Government of India
Ministry of Rural Development
Department of Rural Development (Mahatma Gandhi NREGA Division)

Krishi Bhawan, New Delhi

Dated: 10 June, 2016.

To: The Spl CS/Prl Secretary/Secretary (in charge of MGNREGA)
Government of Andhra Pradesh, Assam, Chhattisgarh, Gujarat, Himachal Pradesh, Karnataka, Kerala, Manipur, Odisha, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh, West Bengal, Goa, Nagaland, Meghalaya, Nagaland, Tashkurgan

Subject: Design, using appropriate technologies for construction of Gram Panchayat and Anganwadi buildings under MGNREGS.

Sir/Madam,

In pursuance of the Para 13 (a) of Schedule-1. MGNREGA, that, “For all works involving construction, cost effective, labour intensive technologies and usage of local materials shall be employed as far as possible” one National Workshop, five Regional Workshop and 15-day “Awareness Cum Demonstration Workshop for Masons/Artisans” were convened by the Ministry of Rural Development. In addition to these, 260 members of State Technical Resource Teams from all over the States/UTs have been trained on ‘SAMARTHYA’ Technical Training Manual (MGNREGS) including use of appropriate technologies in construction of MGNREGA buildings.

2. To carry forward the learning in the field, Ministry of Rural Development and Ministry of Panchayati Raj, organized a Workshop cum Design-Shop at NIRD&PR, Hyderabad from 2nd to 5th April, 2016, to prepare State specific designs using appropriate technologies for construction of Gram Panchayat and Anganwadi buildings. In this workshop 11 States/UTs, where most of GPs are without buildings, were invited.

3. In this Workshop cum Design-Shop, representatives from States were exposed to different labour intensive, cost effective, eco-friendly and usage of local material appropriate technologies being used successfully, by the renowned resource persons in different parts of the country. After getting exposed and in consultation with resource persons (list enclosed) State representative Engineers prepared designs & estimates for construction of Gram Panchayat and Anganwadi buildings under MGNREGS, using appropriate technologies, suitable to the their State (copy of design sheets enclosed).

4. State representatives were also convinced for production of fly ash bricks or stabilized soil blocks under MGNREGS, as fly ash is solid waste of thermal plants and production of fly ash bricks and stabilized soil blocks will be eco-friendly also.

5. Copy of the booklet on, “specifications of different appropriate technologies for production of building materials & construction of buildings” to be used is available on the MGNREGA website, under category ‘Engineers’ and head, “specification of different appropriate technologies for production of building materials and construction of buildings” as already communicated to the States/UTs vide Ministry letter dated 20th January, 2016.

6. It is requested that, the States/UTs, who did not participate in the workshop can also use these designs, using appropriate technologies for construction of Gram Panchayat and Anganwadi buildings, suitable to their areas.

