Project Activities; Impacts	- Overall Project Locations - Expected impacts: activity-wise - Need for mitigation/management	Reputed National ESIA training Organisations, Department of Environment, Pollution Control Board	Location Virtual in Year 1; and Year 2, 3 preferably at Ahmedabad in case of post-COVID 19 situations	
	Module 4: Sub-project level E&S Assessments, Mitigation/ Management measures, Institutional Aspects, budget (Case studies)	- ESIA& Audit: EA process, Identification of Environmental Impacts, Impact Identification Methods, Identification of Mitigation Measures, Formulation of ESMP, Climate Change adaptation and mitigation Plans, Implementation, and Monitoring, Institutional Mechanism - Session on Cultural Heritage Management - Session on Biodiversity Conservation and Management - Session on Climate Change and Resilience - Session on Occupational and Community Health and Safety - R&R policies and procedures, National & World Bank Requirements, LA process, Identification of PAPs, Social Entitlement Frameworks, Social Impact Assessment, RAP Techniques Beneficiary Assessments	Reputed National ESIA training Organisations and/ or hiring adequate experts trained in ESF if available		
2	Implementation Experience Sharing Program			One day; interactive Year 2 - end, Year 4 - start and at the close of the Project (Year 5) – near implementation completion stage	PIU and staff of all Departments of AMC, PMC, technical review committee members, CBOs, Contractors, <i>et al</i> as applicable
	Module 1: Experience Sharing on ESMP Implementation	- Experiences on implementation of ESMF/ ESMP in implemented projects - Best Practices-Site visits to project sites (or virtual visits)	E&S, EHS, Heritage and Biodiversity Specialists PIUs, PMCs, Consultants		
	Module 2: Review of Audit Results	- Discussion on the results of the annual audit on ESMF & corrective actions	ESMF Audit Consultants		
	Module 3: Stakeholder Participation and Community Engagement	- Stakeholder Analysis - Participation models in various projects by CBOs, Communities, Individuals, Private parties, PIUs	ULB/PIU, PMC		
	Module 4: Best Practices Showcase	- Site visit to select sub-projects to display best practices in any field/aspect (or virtual in case of restrictions)	E&S, EHS, Heritage and Biodiversity		

Institutional Framework and Budget for ESMF Adoption

SI No	Training Programs and Modules	Contents	Presenter/s	Frequency and Duration, Location	Targeted Participants
			Specialists PIUs, PMCs, Consultants		
B	Site Level Training Programs				
1	ESMP Implementation	Module 1: Environmental Enhancement and Occupational Health and Safety <ul style="list-style-type: none"> - Clearance/ permits/ regulatory aspects - Cultural Heritage Management on site - Biodiversity Management on site - Occupational Health & Safety Training - Staff & Labour Code of Conduct - HIV/AIDS prevention Training, Best hygiene practices - Emergency Response System - Behavioural Training - Implementation of ESMP provisions Module 2: Review of Sub-project Level Environmental Actions <ul style="list-style-type: none"> - Review of Environmental Actions at each sub-project - Lessons learned - Course Corrections 	Reputed National ESIA training Organisations or by hiring adequate experts	One day; Every Year, starting from Second	Contractors staff, Supervisors, Line departments, PMC

Modules for training may be developed to respond to the capacity-building needs of the various target groups/stakeholders. A more comprehensive plan on training and capacity building will be included in the Operations Manual for the project. This may further be finetuned by PIUs/ PMC after onboarding. Other training on project sectors may be conducted through State Level Training Institutes as required. A module on ESMF implementation shall be included in all project technical/ capacity-building efforts. These training activities covering all suggested modules may also be temporally clubbed with other Project training/capacity building exercises.

6.4 Budget for ESMF Implementation

To effectively implement the environmental management measures suggested as part of the ESMF, necessary budgetary provisions will be made in the DPRs for the individual sub-projects. The tentative budget for each of the sub-projects should include E&S management costs along with the cost to include good engineering practices and the cost of environmental and resettlement monitoring.

