



For Office Use Only

GOVERNMENT OF BIHAR
GOVERNMENT OF BIHAR



SCHEDULE OF RATE
(Twelfth Edition)

EFFECTIVE FROM : 01-10-2020

Water Resources Department

INDEX			
ITEM NO.	DESCRIPTION	PAGE No.	
1	प्रस्तावना	I-III	
	विभागीय अनुसूचित दर निर्धारण समिति की अनुसूचित दर पुस्तिका-2020 के प्रकाशन के संबंध में बैठक की कार्यवाही	IV	
	राज्य अनुसूचित दर निर्धारण समिति द्वारा अनुसूचित दर पुस्तिका-2020 का अनुमोदन से संबंधित पत्र	V-VII	
	कार्य विभागों द्वारा सरकारी योजनाओं के लिए लघु खनिजों के उपयोग हेतु मालिकाना फीस (Seigniorage Fee) लागू करने से संबंधित अधिसूचना एवं पत्र	VIII-XIX	
	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा विभागीय अनुसूचित दर पुस्तिका-2020 का अनुमोदन एवं इससे संबंधित लिए गये निर्णय	1-4	
Chapter-I	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित श्रम दर (पत्रांक-35 दिनांक-11.05.2020)	05-10	
	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा दिनांक-09.07.2020, दिनांक-25.03.2020 एवं दिनांक-05.03.2020 की बैठक में सामग्रियों एवं यंत्र-संयंत्र के अनुमोदित दरों की सूची	11-28	
Chapter-II	List of Basic Rate of Materials	29-44	
Chapter-III	List of Uses Rate of Plant & Machinery	45-74	
Chapter-IV	Carriage of Materials	75-83	
Chapter-V	CANAL EMBANKMENT AND STRUCTURE		
5.1	Earth Work	Abstract	84-88
		Analysis of Rate	89-105
5.2	Canal Lining	Abstract	106-107
		Analysis of Rate	108-115
5.3	Concrete Work	Abstract	116-119
		Analysis of Rate	120-134
5.4	Masonry Work	Abstract	135-136
		Analysis of Rate	137-143
5.5	Plaster work	Abstract	144-145
		Analysis of Rate	146-150
5.6	Hume Pipe Laying	Abstract	151
		Analysis of Rate	152-155
5.7	Pitching and Piling	Abstract	156-161
		Analysis of Rate	162-184
5.8	Miscellaneous Work	Abstract	185
		Analysis of Rate	186-189

ITEM NO.	DESCRIPTION	PAGE No.	
Chapter-VI	BARRAGE AND WEIR		
6.1	Earth Work	Abstract	190-193
		Analysis of Rate	194-205
6.2	Drilling Work	Abstract	206-207
		Analysis of Rate	208-215
6.3	Concrete Work	Abstract	216-220
		Analysis of Rate	221-233
6.4	Masonry Work	Abstract	234-235
		Analysis of Rate	236-237
6.5	Plaster work	Abstract	238-239
		Analysis of Rate	240-241
6.6	Pitching & Piling	Abstract	242
		Analysis of Rate	243-244
6.7	Miscellaneous Work	Abstract	245
		Analysis of Rate	246
Chapter-VII	EARTHEN MASONARY AND CONCRETE DAM WITH SPILLWAY OUTLET INTAKE WELL, SURGE TANK AND TUNNELLING ETC.		
7.1	Earth Work	Abstract	247-254
		Analysis of Rate	255-285
7.2	Drilling Work	Abstract	286-287
		Analysis of Rate	288
7.3	Concrete Work	Abstract	289-292
		Analysis of Rate	293-294
7.4	Masonry Work	Abstract	295-296
		Analysis of Rate	297-298
7.5	Plaster work	Abstract	299-300
		Analysis of Rate	301
7.6	Pitching & Piling	Abstract	302
		Analysis of Rate	303-304
7.7	Tunnel Work	Abstract	305
		Analysis of Rate	306-311
7.8	Miscellaneous Work	Abstract	312-313
		Analysis of Rate	314-317
Specification of Materials			
Annexures	Empty Cement Bag, Nylon crate size (1m x 1m x 1m), Non woven mega Geo Bag size (2.0m x 1.5m), P.P Rope Gabion size (1.8m x 1.8m x 0.5m & 1.8m x 1.2m x 0.5m), Bamboo, Sal Ballah, Non woven Geo Bag size (1m x 0.7m) and New Empty Cement Bag.	319-326	

प्रस्तावना

बिहार लोक निर्माण संहिता की कड़िका: 103 के संशोधन के आलोक में बिहार सरकार, पथ निर्माण विभाग द्वारा निर्गत संकल्प-सह-पठित ज्ञापांक-01/बी0-12-2003-5762 (एस0) डब्लू0ई0, पटना दिनांक 05-06-2006 की कड़िका 2 (iii) में यह प्रावधान किया गया है कि अनुसूचित दर के निर्धारण के लिये दर विश्लेषण तथा सामग्रियों का दर निर्धारण पथ निर्माण विभाग के संयोजन में गठित राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा किया जायेगा।

जल संसाधन विभाग के पत्रांक-1/पी0 एम0 सी0/विविध/27/2007-91 पटना, दिनांक 09.02.2017 के द्वारा विभागीय अनुसूचित दर निर्धारण समिति का गठन किया गया है, जिसके वर्तमान सदस्य निम्नवत् हैं:

1. ई0 रवीन्द्र कुमार शंकर
अभियंता प्रमुख, मुख्यालय-सह-अध्यक्ष, विभागीय अनुसूचित दर निर्धारण समिति।
2. ई0 राजेश कुमार
अभियंता प्रमुख (बाढ़ नियंत्रण एवं जल निस्सरण)-सह-सदस्य, विभागीय अनुसूचित दर निर्धारण समिति।
3. ई0 अशोक कुमार चौधरी
अभियंता प्रमुख (सिंचाई सृजन)-सह-सदस्य विभागीय अनुसूचित दर निर्धारण समिति।
4. ई0 नरेन्द्र कुमार तिवारी
मुख्य अभियंता (यांत्रिक)-सह-सदस्य-विभागीय अनुसूचित दर निर्धारण समिति।
5. ई0 सुजीत कुमार
निदेशक, क्रय, भंडार एवं सामग्री प्रबंधन निदेशालय-सह-सदस्य सचिव, विभागीय अनुसूचित दर निर्धारण समिति।