Yours faithfully

(Aparajita Sarangi)
Joint Secretary, MGNREGS

Enclosure: As above (list of resource persons and 7 design each of GP & AWC buildings)
**LIST OF RESOURCE PERSONS PARTICIPATED IN THE WORKSHOP CUM DESIGN SHOP HELD AT NIRD & PR, HYDERABAD FROM 2ND TO 5TH APRIL, 2016:**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name &amp; Designation</th>
<th>Contact Details</th>
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<tbody>
<tr>
<td>1</td>
<td>Prof. Subhash Basu, Secretary, Gram Vidhya, Mangalore</td>
<td>8762368048, <a href="mailto:subhasbasu1960@gmail.com">subhasbasu1960@gmail.com</a></td>
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<tr>
<td>2</td>
<td>Prof. K.S. Jagdish, President, Gram Vidhya, Bangalore</td>
<td>09845553365, <a href="mailto:ksjagadish@gmail.com">ksjagadish@gmail.com</a></td>
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<td>3</td>
<td>Ms Zeenat Niazi, Vice President, Development Alternatives Group, New Delhi</td>
<td>09810947009, <a href="mailto:zniazi@devalt.org">zniazi@devalt.org</a></td>
</tr>
<tr>
<td>4</td>
<td>Mr. Soham Pandya, Engineer, CSV Wardha</td>
<td>09890434003, <a href="mailto:soham.ced@gmail.com">soham.ced@gmail.com</a></td>
</tr>
<tr>
<td>5</td>
<td>Mr Vaibhav Kale, C.E.O., Wonder Grass Initiative Pvt. Ltd., Nagpur</td>
<td>09011019001, <a href="mailto:vaibhav@wondergrass.in">vaibhav@wondergrass.in</a>, <a href="mailto:contact@wondergrass.in">contact@wondergrass.in</a></td>
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<tr>
<td>6</td>
<td>Padmasri G Shankar, Habitat Technology Group, Trivendrum</td>
<td>09847061414</td>
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<tr>
<td>7</td>
<td>Shri Madhusudhan, Habitat Technology Group, Trivendrum</td>
<td>09447701110</td>
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<td>8</td>
<td>Shri R D Padma Kumar, Ex-GM, COSTFORD, Trivendrum</td>
<td>09446551260</td>
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<td>9</td>
<td>Shri Amit Khurana, AIDE, Jalandhar, Punjab</td>
<td>09814160848</td>
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<td>10</td>
<td>Ms Mythily, Executive Engineer, Telangana</td>
<td>09866101644</td>
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<tr>
<td>11</td>
<td>Shri Durga Prasad, Executive Engineer, Telangana</td>
<td>07095559900, <a href="mailto:durgaprasadkolusu@gmail.com">durgaprasadkolusu@gmail.com</a></td>
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<td>12</td>
<td>Mr. Pravin, Engineer, CSV, Wardha</td>
<td>09505232751</td>
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<td>13</td>
<td>Ms. Srijani Hazra, Consultant, MGNREGS, MoRD</td>
<td>09968562512</td>
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<tr>
<td>14</td>
<td>Shri Pankaj Khanna, Independent Consultant – Rural Housing, G-17/12, Ground Floor, Malviya Nagar, New Delhi – 110017</td>
<td>Mob: 09910611264, <a href="mailto:pkcowzah@gmail.com">pkcowzah@gmail.com</a></td>
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<td>15</td>
<td>Shri Vyas Dev Yengkhom, Project Associate, 55, Lodhi Estate, New Delhi-110003</td>
<td>09899699273, <a href="mailto:vyas.yengkhom@undp.org">vyas.yengkhom@undp.org</a></td>
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<td>16</td>
<td>Shri Rabi Mukhopadhyay</td>
<td>Vice President, FOSET</td>
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<td>17</td>
<td>Shri R Kondala Rao</td>
<td>Technical Advisor, Govt. Of Telangana,</td>
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<td>18</td>
<td>Shri Ranjit Sinha</td>
<td>Advisor, Tilothu Mahila Mandal, P.O. Tilothu, Rohtas Dt. Bihar-821 312</td>
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<td>19</td>
<td>Shri A V Pramod</td>
<td>Structural Engineer, MAHIJAA, #64/108, Doresanipalya, Bilekahalli, Bannerghatta road, Bangalore – 560 076</td>
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<td>20</td>
<td>Shri N Ashok</td>
<td>Executive Engineer</td>
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Proposed layout for Panchayat Bhawan building
Name of the state: Maharashtra

Technology: Rat-Trap bond masonry and Filler Slab roof
Covered area: 147 SQM (1580 SFT)

Team Members:
1) Shri Sunil Chandrashekhar Rahane, Sub Divisional Engineer Collector Office, Civil Lines, Wardha
2) Shri. Sanjay Dadaraoji Ugemuge, Sectional Engineer, Panchayat Samiti, Wardha
Proposed layout for Anganwadi Center building

Name of the state: Maharashtra

Technology: Rat-Trap bond and Filler Slab

Covered area: 55.7 SQM (600 SFT)

Team Members:
1) Shri Sunil Chandrashekhar Rahane, Sub Divisional Engineer Collector Office, Civil Lines, Wardha
2) Shri. Sanjay Dadaroji Ugemuge, Sectional Engineer, Panchayat Samiti, Wardha
PROPOSED LAYOUT FOR TYPICAL GRAM PANCHAYAT BHAWAN BUILDING

Name of the state: Uttarakhand
Team Members:
1) Shri. B. S. Bhandari, Assistant Engineer, State MGNREGA cell
2) Shri Rajendra Bisht, Assistant Engineer, DRDA
Technology: Rat-trap bond for wall, Filler slab for roof, Exposed brick masonry, CSEB block production under MGNREGA.
Built-up area: 132 SQM (FFL) + 70 SQM (SFL) = 202 SQM (2174 SFT)  
Scale: NTS
PROPOSED LAYOUT FOR TYPICAL ANGANWADI CENTRE BUILDING