As presented in **sub-section 5.5.1**, the budget for complying with the ESMP needs to be worked out for each sub-project by working out the cost of

implementing each ESMP mitigation measure. Where this is not possible, the provision of a minimum of 3 percent of the sub-project cost needs to be earmarked for implementing ESMP measures. Also, provision for ESHS performance security is made to ensure ESMP implementation. All administrative costs for implementing the ESMF shall be budgeted as part of the budget for human resources and other facilities while preparing the budget for PIU establishment and operations. Drawing from the project experience and current indicative costs of **Substantial Risk** projects the following **Table 18** provides a rough estimation of costs for ESMF implementation. All ESF instruments have been inbuilt into the project modality and will be financed through the project and detailed project cost tables will include the necessary costs accordingly. The associated cost to implement ESMPs as well as training for project staff, contractors, etc. have been integrated into the project budget. The sub-projects will ensure that all works contracts will include the ESMP, and the cost of implementing the ESMP will be identified as an item in the Bill of Quantities of the DPR. The budget for ESMF implementation has been calculated which should be made part of overall program costs for G-ACRP to ensure smooth implementation of E&S aspects using this framework. The budget is worked out for 5 years.

Table 18: Proposed Budget for ESMF Implementation

SI NO	Proposed E&S Management	Quantity	Unit Rate per month	Unit Rate (INR) or Rate/ Year	No: of years	Total Cost (INR)	Total Cost (USD)**	Assumptions
1	E&S Personnel						-	
a	ESF Specialists, PIU	4	150000	600000	5	3000000	40219.86862	2 in AMC, 2 in GUDM; 4 specialists @ Rs 150000 per specialist per month for 5 years
b	ESF Experts, PMC	2	120000	240000	5	1200000	16087.94745	2 Specialists (E&S), Rs 120000 per specialist per month for 5 years
c	Environmental Engineers/ Site Engineers	20	100000	2000000	5	10000000	134066.2287	Considered sharing between sub-projects. Approximately 2.5 years per sub-project
2	Training/ Capacity Building						-	
a	ESF Onboarding	3		100000	3	300000	4021.986862	One day; Three years; select audience- intensive training
b	360° Orientation	3		200000	3	600000	8043.973723	Two days; Three years, PIUs
c	Experience Sharing	3		100000	3	300000	4021.986862	One day, a larger audience, 3 years
d	Site level workshops	40		20000	40	800000	10725.2983	half day, 4 years, all sites (40 expected)
3	Supervision, E&S Coordination							
a	Sub-projects screening by PIUs	40		30000	-	1200000	16087.94745	40 sub-projects assumed
b	Co-ordination and Travel for ESMF implementation by PIU (including site verifications, discussions, compliance monitoring, review committee meetings)			500000	5	2500000	33516.55718	lumpsum per year

SI NO	Proposed E&S Management	Quantity	Unit Rate per month	Unit Rate (INR) or Rate/ Year	No: of years	Total Cost (INR)	Total Cost (USD)**	Assumptions
4	Preparation of E&S Instruments							
a	Preparation of ESF Instruments including ESIAs, RAPs	40		59000000	-	59000000	790990.7494	Approximately 12 substantial risk sub-projects, 5 Low risks, 23 moderate risk sub-projects
5	Other ESMF Implementation Support							
a	CSQA and OCHS Audit	1		1500000	5	7500000	100549.6715	lumpsum per year (may be combined also with item 5(b) below)
b	Annual E&S Audit	1		2500000	4	10000000	134066.2287	Every year starting year 2 (4 yrs)
	Sub Total					96400000	1292398.445	
12	Contingencies							
	Contingencies & Miscellaneous; including overall coordination and planning, emergencies	15 percent	Percentage	Percentage	Percentage	14460000	193859.7667	
13	ESMP Monitoring Costs (1 % of the cost for investments approx. incl. contingency costs)	1 percent	Percentage	Percentage	Percentage	1108600	14862.58212	Approx. 1 percent cost is considered as sub-projects are not known. The rest of ESMP cost will be covered in the sub-project ESIA and ESMP budget. Institutional costs are already added above for various specialists/ travel etc.
14	IEC Awareness	5 per month	25000	1500000	3	4500000		G-ACRP will engage professional IEC agencies or enhance the existing capacities at AMC
15	Stakeholder Consultations	70	5000	350000	3	1050000		Approx. 70 consultations per year @INR 5000 per consultation, total 3 years considered
16	Project GRM			100000	3	300000		Existing fully function GRM at AMC will be updated to to meet G-ACRP requirements
17	Support for R&R (other than resettlement assistance/compensations)							Details to be given in the RAP if required to be prepared for sub-projects
	Grand Total					111968600	1501120.794	
	Grand Total in Words					Say 11.2 crores INR	Say 1.50 Million USD	