राज्य स्तरीय अनुसूचित दर निर्धारण समिति, पथ निर्माण विभाग द्वारा अनुमोदित श्रमदर, मशीन दर, सामग्रियों का दर तथा कार्य मदों के दर विश्लेषण के आधार पर जल संसाधन विभाग अनुसूचित दर पुस्तिका का बारहवां संस्करण तैयार किया गया है जिसमें निम्नलिखित प्रावधान किये गये हैं:-

1. अनुसूचित दर पुस्तिका-2020 को तैयार करने में अपनायी गयी प्रक्रिया एवं इसमें प्रयुक्त सभी सामग्रियों, श्रम दर, प्लान्ट्स एवं मशीनरी का Usages Charge तथा Carriage दर एवं कार्य मदों का दर (विश्लेषण सहित) संयोजक, राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना के पत्रांक-मु0नि0 (पथ) 22/2007- 62(अनु0) पटना, दिनांक-24.09.2020 द्वारा अनुमोदित है।
2. राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा प्रदत्त उपर्युक्त अनुमोदन संबंधी पत्र एवं लिये गए निर्णय अनुसूचित दर पुस्तिका-2020 में संलग्न किया गया है। अनुमोदित सभी निर्णय यथामान्य हैं।

(1)

3. जल संसाधन विभाग के River Valley/ Irrigation & Flood Control से संबंधित कार्य मर्दों के दर विश्लेषण में Prime Cost के लिये तकनीकी परीक्षण कोषांग के Chapter 8, 9 & 10 के Format को आधार माना गया है।
4. रॉयल्टी एवं मालिकाना फीस (Segniorage Fee) का प्रावधान एवं कटौती खान एवं भूतत्व विभाग की अधिसूचना सं०-3387 दिनांक-27.09.2019, अधिसूचना सं०-3174 दिनांक-17.09.2019 तथा अधिसूचना सं०-3947 दिनांक-15.11.2019 एवं इस संबंध में राज्य स्तरीय अनुसूचित दर निर्धारण समिति के पत्रांक-51 दिनांक-02.12.2019 द्वारा दिये गए निदेश के आलोक में किया गया है। इसे विभागीय पत्रांक-599 दिनांक-06.12.2019 द्वारा भी संसूचित किया गया है। इस क्रम में खान एवं भूतत्व विभाग की रॉयल्टी/Segniorage Fee से संबंधित अद्यतन अधिसूचना तथा समय-समय पर प्राप्त होने वाले निदेशों के अनुरूप कार्रवाई सुनिश्चित करने की जिम्मेवारी क्षेत्रीय पदाधिकारियों की होगी।
5. इस अनुसूचित दर पुस्तिका के दर विश्लेषण में Goods & Service Tax (G.S.T) एवं Labour Cess (1%) शामिल नहीं है, परन्तु रॉयल्टी शामिल है। G.S.T एवं Labour Cess सम्मिलित करने की जिम्मेवारी क्षेत्रीय पदाधिकारियों की होगी।
6. यदि परिस्थितिवश Finished Rate की निविदा के विरुद्ध संवेदक को विभाग द्वारा निर्माण सामग्री निर्गत किया जाता है तो वैसी परिस्थिति में सामग्री के दर पर तेरह प्रतिशत (13%) जोड़कर वसूली (Recovery) का प्रावधान किया जाय, ताकि विभागीय सामग्री पर इसकी सुरक्षा के विरुद्ध संवेदक को मात्र दो प्रतिशत (2%) का ही संवेदक लाभ (C.P) प्राप्त हो सके। श्रम दर की निविदा में निर्माण में लगे संवेदक को विभागीय सामग्री पर कोई संवेदक लाभ (C.P) देय नहीं होगा। यदि परिस्थितिवश निर्माण सामग्री की आपूर्ति ली जाती है तो निर्माण सामग्री की निविदा में सामग्री के दर पर मात्र दस प्रतिशत (10%) संवेदक लाभ (C.P) का प्रावधान किया जाय।
7. दिनांक-19.06.2007 को सम्पन्न विभागीय अनुसूचित दर की बैठक में लिए गए निर्णयानुसार चूँकि यांत्रिक साधन से मिट्टी ढुलाई कर कार्य कराने में ट्रक द्वारा ढुलाई कर कार्य कराना सर्वाधिक महंगा पड़ता है, अतः जल संसाधन विभाग के अन्तर्गत यांत्रिक साधन से मिट्टी कार्य में ट्रक से ढुलाई के दर का प्रावधान नहीं किया जाय।
8. यदि जल संसाधन विभाग द्वारा पथ निर्माण, भवन निर्माण, लोक स्वास्थ्य अभियंत्रण या विद्युत से संबंधित कार्य कराया जाता है तो क्रमशः संबंधित विभाग यथा पथ निर्माण विभाग, भवन निर्माण विभाग, लोक स्वास्थ्य अभियंत्रण विभाग या विद्युत बोर्ड में लागू दर एवं दर विश्लेषण का हू-बहू पालन किया जायेगा।
9. अनुसूचित दर पुस्तिका-2020 विभागीय वेबसाईट www.wrd.bih.nic.in पर भी उपलब्ध है।
10. अनुसूचित दर पुस्तिका-2020 के संबंध में सभी (विशेषकर विभागीय क्षेत्रीय अधीक्षण अभियंताओं) से अनुरोध है कि कार्य मर्दों के दर विश्लेषण एवं विशिष्टियों का गहन अध्ययन किया जाय एवं आवश्यक सुधार हेतु कोई सुझाव हो तो इसे जल संसाधन विभाग के विभागीय अनुसूचित दर निर्धारण समिति को उपलब्ध कराना सुनिश्चित की जाय।

(11)

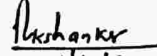
12

11. अनुसूचित दर पुस्तिका-2020 के पुनरीक्षण एवं वर्तमान संस्करण को तैयार करने में यथा संभव सावधानी बरती गई है, फिर भी यदि कुछ त्रुटि व्यवहार में लाने के क्रम में दृष्टिगोचर हो तो अनुरोध है कि उन त्रुटियों को विभागीय अनुसूचित दर निर्धारण समिति को जानकारी अविलम्ब दी जाय ताकि सम्यक विचारोपरांत उन त्रुटियों का समुचित निराकरण किया जा सके ।