Name of the state: Uttarakhand
Team Members:
1) Shri. B. S. Bhandari, Assistant Engineer, State MGNREGA cell
2) Shri Rajendra Bisht, Assistant Engineer, DRDA, Vikas Bhawan,
Technology: Rat-trap bond for wall, Filler slab for roof, Traditional R/R Masonry, CSEB block production under MGNREGA.
Covered area: 63.65 SQM (685 SFT)
1. RCC SLAB THICKNESS 5", REINFORCEMENT 10 mm @ 6" X 8".
2. INVERTED T-BEAM SIZE 1'-6" X 0'-9", REINFORCEMENT 16 mm Ø (5+4).
3. PLINTH BEAM SIZE 1'-6" X 9' WITH REINFORCEMENT 12mm Ø (4+4) & 8mm RINGS @ 6" C/C.
4. SILL / EAVES BAND SIZE 9" X 3", REINFORCEMENT: LONGITUDINAL 10mm Ø @ 2" AND TRANSVERSE 10 mm Ø @ 12" C/C.
5. Lintel Beam with size 9' X 6", REINFORCEMENT: LONGITUDINAL 3+2& 8 mm Ø RINGS @6" C/C.
6. PLINTH AREA:
   A. BRICK MASONARY S/S =1789.62 SFT, COST PER SFT 1504.00 /SFT.
   B. STONE MASONARY S/S = 2005.7 SFT, COST PER SFT 1536.00 /SFT.

USAGE OF APPROPRIATE TECHNOLOGY
- RAT TRAP MASONARY
- FILLER SLAB
- MUD BRICKS
- CSEB
- RANDOM RUBBLE MASONARY

PROJECT:
PANCHYAT BHAWAN
UNDER MGNREGA
STATE OF JAMMU & KASHMIR

STATE RESOURCE TEAM
1. PANVEZ MAJK
2. DAUP TIKO
3. QAUSER AMIN
4. ABDUL QAYoom CHALKOO
5. SUNIL DUTT RAZDAN
6. DEEPRA
7. RAJ KUMAR PANDITA
8. VIRENDER SINGH
1. RCC SLAB THICKNESS 5", REINFORCEMENT 10 mm Ø @ 6" X 8".
2. INVERTED T-BEAM SIZE 1'-6" X 0'-9", REINFORCEMENT 16 mm Ø (5+4).
3. SUSPENDED BEAM SIZE 1'-6" X 9" WITH REINFORCEMENT 16mm Ø 4 NO'S BOTTOM & 12mm Ø (3+2) NO'S TOP, 8mm RINGS @ 6" C/C
4. VERANDAH BEAM SIZE 9" X 9", REINFORCEMENT: LONGITUDINAL 12mm Ø 5 NO'S & 8 MM Ø RINGS @ 6" C/C
5. PLINTH BEAM SIZE 1'-6" X 9" REINFORCEMENT: LONGITUDINAL 12mm Ø (4+4) NO'S & 8 MM Ø RINGS @ 6" C/C
6. PROJECT COST: 8.72 LAC

PLINTH AREA = 717.10 SFT, COST PER SFT 1205.00 /SFT

USAGE OF APPROPRIATE TECHNOLOGY
- RAT TRAP MASONARY
- FILLER SLAB
- MUD BRICKS
- CSEB
- RANDOM RUBBLE MASONARY

PROJECT:
AAGANWARI CENTRE
STATE OF JAMMU & KASHMIR
STATE RESOURCE TEAM
1. PARVEZ MALIK
2. DALIP TIKOO
3. GAUSER AMIN
4. ABDUL QAYOOM CHALKOO
5. SUNIL DUTT RAZDAN
6. DEEP RAINA
7. RAJ KUMAR PANDITA
8. VIRENDER SINGH
PROPOSED LAYOUT FOR ANGANWADI CENTRE BUILDING BIHAR.