Institutional Framework and Budget for ESMF Adoption

** Monitoring needs will be finalized at the ESIA stage for moderate and substantial/ high-risk sub-projects; based on sub-projects locations and sub-projects types and impacts. The budget for this will be part of each sub-projects costing. The team feels that specific costing for monitoring activities recommended in various Indicative ESMPs cannot be estimated at this stage, since sub-projects are not yet identified. However, based on a similar experience, one (1) percent of the investment cost is added here for monitoring. Besides, ESMP monitoring costs will be included in individual ESIAs – ESMP, bid documents, and additional mitigation/ monitoring shall be the contractor's responsibility.*

*** USD conversion rate adopted as on October, 2021 | USD=74.6 INR (<https://www.fbil.org.in/#/home>)*

The ESMF budget does not include Resettlement costs of any nature. These costs shall be borne from the counterpart funding. The Project Director is the designated officer for approving the documents, with recommendations from E&S specialists.

CHAPTER 7. STAKEHOLDER ENGAGEMENT, GRIEVANCE REDRESSAL MECHANISM, INFORMATION DISCLOSURE

7.1 Stakeholder Consultation

The project is required to engage with multiple and varied sets of stakeholders for different activities under the project components. The stakeholder engagement process is a dynamic process that will be implemented throughout the project lifecycle. Stakeholder involvement, interest, and influence in the project activities will vary during the various phases. Therefore, this section of the ESMF will give a broad framework for consultations. A detailed standalone Stakeholder engagement Plan (SEP) is prepared for the project. Based on the nature and timing of activities SEP describes how two-way communication between the Implementing Agency and the affected communities and stakeholders would be achieved throughout the project cycle. Consultations are used as a tool to inform and educate stakeholders about the proposed actions which are going to impact them both before and after the development decisions were made. The involvement of the various stakeholders ensures that the affected population and other stakeholders are informed, consulted, and allowed to participate at various stages of project preparation and implementation.

Consistent with the requirements of ESS 10 on Stakeholder Engagement and Information Disclosure, this chapter describes the applicable legal and regulatory framework besides the requirements under WB's ESS 10 and the process of consultations on ESMF. The process of consultations is aimed at and mandates that Project components, including the E&S instruments, are explained to stakeholders well, setting expectations on the overall project cycle. A brief account of consultations with about 21 stakeholders, held during Apr-Jul 2021 is summarised in this chapter.

Further, a "Stakeholder Engagement Plan" (SEP) is prepared and separately disclosed, duly taking into account the existing institutional and regulatory framework within the context of GoI and State's legal instruments as well as the compliance requirements of Environmental and Social Framework (ESF) of the World Bank. The SEP outlines the process of identification of stakeholders duly considering all stakeholders relevant to the overall Project including its components and sub-components. The stakeholders include those currently associated with the Project and those who will be associated with the Project at a later stage during implementation. Stakeholders are identified and categorized into: i) project-affected parties, ii) other interested parties and iii) disadvantaged and vulnerable groups. The SEP provides for systematic consultation with all those inter-project beneficiaries, project-affected people, women, vulnerable and poor members of the community, and other stakeholders to understand their interests and influence over the project.

7.2 National Legal & Regulatory and WB ESS 10 requirements

Stakeholder Engagement is mandated within the existing institutional and regulatory framework of the National and State legal instruments as well as the ESS compliance requirements of Environmental and Social Framework (ESF) of the World Bank and is mentioned below:

- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013
- The Right to Information Act 2005
- ESS 10: Stakeholder Engagement and Information Disclosure, ESF, World Bank

The Environmental Protection Laws mentioned above mandate that stakeholders have the right to environmental information as well as to participate in developing, adopting, and implementing decisions related to environmental impacts. The provisions of environmental law provide the assurances for a public hearing during the process of project planning and ensure the public discussion during implementations for select identified projects. Public representative bodies have an obligation to take into consideration citizens' comments and suggestions.