वर्तमान अनुसूचित दर पुस्तिका को तैयार कर प्रकाशित करने में विभागीय अनुसूचित दर निर्धारण समिति के सभी सदस्यों के साथ-साथ क्रय, भंडार एवं सामग्री प्रबंधन निदेशालय के श्री विजय कुमार, उपनिदेशक, श्री संतोष प्रसाद सिंह, सहायक अभियंता और कार्यालय के समस्त कर्मियों का विशेष योगदान रहा है। उन सभी पदाधिकारियों एवं कर्मचारियों के प्रति समिति आभार व्यक्त करती है।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति के अध्यक्ष एवं सभी सदस्यों को भी अनुसूचित दर पुस्तिका-2020 के पुनरीक्षण, सहयोग एवं सुझावों के लिए उनके प्रति आभार प्रकट किया जाता है।

यह अनुसूचित दर पुस्तिका दिनांक-01.10.2020 से प्रभावी है।


11/10/2020

(रवीन्द्र कुमार शंकर)

अभियंता प्रमुख (मुख्यालय)-सह-अध्यक्ष
विभागीय अनुसूचित दर निर्धारण समिति
जल संसाधन विभाग, विहार, पटना

(III)

बिहार सरकार
जल संसाधन विभाग

दिनांक-01.10.2020 को अभियंता प्रमुख (मुख्यालय) सह-अध्यक्ष विभागीय अनुसूचित दर निर्धारण समिति, जल संसाधन विभाग, बिहार, पटना के कार्यालय कक्ष में आहूत बैठक की कार्यवाही।

उपस्थिति:-

1. ई0 रवीन्द्र कुमार शंकर
अभियंता प्रमुख, मुख्यालय-सह-अध्यक्ष, विभागीय अनुसूचित दर निर्धारण समिति।
2. ई0 राजेश कुमार,
अभियंता प्रमुख (बाढ़ नियंत्रण एवं जल निस्सरण)-सह-सदस्य, विभागीय अनुसूचित दर निर्धारण समिति।
3. ई0 अशोक कुमार चौधरी,
अभियंता प्रमुख (सिंचाई सृजन)-सह-सदस्य विभागीय अनुसूचित दर निर्धारण समिति।
4. ई0 नरेन्द्र कुमार तिवारी,
मुख्य अभियंता (यांत्रिक)-सह-सदस्य-विभागीय अनुसूचित दर निर्धारण समिति।
5. ई0 सुजीत कुमार,
निदेशक, क्रय, भंडार एवं सामग्री प्रबंधन निदेशालय-सह-सदस्य सचिव, विभागीय अनुसूचित दर निर्धारण समिति।

राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा जल संसाधन विभाग, बिहार, पटना के अनुसूचित दर पुस्तिका-2020 का अनुमोदन संयोजक, राज्य स्तरीय अनुसूचित दर निर्धारण समिति -सह-अभियंता प्रमुख (मुख्यालय) पथ निर्माण विभाग, बिहार, पटना के पत्रांक- मु0नि0 (पथ)22/2007 62 (अनु0) पटना दिनांक-24.09.2020 से प्राप्त हुआ है जिसे दिनांक-01.10.2020 से प्रभावी करने का निर्देश है।

समिति का निर्णय:- विभागीय अनुसूचित दर निर्धारण समिति के सभी सदस्यों द्वारा विमर्शोपरान्त जल संसाधन विभाग के अनुसूचित दर पुस्तिका- 2020 को दिनांक-01.10.2020 से प्रभावी करते हुए प्रकाशन का निर्णय लिया गया। साथ ही अनुसूचित दर पुस्तिका-2020 को विभागीय वेबसाइट-www.wrd.bih.nic.in पर अपलोड करने का भी निर्णय लिया गया।

(सुजीत कुमार)
सदस्य सचिव

विभागीय अनुसूचित दर निर्धारण
समिति-सह-निदेशक,
क्रय भंडार एवं सामग्री प्रबंधन निदेशालय,
जल संसाधन विभाग, बिहार, पटना

(अशोक कुमार चौधरी)
सदस्य

विभागीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख (सिंचाई सृजन)
जल संसाधन विभाग, बिहार, पटना।

(रवीन्द्र कुमार शंकर)
अध्यक्ष

विभागीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख, मुख्यालय,
जल संसाधन विभाग, बिहार, पटना।

(1V)

(नरेन्द्र कुमार तिवारी)
सदस्य

विभागीय अनुसूचित दर निर्धारण
समिति-सह- मुख्य अभियंता (यांत्रिक)
जल संसाधन विभाग, बिहार, पटना

(राजेश कुमार)
सदस्य

विभागीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख
(बाढ़ नियंत्रण एवं जल निस्सरण)
जल संसाधन विभाग, बिहार, पटना।

Received
Sorred
24/9/2020

बिहार सरकार
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
पथ निर्माण विभाग, बिहार, पटना।
E-mail ID-sorred2012@gmail.com

पत्रांक :- मु0नि0 (पथ) 22/2007
प्रेषक,

62 (अनु०)

पटना, दिनांक :- 24/9/2020

राज कुमार लाल,
संयोजक,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

सेवा में,

अभियंता प्रमुख (मुख्यालय)
-सह-अध्यक्ष, विभागीय अनुसूचित दर निर्धारण समिति,
जल संसाधन विभाग, बिहार, पटना।

विषय :-

जल संसाधन विभाग, बिहार, पटना से संबंधित अनुसूचित दर पुस्त 2020 पर राज्यस्तरीय अनुसूचित दर निर्धारण समिति द्वारा दिनांक-23.09.2020 की बैठक में लिये गये निर्णय का प्रेषण।

प्रसंग :-
महाशय,

आपका पत्रांक-02/क्रय-08-01/2012 (खंड-7)-414/25-06-2020

उपर्युक्त विषयक प्रासंगिक पत्र के आलोक में राज्यस्तरीय अनुसूचित दर निर्धारण समिति द्वारा दिनांक-23.09.2020 की बैठक में जल संसाधन विभाग, बिहार, पटना से संबंधित अनुमोदित अनुसूचित दर पुस्त 2020 की प्रति आवश्यक कार्रवाई हेतु समर्पित की जा रही है।

- अनु०- 1. निर्णय (कार्यवाही) की प्रति।
2. अनुमोदित अनुसूचित दर पुस्त 2020 की प्रति (कुल-317 पृष्ठ)।
3. Non Woven Geo bag एवं New Empty Cement bags की दर-अनुमोदन की प्रति।

विश्वासभाजन

(राज कुमार लाल)
संयोजक

राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

(V)

दिनांक-23.09.2020 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक की कार्यवाही में लिये गये निर्णय :-