Name of the state: Bihar
Technology: Rat-trap bond masonry, Filler slab roof
Covered area: 65 SQM (700 SFT)
Team Members:
1) Shri. Vijay Kumar, E.E., R.D.D.,
2) Shri. Rudra Kumar, E.E., R.D.D.,
3) Shri. Raj Kumar Paswan, P.R. Bihar

Scale: NTS
PROPOSED LAYOUT FOR TYPICAL GRAM PANCHAYAT BUILDING

Name of the state: Jharkhand

Team Members:
1) Shri. Awdesh Sharma
2) Shri Santosh Kumar Singh
3) Shri Rajiv Kumar Mahto

Technology: Rat-trap bond for wall, Filler slab for roof

Covered area: 152 SQM (1611 SFT)

Scale: NTS

N
Proposed layout for Gram Sachivalaya building

Name of the state: Haryana, Punjab, Uttar Pradesh

Technology: Rat-Trap bond and Filler Slab

Covered area: 148 SQM (1600 SFT)

Team Members:
1) Shri. S.K. Sangawan, Haryana
2) Shri. Kulvir Karwal, Haryana
3) Shri. Chetan Prakash, Punjab
4) Shri. Lakhan Pal, Punjab
5) Shri. R.N.Pandey, Uttar Pradesh
6) Shri. Mukesh Kumar Sharma, Uttar Pradesh

SCALE: NTS
Filler Material:
Burnt Brick: 9" X 4.5" X 3"

Drawing Number: 2 a)  
Date of Issue: 5/04/2016

Drawing title: Beam and slab layout.

Project: Panchayat Building.

Note:
Concrete: M 20 grade.  
Steel: Fe 415 grade. (+)
Cover to reinforcement: Z
Indicates top additional reinforcement.
Development length is 50 times the dia of bar used.
Depth of beam includes depth of slab.
Dimensions: Feet (')
Inches ("")

Structural Consultants: MAHIJAA.  
Bangalore.
Filler Material:
Burnt Brick: 9" X 4.5" X 3".

Drawing Number: 2 b)  
Date of issue: 5/04/2016

Drawing title:
Slab reinforcement details.

Project: Panchayat Building.

Scale: NTS

Note:
Concrete: M 20 grade.
Steel: Fe 415 grade. (t)

covers a reinforcement: k

--- Indicates a substituted reinforcement.
Development length is 50 times the dia of bar used.
Depth of beam includes depth of slab.
Dimensions: Feet (') 
Inches ("")

Structural Consultants:
MAHIJAA.
Bangalore.
Filler Material:
Burnt brick: 9" X 7.5" X 3"

Note:
Concrete: M 20 grade.
Steel: Fe 415 grade. (†)
Cover to reinforcement: 3"
--------- Indicates top additional reinforcement.
Development length is 50 times the dia of bar used.
Depth of beam includes depth of slab.
Dimensions: Feet (')
Inches ("")
Proposed layout for Anganwadi Center building

Name of the state: Haryana, Punjab, Uttar Pradesh
Technology: Rat-Trap bond and Filler Slab
Covered area: 65 SQM (700 SFT)
Team Members:
1) Shri. S.K. Sangawan, Haryana
2) Shri. Kulvir Karwal, Haryana
3) Shri. Chetan Prakash, Punjab
4) Shri. Lakhman Pal, Punjab
5) Shri. R.N. Pandey, Uttar Pradesh
6) Shri. Mukesh Kumar Sharma, Uttar Pradesh

SCALE: NTS
Beam 1, 3, 6 & 7
9" X 9"

2 # 8 t
2 L 8 t @ 6" c/c
3 # 12 t

Beam 2
9" X 9"

2 # 8 t
2 L 8 t @ 6" c/c
2 # 10 t

Beam 4
9" X 14"

2 # 12 t
2 L 8 t @ 8" c/c
3 # 16 t + 1 # 12 t

Beam 5
9" X 14"

2 # 8 t
2 L 8 t @ 8" c/c
3 # 10 t
Min 6" 9" 3" 9" 3" 9"

Filler Material:
Burnt brick: 9" X 7.5" X 3"

Drawing Number: 1 d  
Date of Issue: 05/04/2016  
Drawing title: Typical filler slab details.  
Project: Anganwadi Building.

Note:
Concrete: M 20 grade.  
Steel: Fe-415 grade. (f)
Cover to reinforcement: Z
--------- Indicates top additional reinforcement.  
Development length is 30 times the dia of bar used.  
Depth of beam includes depth of slab.  
Dimensions: Feet (')  
Inches ("")

Structural Consultants: MAHIJAA.  
Bangalore.
PROPOSED LAYOUT FOR TYPICAL ANGANWADI CENTRE

BUILDING
Name of the state: Arunachal Pradesh
Technology: Bamboo-based technologies
Covered area: 56 SQM (600 SF)
Team Members: Shri. Nani Chatung
Scale: NTS