- The Land Acquisition Act, 2013 maintains the ethos and culture of public participation through social impact assessment.
- The Right to Information Act, 2005 provides for setting out the practical regime of right to information for stakeholders to secure access to information under the control of public authorities, to promote transparency and accountability in the working of every public authority.
- The ESS-10, Stakeholder engagement, and information disclosure mandates stakeholder engagement as an inclusive process conducted throughout the project life cycle.

The World Bank's Environmental and Social Framework (ESF)'s Environmental and Social Standard (ESS) 10, "Stakeholder Engagement and Information Disclosure", recognizes "the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice" (World Bank, 2017: 97). Specifically, the requirements set out by ESS10 are the following:

- Borrowers will engage with stakeholders throughout the project life cycle, commencing such engagement as early as possible in the project development process and in a timeframe that enables meaningful consultations with stakeholders on project design. The nature, scope, and frequency of stakeholder engagement will be proportionate to the nature and scale of the project and its potential risks and impacts.
- The Borrower will maintain and disclose as part of the environmental and social assessment, a documented record of stakeholder engagement, including a description of the stakeholders consulted, a summary of the feedback received and a brief explanation of how the feedback was taken into account, or the reasons why it was not.

7.2.1 Stakeholders to be Consulted during Sub-project Preparation

The following stakeholders need to be consulted during Project Implementation

Table 19: Details of Stakeholder Consultations required on Environmental and Social Aspects

Project Stage	Consultation Activities	Remarks
Project activity preparation	Household-level consultations through sample questionnaire surveys or FGDs on service levels, needs, impacts, and risks they expect from sub-project, their information and engagement needs/ preferred modalities	At the start of the sub-project, and during the detail designing stage
	Consultation with all line departments and other concerned Government establishments including GPCB as well as private agencies	At the start of the sub-project, and during the detail designing stage
	Focus group discussions with people including vulnerable groups residing/ working near the sub-project sites, treated wastewater disposal areas, soak pits, pump houses, and related infrastructure – on issues/ risks faced and expected views on mitigation measures and engagement during all stages	During the visits to project sites

Project Stage	Consultation Activities	Remarks
	Consultations with affected persons – including waterlogged areas, people/ premises near drainage/ sewage lines laid under the project, people who will be potentially displaced either physically or economically or face loss of access during project construction or operation.	At various stages since the beginning especially during ESIA, RAP
Activity Implementation	Focus group discussions with the people residing/ working near the project sites and people who are impacted by the project – physically or economically - on risks/ impacts they experience during implementation and effectiveness of mitigation measures, proposed improvements	During the ESMP monitoring at worksites including E&S Audit, RAP implementation
	Informal discussions with the construction workers and construction supervision staff (contractor, consultants, and PIU) OHS risks during implementation and effectiveness of mitigation measures, proposed improvements	During the ESMP monitoring at worksites E&S Audit
	Informal discussions with commuters and the public along with the roads/ sites near which works are implemented (and proposed mitigation measures)	During the ESMP monitoring at worksites E&S Audit
Implementation & O&M	Discussions/ Meetings of concerned departments (wase water/ drainage/ water) with GPCB, Traffic Police and Water Supply and waste management Department on pollution concerns due to works or facilities developed; discussions with Estates department of AMC and Land Acquisition unit of District Administration as the case may be to understand the progress and issues pertaining to land take (if any)	During works and operation/ maintenance activities

Stakeholder engagement is an ongoing process and will be taken up in accordance with the SEP. Relevant outcomes of the consultations will inform the design/preparation of project activities/assessments/ mitigation instruments throughout the project lifecycle. Special attention will be paid to consultation with vulnerable groups to address their concerns and ensure that they can access project's benefits following the stakeholder engagement process described in the SEP.

7.3 Grievance Redress Mechanism

Grievance redress mechanisms (GRMs) can be an effective tool for early identification, assessment, and resolution of grievances associated with projects. A project-specific GRM has been prepared for the Gujarat Resilient Cities Partnership: Ahmedabad City Resilience Project . The grievance redressal mechanism aims to achieve a mutually agreed resolution of grievances raised by stakeholders. An individual or a group can register a complaint or an expression of dissatisfaction that is related to an impact caused by a project activity, which has affected an individual or group adversely - e.g. problems related to dust deposition, noise, or vibration). Grievances could either be less serious or more serious which if not addressed effectively may pose a risk to the operations of the Project. These could include complaints on forceful eviction, loss of livelihoods without compensation, etc.