1. जल संसाधन विभाग, बिहार, पटना से प्राप्त अनुसूचित दर पुस्त 2020 से संबंधित प्रस्ताव के संबंध में-जल संसाधन विभाग, बिहार, पटना के विभागीय अनुसूचित दर निर्धारण समिति द्वारा अनुसूचित अनुसूचित दर पुस्त 2020 को अनुमोदित करने से संबंधित प्रस्ताव प्राप्त हुआ है। इस पर समिति के सदस्यों द्वारा गहन विचार विमर्श किया गया। वर्तमान अनुसूचित दर पुस्त 2020 का दर-विश्लेषण मुख्यतः दिनांक-07.12.2007 एवं दिनांक-04.07.2019 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक में जल संसाधन विभाग के अनुमोदित अनुसूचित दर प्रपत्र के आधार पर तैयार किया गया है। समिति के सदस्यों द्वारा सम्यक् विचारोपरांत सर्वसम्मति से अनुसूचित दर पुस्त 2020 में प्रयुक्त की जानेवाली निर्माण सामग्रियों (Non woven Geo bag of size 1M×0.7M एवं Empty new Cement bag Conforming to IS 11652:2000 सहित), Plant Machinery एवं कार्य मदों के दर (दर-विश्लेषण सहित) को अनुमोदित करने का निर्णय लिया गया।
समिति द्वारा सर्वसम्मति से जल संसाधन विभाग, बिहार, पटना के अनुसूचित दर पुस्त 2020 को दिनांक-01.10.2020 से लागू करने का निर्णय लिया गया।
2. विभिन्न स्टील कम्पनियों यथा-RUNGTA Mines Ltd. (Rungta steel), M/s Reliable Sponge Pvt. Ltd., Shyam Sel & Power Ltd., Shyam Metalics and Energy Ltd., Captain steel India Ltd., JSW steel Limited, Monnet Ispat & Energy Ltd., SPS steel Rolling Mills Ltd., (Elegant steel), Mittal Tech steel & Cement Pvt. Ltd. इत्यादि द्वारा पथ निर्माण विभाग के अनुसूचित दर पुस्त में Empanelment से संबंधित दिये गये आवेदन के संबंध में-इस संबंध में समिति द्वारा सम्यक् विचारोपरांत सर्वसम्मति से निर्णय लिया गया कि एक बार पुनः MORT&H भारत सरकार, PWD-उत्तर प्रदेश, PWD-उड़ीसा एवं PWD-पश्चिम बंगाल को Email/पत्र के माध्यम से Steel Vendors के Empanelment हेतु Eligibility Criteria से संबंधित जानकारी उपलब्ध कराने हेतु अनुरोध किया जाय।
3. पथ निर्माण विभाग के पथ निर्माण में Prism Johnson Limited द्वारा निर्मित Admixture के Approval हेतु दिए गए आवेदन के संबंध में-इस संबंध में समिति द्वारा सम्यक् विचारोपरांत सर्वसम्मति से निर्णय लिया गया कि किसी भी कम्पनी विशेष का नाम पथ निर्माण विभाग के अनुसूचित दर पुस्त में सूचीबद्ध करना उचित नहीं है।
4. पुल निर्माण कार्य हेतु विभिन्न ब्यारों के कूपों के 40 मीटर गहराई के बाद किये जाने वाले कूप-गलाई के दर के संबंध में-पूर्व में दिनांक-25.03.2020 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक में Well-Foundation के संदर्भ में 40 मीटर की गहराई के कूप-गलाई दर को ही 40 मीटर से अधिक गहराई के कूप गलाई दर के रूप में अनुमोदित

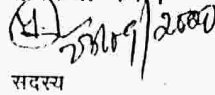
(VI) P.T.O. 23/9

किया गया था, जिसपर बिहार राज्य पुल निर्माण निगम द्वारा Pro-rata basis के आधार पर पुनः विचार करते हुए दर-अनुमोदन करने का अनुरोध किया गया है। इस संबंध में समिति के सभी सदस्यों द्वारा पुनः पुल निर्माण कार्य हेतु विभिन्न ब्यासों के कूपों के 40 मीटर गहराई से अधिक किये जाने वाले कूप गलाई के दर पर गहन विचार-विमर्श किया गया। विमर्शोपरंतु समिति के सभी सदस्यों द्वारा सर्वसम्मति से यह निर्णय लिया गया कि जबतक MORT&H Standard Data Book में 40 मीटर से अधिक गहराई के कूप-गलाई का दर सम्मिलित नहीं होता है, तबतक किसी पुल निर्माण के well-foundation में 40 मीटर से अधिक गहराई के कूप गलाई के दर निर्धारण में, 30 मीटर से 40 मीटर के बीच कूप-गलाई में सन्निहित MORT&H Standard Data Book के प्राक्धान अक्षरशः अनुमोदित किया जाता है। उक्त निर्णय सभी पुल परियोजनाओं में frequent use एवं आवश्यकता के आधार पर मान्य होगा।

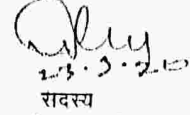
बैठक सधन्यवाद समाप्त किया गया।


सदस्य

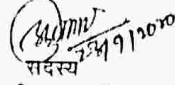
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना।


सदस्य

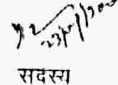
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, ग्रामीण कार्य विभाग, बिहार, पटना


सदस्य

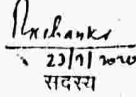
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना


सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता, (विद्युत) भवन निर्माण विभाग, बिहार, पटना


सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षक कोषांग, मिगसानी विभाग, बिहार, पटना


सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, मुख्यालय जल संसाधन विभाग, बिहार, पटना।


संयोजक

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना

(VII)

संचिका सं०-०२/क्रय-०८-०१/२०१२-(खंड-VI) 399

बिहार सरकार
जल संसाधन विभाग

प्रेषक,

अंजनी कुमार सिंह
अध्यक्ष
विभागीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय)
जल संसाधन विभाग, बिहार, पटना

सेवा में,

सभी मुख्य अभियंता,
जल संसाधन विभाग, बिहार, पटना

पटना/दिनांक- 6-12-19


विषय- कार्य विभागों द्वारा सरकारी योजनाओं के लिए लघु खनिजों के उपयोग हेतु मालिकाना फीस (Seigniorage Fee) लागू करने के संबंध में।

प्रसंग- संयोजक, राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, पथ निर्माण विभाग, बिहार, पटना का पत्रांक-51 (अनु०) दिनांक-02.12.2019, खान एवं भूतत्व, बिहार, पटना के पत्रांक-3174 दिनांक-17.09.2019 एवं 3947 दिनांक-15.11.2019