A GRM to uphold the Project's social and environmental performance is designed to address concerns and complaints promptly and transparently with no impacts (cost, discrimination) for any grievances made by project-affected people (PAPs).

The key objectives of the GRM are:

- Receive, Record, categorize and prioritize the grievances.

- Settle the grievances via consultation with all stakeholders (and inform those stakeholders of the resolutions)
- Forward any unresolved cases to the relevant authority.

The types of grievances stakeholders may raise include, but are not limited to:

- Non-payment of compensation and forceful eviction of project-affected people
- Construction-related impacts – cracks, damages to structures; dust damaging crops/ trees
- Health and safety risks to communities, workers etc, including grievances related to GBV/SEA/SH risks.
- Negative impacts on the environment.
- Negative impacts on communities, which may include, but not be limited to financial loss, physical harm, and nuisance from construction or operational activities.

AMC has a functional complaint system (CCRS, <http://www.amccrs.com>) which includes a web portal and a toll-free number. It records almost 40000-50000 complaints every month. Any complaint registered in the system is forwarded to respective zones for action. Each complaint has a proper system by which it can be escalated if the applicant is not happy with the resolution. If some complaints come directly to the zonal office (mostly from the urban poor) they are recorded in the CCRS system. The CCRS is integrated with the Gujarat Government's CM Helpline and any complaints received at CM Helpline are also recorded in the CCRS system.

Grievances of PAPs will be first brought to the attention of the site office level of the PIU which shall be redressed within two weeks from the receipt of complaints. Grievances not redressed by the PIU staff (field level) will be brought to the Grievance Redress Committee (GRC) which shall redress the grievances within four weeks from the date of receiving the complaint at PIU.

GRC shall be formed at a zonal level comprising of competent members, who can effectively contribute to grievance redressal. GRC team consists of Zonal Officer AMC, Env and Social staff of PIU, a local CBO/CSO representative. The main responsibilities of the GRC will be to (i) provide support to PAPs on problems arising from land/ property acquisition; (ii) record AP grievances, categorize, and prioritize grievances and resolve them; (iii) immediately inform the PMU of serious cases; and (iv) report to PAPs on developments regarding their grievances and decisions of the GRC and the PMU. Other than disputes relating to ownership rights under the court of law, GRC will review grievances involving all resettlement benefits, compensation, relocation, replacement cost, and other assistance; noise, traffic, odor, and other grievances related to the environment.

The GRC will meet every month (if grievances are brought to the Committee), determine the merit of each grievance, and resolve grievances within a month of receiving the complaint. Records will be kept of all grievances received including contact details of the complainant, the date the complaint was received, nature of the grievance, agreed corrective actions, and the date the corrective actions were affected, and the outcome. The GRCs will continue to function during the life of the Project including the defects liability period. For the G-ACRP, the most likely complaints will be from the public as regards construction works at STPs, trunk line laying, burrowing, trenching, adjacent land parcel impacts, material transport, waste dumping, visual & environmental quality deterioration, social rights, etc. Cases not resolved at the GRC level would be brought for resolution by Commissioner, AMC. In the case at this level, the dispute is also not resolved, the aggrieved person may take recourse to the civil court and the decision of the Court will be binding on all parties.

Project level GRM will be established in accordance with SEP while worker GRM will be established in accordance with LMP.

7.4 Information Disclosure

7.4.1 Procedure for Information Disclosure

G-ACRP -related information will be disclosed through a public consultation and making relevant documents available in public locations as well as the AMC website (<https://ahmedabadcity.gov.in>). The project agencies and associated line departments will provide relevant ESF-related information promptly, in an accessible place, and the manner and language understandable to affected persons and other stakeholders. For illiterate people, other suitable communication methods will be used, if found necessary.