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि खान एवं भूतत्व, बिहार, पटना के प्रासंगिक पत्रों द्वारा कार्य विभागों में सरकारी परियोजनाओं के लघु खनिजों (पथ-बालु, पत्थर, मिट्टी इत्यादि) के उपयोग हेतु मालिकाना फीस (Seigniorage Fee) लागू करने से संबंधित निर्देशों के आलोक में दिनांक-22.11.2019 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक में लिये गए निर्णय की कार्रवाई की छायाप्रति संलग्न करते हुए अनुरोध है कि उक्त निर्णय के अनुरूप प्राक्कलन में मालिकाना फीस (Seigniorage Fee) का प्रावधान एवं विपत्र से कटौती करने की कार्रवाई की जाय।
अनु०-यथोक्त।

विश्वासभाजन


(अंजनी कुमार सिंह)

अध्यक्ष

विभागीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय)
जल संसाधन विभाग, बिहार, पटना
दिनांक- 6-12-19

दिनांक- 599

प्रातिनिधि- कार्यपालक अभियंता, योजना एवं मॉनिटरिंग प्रमंडल संख्या-2 सह प्रभारी कार्यालय विभाग, जल संसाधन विभाग, बिहार, पटना को संयोजक, राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, पथ निर्माण विभाग, बिहार, पटना का पत्रांक-51 (अनु०) दिनांक-02.12.2019 की छायाप्रति संलग्न करते हुए निर्देशित किया जाता है कि इसे विभागीय वेबसाइट पर अपलोड किया जाय।
अनु०-यथोक्त।
(अंजनी कुमार सिंह)

अध्यक्ष

विभागीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय)
जल संसाधन विभाग, बिहार, पटना

(VIII)

10/1/2020

001.jpg

15
अभियंता
04/12/2019

31/11/19

बिहार सरकार
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
पथ निर्माण विभाग, बिहार, पटना।
E-mail ID-sorrtd2012@gmail.com

पत्रांक :- गु0नि0(पथ)- 02/2006 अंश-II 51 (अ-क) पटना दिनांक :- 02/12/2019
प्रेषक,

भवानी नन्दन,
संयोजक
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
पथ निर्माण विभाग, बिहार, पटना।

CE (P&M)/
D/r. D.P.T
Andix
03/11/19

सेवा में,

1. अभियंता प्रमुख,
ग्रामीण कार्य विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
2. अभियंता प्रमुख (मुख्यालय),
जल संसाधन विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
3. अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
4. अभियंता प्रमुख,
तकनीकी परीक्षण कोषांग, निगरानी विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
5. अभियंता प्रमुख,
भवन निर्माण विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
6. अभियंता प्रमुख,
लघु जल संसाधन विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
7. मुख्य अभियंता (असैनिक),
बिहार स्टेट पावर होल्डिंग कंपनी लिमिटेड-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
8. मुख्य अभियंता (विद्युत),
भवन निर्माण विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।

विषय :-

राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा दिनांक-22.11.2019 की बैठक में लिये गये निर्णय से संबंधित कार्यवाही की प्रति के प्रेषण के संबंध में।

उपर्युक्त विषय के संबंध में कहना है कि दिनांक-22.11.2019 की बैठक में राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा लिये गये निर्णय की कार्यवाही की प्रति आवश्यक कार्रवाई हेतु समर्पित की जाती है।

अनु0-यथोक्त।

661
04-12-2019

अभियंता प्रमुख (मुख्यालय)
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
पथ निर्माण विभाग, बिहार, पटना।
3/83
03/12/19

विश्वरामाजन,

(भवानी नन्दन)
संयोजक,

राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
पथ निर्माण विभाग, बिहार, पटना।

31/11/19

(IX)

:: 2 ::

(vi) Bill of Quantity (B.O.Q.) में Work Value, GST Value, Labour Cess Value एवं मालिकाना फीस (Seigniorage Fee) Value का अलग-अलग उल्लेख किया जाय।

तत्संबंधी उदाहरण तालिका (Model Calculation Sheet) निम्न प्रकार है :-

- (a) Estimated Amount (प्राक्कलित राशि) including Carriage, overhead charge (excluding VAT/GST), Contractor Profit, Royalty but excluding GST, Labour Cess & Seigniorage Fee
="A"
- (b) Work Contract GST in Percentage
="Y" %
- (c) Contract GST Amount
="B"= $\frac{AY}{100}$
- (d) Labour Cess@1%
="C"= $A \times 0.01$
- (e) प्राक्कलन में सम्मिलित रॉयल्टी सहित लघु खनिज का Basic मूल्य (हुलाई रहित)
="D"
- (f) मालिकाना फीस (Seigniorage Fee)
रॉयल्टी सहित Basic लघु खनिज मूल्य पर 10 प्रतिशत की दर से
="E"= $D \times 0.10$
- (g) Bill of Quantity (B.O.Q.)

Work Value =A
GST Value =B
Labour Cess =C
Seigniorage Fee =E

- (व) वैध खदान से खनिज क्रय के समर्थन में संवेदक अपने विपत्रों के साथ खनन विभाग द्वारा निर्गत ई0 चालान की प्रति संलग्न करेंगे, जिसकी जाँच संबंधित कार्य विभागों द्वारा ही की जायेगी। विपत्रों के साथ खनिज क्रय के साक्ष्य स्वरूप ई0 चालान संलग्न नहीं किये जाने की स्थिति में संवेदकों के विपत्र से मालिकाना फीस के अतिरिक्त निर्धारित दर पर रॉयल्टी की वसूली भी कार्य विभागों द्वारा की जायेगी। साथ ही नियमाधीन अन्य कार्रवाई हेतु ऐसे संवेदकों की पूर्ण सूची कार्य विभागों द्वारा खान एवं भूतत्व विभाग को उपलब्ध कराया जायेगा।
- (ख) साधारण मिट्टी निजी जमीन अथवा सरकारी भूमि से प्राप्त करने की स्थिति में विहार खनिज (समानुदान अवैध खनन, परिवहन एवं भंडारण निवारण) नियमावली, 2019 के सारे प्रावधान लागू होंगे।
- (ज) निजी/सरकारी भूमि से नियमानुसार साधारण मिट्टी प्राप्त करने की स्थिति में व्यवहृत मिट्टी के संबंध में संवेदक द्वारा समर्पित विपत्र के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट साक्ष्य स्वरूप संलग्न रहने की स्थिति में सत्यापनोपरांत सिर्फ स्वामित्व की 10 प्रतिशत मालिकाना फीस के रूप में वसूली की जायेगी। जिन विपत्रों के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट संवेदक साक्ष्य स्वरूप विपत्रों के साथ संलग्न नहीं किये होंगे या सत्यापनोपरांत गलत पाये जायेंगे तो वैसी स्थिति में प्रतिघनमीटर वर्तमान स्वामित्व दर 33/रु0 के अलावे 10 प्रतिशत मालिकाना फीस 3.30/- रु0 की कटौती संवेदक के विपत्र से की जायेगी एवं नियमाधीन अन्य कार्रवाई हेतु ऐसे संवेदकों की पूर्ण सूची कार्य विभागों द्वारा खान एवं भूतत्व विभाग को उपलब्ध कराया जायेगा।

 P.T.O.