The draft ESMF report must be discussed with the project agencies and relevant stakeholders before making it available at the offices of PIU/ AMC. A concise summary of the project and draft ESMF report (in the local language - Gujarati), providing all necessary details of proposals, implementation arrangements, sub-project locations, likely issues and mitigation, and monitoring measures and grievance redress mechanism, shall be made available to the stakeholders. This should also provide the contact information of the project agency/ PIU. This summary shall also be displayed at the notice boards of PIU, its concerned zonal/ ward offices, and related line departments for ease of access to citizens. During project implementation, relevant information about any major changes to the project scope will be shared with beneficiaries, affected persons, vulnerable groups, and other stakeholders.

SEP shall be disclosed as early as possible and updated as required. ESCP shall be disclosed, updated, and included in legal documents.

The following documents shall be made available at the offices of PIUs, and other public places such as the concerned zonal/ ward office of AMC for public reference and shall also be uploaded on the websites of PIUs.

1. Summary of G-ACRP project (in English and local language - Gujarati)
2. SEP, LMP, RPF, CHMF, BCMF and ESCP
3. Grievance Redress Mechanism and contact details
4. Draft ESMF Report (in English; translated summary in Gujarati)
Once the draft is finalized after consultation with the stakeholders including the implementing agencies, the following documents will be made available at offices of PIUs (AMC & GUDM) and zonal/ ward offices of AMC for public reference and shall also be uploaded on respective websites.
5. Final ESMF Report (in English); with translated summary (Gujarati)
6. All ESIAs (with ESMFs with CHMPs, BMPs as applicable) and RAPs, for initial 30% investments as per Country's requirements/ readiness criteria
7. Final versions of SEP, LMP, RPF, CHMF, BCMF and ESCP

During implementation, the following shall be disclosed in hard/ soft form and accessible to the public.

8. Updated/ amended ESMF, RPF, LMP, SEP, CHMF, BCMF & Summary (in English & summary in Gujarati) as required
9. Redislosure of SEP and ESCPs after updation
10. Sub-projects ESIAs (with ESMFs, CHMPs, BMPs), RAPs, (English, with Summary in Gujarati) as per ESMF
11. Corrective action plan if any prepared during project implementation (English)
12. E&S Monitoring Reports (English)

The following documents will be submitted to the World Bank when final for disclosure on Bank's external website. PIU will send written endorsement to The World Bank for disclosing these documents:

1. Draft ESMF (with translated summary).

2. Final ESMF (with translated summary) and RPF, LMP, CHMF, BCMF (in English & summary in the local language –Gujarati)
3. A new or updated ESMF and corrective action plan prepared during project implementation, if any; and
4. ESIAs (with ESMPs with CHMPs, BMPs as applicable) and RAPs, CHMPs for H/S rated sub-projects and for all sub-projects under initial 30% investments which need prior clearance from the World Bank
5. E&S monitoring reports
6. Final SEP and ESCP

In addition, all E&S screening sheets and E&S instruments for all sub-projects will be available in ES MIS.

7.4.2 Information to be disclosed

Table 20 below specifies the type of information to be disclosed and frequency of dissemination:

Table 200: Information Disclosure Matrix

Topic	Documents to be Disclosed	Frequency	Where
E&S Documents	ESIA, ESMP, RAP, LMP, CHMP, BCMF ESCP E&S Audits E&S corrective actions if any	Once in the entire project cycle. Update as necessary and redisclose. To remain on the website and other disclosure locations throughout the G-ACRP project period	<ul style="list-style-type: none"> – World Bank's external website. – On the website of PIUs (soft copy) (AMC, GUDM as applicable) – The borrower will make the ESIAs, ESMPs, RAP, LMP, CHMP, BMP (hard copies) available at a place accessible to displaced persons and local NGOs, in a form, manner, and language that are understandable to the PAPs in the following offices: <ul style="list-style-type: none"> • PIU office: AMC – main, zonal/ ward offices, GUDM • Office of the contractor on site
Grievances	Grievance redressal process	Continuous throughout the project cycle	<ul style="list-style-type: none"> – World Bank's website. – On the websites of PIUs (AMC, GUDM as applicable) – Hard copies in the local language in the following offices: <ul style="list-style-type: none"> • AMC-main, zonal, ward offices • Office of the contractor • GUDM (if applicable) – PAPs to be informed on one to one contact
SEP, Public Consultation	Minutes of Formal Public Consultation Meetings	Within two weeks of meeting	<ul style="list-style-type: none"> – On the websites of PIUs (GUDM/ AMC as applicable) – Hard copies in the local language in the following offices: <ul style="list-style-type: none"> • AMC – main, zonal/ ward • Office of the contractor

In addition to the information specified in **Table 20**, the following information shall also be displayed/disseminated, wherever applicable.