(XI)

:: 3 ::

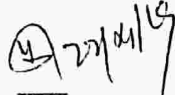
(इ) बिहार खजिन नियमावली, 2019 के नियम 37 (2) में सिंचाई विभाग द्वारा नहर तथा जल विकास प्रणाली के संधारण की प्रक्रिया में निष्कासित खनिजों के लिए खनिज निपटाय परमिट, लघु खनिजों के विनिर्दिष्ट दरों पर रॉयल्टी के पूर्व भुगतान पर दिये जाने का प्रावधान है। साथ ही उक्त नियमावली के नियम 37 (3) में विनिर्दिष्ट आपात स्थितियों के लिए समाहर्ता द्वारा लघु खनिजों के विनिर्दिष्ट दरों पर रॉयल्टी के पूर्व भुगतान पर परमिट दिये जाने का प्रावधान है। ऐसी स्थिति में संवेदक द्वारा समर्पित विपत्र के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट साक्ष्य स्वरूप संलग्न रहने की स्थिति में सत्यापनोपरांत सिर्फ स्वामिख की 10 प्रतिशत मालिकाना फीस के रूप में वसूली की जायेगी। जिन विपत्रों के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट संवेदक द्वारा साक्ष्य स्वरूप विपत्रों के साथ संलग्न नहीं किये होंगे या सत्यापनोपरांत गलत पाये जायेगे तो वैसी स्थिति में स्वामिख एवं मालिकाना फीस की वसूली की जायेगी।

2. अन्यान्य :-


(a) माननीय उच्च न्यायालय, पटना के **CWJC No.-12823 of 2019 SRMB Srijan Pvt. Ltd. V/s The state of Bihar & Others** से संबंधित **Supplementary Affidavit हेतु Statment of Fact के संबंध में** :- समिति के सदस्यों द्वारा सम्यक् विचारोपरांत सर्वसम्मति से **CWJC No.-12823 of 2019 SRMB Srijan Pvt. Ltd. V/s The state of Bihar & Others** में **Supplementary Affidavit हेतु Statment of Fact** को अनुमोदित करने का निर्णय लिया गया।


22/11/19
सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना।


22/11/19
सदस्य

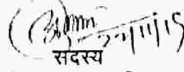
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, ग्रामीण कार्य विभाग, बिहार, पटना


सदस्य

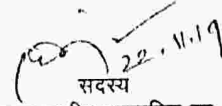
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (असैनिक) बिहार स्टेट पावर होल्डिंग कंपनी लि०, बिहार, पटना


सदस्य

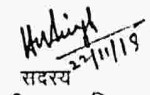
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता, (विद्युत) भवन निर्माण विभाग, बिहार, पटना


22.11.19
सदस्य

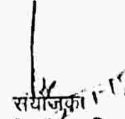
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग, निगरानी विभाग, बिहार, पटना


सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना


सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, मुख्यालय जल संसाधन विभाग, बिहार, पटना।


संयोजक

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, पथ निर्माण विभाग, बिहार, पटना।

(XII)



बिहार गजट

असाधारण अंक

बिहार सरकार द्वारा प्रकाशित

26 भाद्र 1941 (शुक्र)
(सं० पटना 1068) पटना, मंगलवार, 17 सितम्बर 2019

खान एवं भूतत्व विभाग

अधिसूचना

17 सितम्बर 2019

सं० 4/वी०गु०-20-93/18-3174/एम०—खान एवं भूतत्व (विकास एवं विनियमन) अधिनियम, 1957 (1957 का अधिनियम 67) की धारा 15 सहसहित धारा 23ग तथा धारा 26 के अधीन प्रदत्त शक्तियों का प्रयोग करते हुए बिहार के राज्यपाल निम्नलिखित नियमावली बनाते हैं—

बिहार खनिज (समानुदान, अवैध खनन, परिवहन एवं भंडारण निवारण) नियमावली, 2019

अध्याय-1

प्रारंभिक

1. संक्षिप्त नाम, विस्तार एवं आरंभ—
 - (1) यह नियमावली बिहार खनिज (समानुदान अवैध खनन, परिवहन एवं भंडारण निवारण) नियमावली, 2019 कही जा सकेगी।
 - (2) इसका विस्तार संपूर्ण बिहार राज्य में होगा।
 - (3) यह इसके राजपत्र में प्रकाशन की तिथि से प्रवृत्त होगी।
2. परिभाषाएँ— इस नियमावली, जब तक संदर्भ अन्यथा अपेक्षित न हो—
 - (i) "अधिनियम" से अभिप्रेत है खान और खनिज (विकास एवं विनियमन) अधिनियम, 1957 (1957 का अधिनियम 67) ;
 - (ii) "समाहर्ता" से अभिप्रेत है किसी जिले का समाहर्ता-सह-जिला दण्डाधिकारी अथवा समाहर्ता-सह-जिला दण्डाधिकारी की शक्तियों का प्रयोग तथा कृत्यों का अनुपालन करने हेतु सरकार द्वारा नियुक्त कोई व्यक्ति ;
 - (iii) "सक्षम पदाधिकारी" से अभिप्रेत है—
 - (क) भारतीय वन अधिनियम 1927 (केन्द्रीय अधिनियम XVI 1927) के अधीन सुरक्षित और संरक्षित वन के रूप में अधिसूचित भूमि में उत्खनन अनुज्ञापत्र की दशा में जहाँ वार्षिक खनन कार्य केवल सतह से अथवा पाँच फीट से अनधिक गहराई से कुछ हटाना मात्र हो, तथा केवल 10000 घन फीट की सीमा तक हो संबंधित सुरक्षित और संरक्षित क्षेत्र का प्रमंडलीय वन पदाधिकारी;

(XIII)

प्रपत्र-17 में बंध चालान के बिना खनिज के परिवहन की दशा में खनिज के मुक्त गृह्य और जुगाना, जिसे दस हजार रुपये तक बढ़ाया जा सकेगा, वाहन के प्रगती व्यक्ति से वसूला जाएगा और सरकारी शीर्ष में जमा किया जा सकेगा। शर्तों के संग्रहण और जमा की रीति एवं औपचारिकताएँ विभाग द्वारा, समय-समय पर विनिश्चित की जाएगी :

परन्तु जब वाहन में लदा हुआ खनिज की मात्रा चलान में उल्लेखित मात्रा से गिना हो तो प्राधिकृत अधिकारी उस जुगाने के साथ, जिसे दस हजार रुपये तक बढ़ाया जा सकेगा केवल अंतर की मात्रा के लिए खनिज के गृह्य भी वसूली कर सकेगा। मूल्यांकन की गई मात्रा का निष्पत्ति केवल नेत्रानुमान से न कर धर्मकौटा से किया जायेगा।

अधिकृत दण्ड की राशि के संग्रहण/जमा करने हेतु विभाग द्वारा मनी स्वीद संबंधित सहायक निदेशक/खनिज विकास पदाधिकारी/खान निरीक्षक को निर्गत किया जायेगा जो दण्ड की राशि मनी स्वीद के माध्यम से प्राप्त कर सरकारी कोष में जमा करेंगे।

- (3) जो कोई भी बंध तोड़/परगिट के बिना लघु खनिज हटाता है अथवा जिराकी और से इस नियमावली के विरुद्ध ऐसा हटाया जाता है वह ऐजेंट, प्रबंधक टीकेदार, उपपट्टाधारी लघु खनिज का अधिकारिय हटाए जाने का पथकार होना और उसका मूल्य चुकाने का दायी होगा और सरकार उस व्यक्ति से उस अवधि के लिए जिराके दौरान भूमि इस व्यक्ति के अधिगो किराी विधिपूर्ण प्राधिकार के बिना इस नियमावली या तत्समय प्रवृत् किराी विधि के अधीन उसे विरुद्ध की जायेवाली अन्य कार्रवाई के प्रतिकूल के बिना यथा स्थिति, लगान, स्वागिरव अभ्यास कर की वसूली कर सकेगी।

57. सरकारी परियोजनाओं गालिकाना फीस-

- (1) सभी सरकारी विभाग, विशेषकर अपनी स्कीम या परियोजनाओं के लिए किसी लघु खनिज का उपयोग करने हेतु गालिकाना फीस की कटौती अपने आपूर्तिकर्ता या संबद्ध से करेंगे।
- (2) ऐसी गालिकाना फीस की कटौती प्राक्कलन में लगे खनिज मूल्य के 10(दस) प्रतिशत प्लेट दर पर कार्य विभागों द्वारा अपने आपूर्तिकर्ता/ कार्य ठिकेदारों से की जाएगी और जिते के खनन अधिकारी के पास जमा की जाएगी।

राज्य सरकार, समय-समय पर गालिकाना फीस में बदोतरी या कमी कर सकेगी।

58. लघु खनिजों का विक्रय मूल्य- अतिग उपभोक्ता या जनता के लिए खनिजों का विक्रय मूल्य बाजार बल द्वारा विनिश्चित किया जाएगा।

अध्याय-XV

अपराधों की पहचान, अनुसंधान तथा विचारण।

59. प्रवेश निरीक्षण सलाशी लेने तथा जप्ता करने की शक्ति-
- (1) किसी खदान अथवा परिव्यक्त खदान के संगंधित स्थिति का पता लगाने के उद्देश्य से अथवा इस नियमावली से संबंधित अन्य उद्देश्य से काम करने की स्थिति निम्नलिखित अधिकारियों में से कोई यथा-
- (क) खान आयुक्त, खान निदेशक, या
- (ख) सगाहता या सगाहता द्वारा प्राधिकृत कोई अन्य पदाधिकारी,
- (ग) अपर निदेशक, उप निदेशक, सहायक निदेशक, खनिज विकास पदाधिकारी और खान निरीक्षक निम्नलिखित कर सकेगा :-
- (i) किसी खदान में प्रवेश और निरीक्षण;
- (ii) किसी ऐसे खदान का सर्वे और माप करना ;
- (iii) किसी खदान में उपलब्ध खनिज स्टॉक का वजन माप करना या माप लेना;
- (iv) किसी खदान एवं स्थान उदाहरण पहचान चिन्ह संगंधित या के नियंत्रण वाले किसी व्यक्ति के कब्जे वाले किसी दरतावेज, पुरत या रजिस्टर या अगिलेख की जाँच करना तथा उस दरतावेज, पुरत, रजिस्टर या अगिलेख से उद्धरण लेना एवं उसकी प्रतिलिपी तैयार करना;
- (v) खंड (iv) में यथा निर्देशित किसी ऐसे दरतावेज, पुरत या रजिस्टर के उपरधान का आदेश देना ;

(XIV)

अनुसूची-1
[नियम 2(x) देखें]

1	खनन लीज के लिए आवेदन	प्रपत्र-क
2	खनन लीज के विलेख	प्रपत्र-ख
3	खनन क्रिया परमिट के लिए आवेदन	प्रपत्र-ग
4	खनन क्रिया परमिट	प्रपत्र-घ
5	खनिज निपटान परमिट देने हेतु आवेदन	प्रपत्र-ङ
6	खनिज निपटान परमिट के लिए फारम	प्रपत्र-च
7	ई0वालान का प्रपत्र	प्रपत्र-छ
8	लीजागरी/परमिट धारक द्वारा स्थापित किया जाने वाला रजिस्टर	प्रपत्र-ज
9	मासिक रिटर्न	प्रपत्र-झ
10	वार्षिक रिटर्न	प्रपत्र-ञ
11	स्टॉकिस्ट लाइसेंस	प्रपत्र-ट
12	अपील के लिए फारम	प्रपत्र-ठ

अनुसूची-11
[नियम 51(1)(क) देखें]
अनिवार्य लगान

अवधि	अनिवार्य लगान की दर (रुपये में)
1	2
पट्टा की सम्पूर्ण अवधि के लिए प्रति वर्ष की दर	50,000.00 रु0 प्रति एकड़ प्रति वर्ष

अनुसूची-III क
[नियम 51(1)(ख) देखें]