1. Project-specific information needs to be made available at each contract site through public information table
2. Project information brochures shall be made available at all the project sites as well as the office of PIUs.
3. Reports and publications, as deemed fit, shall be expressly prepared for public dissemination e.g., English versions of the ESIA, RAP, ESMP (with CHMP, BMP as applicable), and Executive Summary in the local language (Gujarati).
4. Wherever civil work will be carried out abroad will be put up for public information which will disclose all desired information to the public, for greater social accountability.
5. All information will be translated into the local language and will be disclosed to the public through the concerned PIU offices, or their websites.

7.5 Status of Consultations and Disclosure of this ESMF

Consultations were conducted with concerned stakeholders during the preparation of this ESMF. Residents/ communities especially those near the Sabarmati River, inundated areas and canals/ water bodies, and existing/ proposed STP or drainage/ sewerage lines were consulted. Community groups, NGOs, industries, engineers/ employees/ contractors of sewerage and drainage works in Ahmedabad were also consulted. Most of the consultations were virtual given the COVID 19 related restrictions.

A wide range of consultations was held with the following categories:

- *Project Affected Parties*: those which are affected or likely to be affected by the project. These include stakeholders who are directly affected by poor drainage in the city as well as officials in certain Departments of AMC like finance, drainage, etc.
- *Other Interested Parties*: The term “other interested parties” refers to individuals, groups, or organizations with an interest in the project, which may be because of the project location, its characteristics, its impacts, or matters related to the public interest. These would include Resident Welfare Associations, other Departments in AMC, elected representatives, NGOs, and others who work with stakeholders.
- *Disadvantaged or vulnerable and identified individuals or groups* refer to disadvantaged or vulnerable refers to those who may be more likely to be adversely affected (may be temporary). Such an individual/ group that may be excluded from/ unable to participate fully in the mainstream consultation process and as such may require specific measures and/ or assistance to do so like urban poor who live as squatters without formal title of their land.

The Stakeholder consultations helped to achieve a good understanding of the stakeholders and their concerns; understand the impacts, the Project could have on stakeholders and the influence stakeholders could have on Project preparation and implementation (including improving design, also including delaying implementation, or undermining success).

A summary of the key points raised during the stakeholders’ consultations is given below and full details of various discussions with stakeholders are presented in the project’s SEP and **Annexure C (Annexures)** of this Report.

Project Affected People (including vulnerable groups):

- Regular clogging of sewer lines
- Mixing of drinking water with sewer/wastewater
- Overflow of drain water during the rainy season
- People staying close to STP raised concerns about the foul odor

- People living in villages downstream of Sabarmati brought up concerns about the poor quality of water of the river
- Health issues for certain people living near CETP and STP.

Other Interested Parties

Departments under AMC:

- **UCD:** Drainage Problems in the slums; Mixing of drinking water and wastewater; Some unauthorized dwellings may be present in the canal/ lake rejuvenation footprints of proposed project sites; South Zone faces water logging problems more than other zones.
- **Drainage Department:** Drainage Problems in the slums; Mixing of drinking water and wastewater
- **Sewage treatment plant Department:** Rehabilitation work started in old lines as often major breakdowns happen there. All rehabilitation works take place with no dig technology to minimize the disruption; No-dig technology is specialized work and requires specialized labor from outside Ahmedabad. For this labor camps may be required.
- **Heritage Department:** There are no standard vibration limits set for works near heritage structures; if a project requires detailed impact assessment or not is decided on a project-to-project basis.
- **Roads Department:** Any encroachment on the roads is looked into by the Estate Department; All utility lines are laid before roads construction work starts; Any private company doing excavation has to give security deposit for excavation; Community Health and Safety during construction lies with the contractor.
- **City Planning Department:** More than 85% of the city is covered under the TP Scheme; there are no unauthorized structures on the road; there is no provision for compensation for unauthorized structures.
- **CCRS:** Three methods of registering complaints – toll-free number, CCRS on the internet, and physical registration in ward office; CCRS receives about 50,000 complaints every month; CCRS data and state-level Grievance System data are mutually exchanged widely; regular feedback is sought on GRM through citizens' feedback.
- **Solid Waste Management Department:** Ahmedabad is one of the well-performing cities under SBM and the Department has taken a lot of initiative to collect, sort, and dispose of solid waste in the city. It is also planning to launch a project of "waste to energy". The Kharicut canal and the lakes are cleared regularly and a CCTV camera is installed to monitor. The Department has a Scheme for Rag Pickers. Nearly 1000 rag pickers are registered. The Department has set up composting plant through PPP mode.
- **Zonal Heads:** On the eastern side, dense population especially near the Kharicut canal creates a problem; on the Southern side main issue is that the main trunk is silted leading to breakdowns; No systematic drainage line is there as there is a lot of encroachment; in the central zone, lines are very old and are often choked due to silting; encroachment on government land on the main trunk line is a major issue; encroachment is a problem in narrow zones.

Others:

- **AUDA:** During peripheral development, enhancement of infrastructure was not envisaged; untreated water in the downstream of Sabarmati which is used for agriculture is a major source of concern; sensor-based systems are provided in STPs to measure the pH level of

water released; the contracts for execution of drainage or water supply works do not have a specific clause for air pollution prevention.

- **Contractors maintaining STP:** SCADA sensors erode and stop working because of gases in the plant and high temperature; due to mixing of industrial effluent with sewage the color of the treated water becomes yellow once which made the recipient farmers of Juhapura Canal complain to AMC. After that incident water is again being discharged into the Sabarmati River; the issue of foul smell is often brought up from the community; during monsoon, they need efficient pumping. Contractors normally have an extra team during monsoon.⁸
- **Contractors working on Drainage:** Lack of space to safely store equipment; regular monitoring by PMC as well as AMC on quality of work however no reporting is done on social and environmental standards and issues; they follow strict labor standards.
- **Mumbai Ahmedabad Fast Track Train:** Some good practices of land acquisition like consultations, transparency, direct access to the project authorities for grievances are observed and could be followed in G-ACRP.
- **Mahila Housing Trust:** Sewage is often clogged and the pumping station does not work; the issue of vectors like rats in the *chawls* (old rental housing mostly of more than one storey; mostly offered by industries to workers) of central Ahmedabad where the sewer lines are very old; in periphery slums, the individual connection of sewer lines is a problem they have mostly soak pits; solid waste is collected but not recycled; vulnerable groups do not have access to the GRM of AMC. Kharicut Canal is dry and has become a solid waste dumping ditch
- **SEWA:** There could be several settlements that are on encroached land or houses are on the drain. Some of the slums have the issue of drainage and mixing of drinking water with drain water; some unauthorized dwellings (encroachments) on the proposed project sites may be interrupted; the conditions in the dumping sites are extremely hard with no provision of water, toilets, sheds, etc.
- **Elected Members:** Ahmedabad is a growing city and in the next 30 years its population will double itself; rehabilitation of old drainage system; reuse and recycling of water is one of the priorities. Recycled water from STPs to be used by farmers downstream of Sabarmati and fulfilment of NGT suggested limits.

Vulnerable Groups

- Stakeholder inputs from vulnerable groups include - Issue of mixing sewage water with drinking water, inadequate service delivery, land ownership issues, air pollution due to proximity to industrial areas, no clear understanding of temporary livelihood disturbances, and access issues during construction works

7.6 Conclusion

- This ESMF document for G- ACRP will act as the guidance document for the management of environmental and social aspects for all components of the project. This is a living document and shall be updated, as and when necessary; following the consultations, approval, and disclosure requirements of the World Bank.

⁸ Hon'ble High Court of Gujarat has constituted a task force comprising of AMC, GPB, and other stakeholders to tackle this issue by identifying and disconnecting all industrial connections to sewers, and these industries which will be allowed to operate only after setting up ETPs or connecting their effluents to CETPs. The task force has disconnected more than 380 connections till Dec 2021.