क्र.मांक	संश्लिटी खनिजों का नाम	प्रतिघनमीटर दर, रुपये में।
1	2	3
1	(क) बोल्टर, ग्रेवेल अथवा पत्थर चाहे जिस नाम से परिभाषित हो (ख) नीलामी की शर्त से बंदोबस्त पत्थर	150.00 नीलामी की दशा में नीलामी की राशि।
2	(क) निर्माण प्रयोजन के लिए उपयोग में लाया गया साधारण बालू (ख) नीलाम घाटों का साधारण बालू	75.00 नीलामी की दशा में नीलामी की राशि।
3	ईट मिट्टी (400 मानक ईटों के बराबर)	18.00
4	साधारण मिट्टी/बले जिसका उपयोग कोय, सड़क, रेलवे, भवन, आदि के निर्माण के प्रयोजन में भरने तथा लेवल करने आदि तथा अन्य वाणिज्यिक कार्य हेतु जिसका उपयोग किया जाता हो।	33.00
5	लाईम रोल, लाईम स्टोन तथा ककड़ जिसका उपयोग निर्माण सामग्री के रूप में किल्ल हेतु चूना के विनिर्माण के लिए किया जाता हो तथा चूना का उपयोग बटन के विनिर्माण के लिए किया जाता हो।	165.00
6	मोरम	83.00
7	कैल्सीओसी ककड़ जिसका उपयोग कंकट ब्रीक गिल के प्रयोजनार्थ होता है।	95.00
8	ग्रेडलर मिट्टी	83.00
9	कॉर्टईज जिसका उपयोग भवन निर्माण के प्रयोजनार्थ या सड़क बनाने के लिए किया जाता हो।	150.00

(XV)

क्रमांक	संयलिटी खनिजों का नाम	प्रतिघनमीटर दर, रुपये में।
1	2	3
10	रेड मिट्टी	34.00
11	साफ्ट पीटल	38.00
12	स्टोन तथा सेल जब उसका उपयोग भवन निर्माण सामग्री के रूप में किया जाता है।	110.00
13	फूलस मिट्टी (अर्थ)	124.00
14	स्टोन जिसका उपयोग ट्रिब्लिंग स्टोन सहित घरेलू बर्तन बनाने के लिए होता हो।	95.00
15	स्टोन सेट तथा स्टोन ब्रिक प्रति सैकड़	95.00
16	स्टोन डस्ट	30.00
17	ट्रेनाईट डिकोरेटिंग स्टोन के लिए उपयोग की दशा में प्रति सैकड़— (i) 60से0मी0 से अधिक ब्लॉक (ii) 60 से0मी0 से कम ब्लॉक	709.00 355.00
18	क्वार्टज	73.00
19	बालू (अन्य)	75.00
20	सिलिका बालू	75.00
21	स्टीटाईट अथवा टाल्क या सोप स्टोन	
22	अगट	मूल्यानुसार आधार पर विक्रय मूल्य का तीस प्रतिशत।
23	बालबले	
24	बारिटस	
25	काल्कुरियस बालू	
26	कैल्साईट	
27	चौक	
28	घटना बले	
29	बले (अन्य)	
30	गौर-रुडम	
31	डिअगसपोर	
32	सोल्नोमाईट	
33	कुनिट अथवा पाईरोक्सेनाईट	मूल्यानुसार आधार पर विक्रय मूल्य का तीस प्रतिशत।
34	फेल्सपाट	
35	फेल्सपार	
36	फायर बले	
37	फेल्साईट क्वार्ट्जाईट	
38	जिप्सम	
39	जस्पर	
40	कार्गोलीन	
41	लैटेराईट	
42	माईका	
43	ओक्से	
44	पाइरो काइलाईट	
45	सभी अन्य खनिज	

नोट:— (I) बिहार खनिज समानुदान (अपेक्ष खनन, परिवहन एवं भंडारण निवारण) नियमावली, 2019 या अन्यथा में प्रतिकूल किसी बात के अतिरिक्त होने पर भी, बंदोबस्ताधीनी नीतामी राशि के समकक्ष से अधिक उत्खनित तथा प्रेषित पत्थर की मात्रा के लिए अतिरिक्त संयलिटी का भुगतान करेगा।

नोट:— (II) बंदोबस्ताधीनी नीतामी राशि के समकक्ष से अधिक उत्खनित तथा प्रेषित बालू की मात्रा के लिए अतिरिक्त संयलिटी का भुगतान करेगा।

नोट:— (III) साधारण मिट्टी के गैर वाणिज्यिक उपयोग के लिए कोई संयलिटी उगाही नहीं जाएगी।

(XVI)

11/19
29-11-2019

बिहार सरकार
खान एवं भूतत्व विभाग

सं०सं०-कार्य विभाग / Seigniorage-11 / 19-...../रन०, पटना, दिनांक-
प्रेषक,

E-mail
aeb

2m/Dir.DPT.
कुलकर्णी
27/11/19

अरुण प्रकाश, MOPROCO
अपर सचिव-सह-निदेशक।

सेवा में,

संयोजक,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, पथ निर्माण विभाग,
बिहार, पटना।

विषय:- कार्य विभागों द्वारा सरकारी परियोजनाओं के लिए लघु खनिजों के उपयोग हेतु मालिकाना फीस (Seigniorage Fee) लागू करने के संबंध में।

Director

प्रसंग:- आपका पत्रांक-42, दिनांक-25.10.2019
महाशय,

29/11/19

उपर्युक्त विषयक संबंध में निदेशानुसार कहना है कि कोई भी व्यक्ति किसी उद्देश्य से लघु खनिजों (यथा-बालू, पत्थर, मिट्टी इत्यादि) का व्यवसायिक प्रयोग खनन पट्टा को अपने पक्ष में स्वीकृत कराये बिना नहीं कर सकता है। बिना खनन पट्टा की स्वीकृति के लघु खनिजों का निष्कासन अवैध की श्रेणी में आता है।

11/19

पूर्व में निर्माण कार्य में प्रयुक्त सभी लघु खनिजों पर देय स्वामिस्व एवं इसकी वसूली सुनिश्चित करने तथा अवैध खनन से प्राप्त खनिजों पर स्वामिस्व की करवंचना रोकने के लिये बिहार लघु खनिज समानुदान नियमावली, 1972 के नियम-40(10) के प्रावधानों के तहत कार्रवाई की जाती थी। इसके तहत कार्य विभाग संवेदकों से प्रपत्र 'एम' एवं 'एन' में व्यवहृत खनिज का ब्यौरा प्राप्त कर उसका सत्यापन संबंधित जिला खनन कार्यालय से कराने के पश्चात् संवेदकों के विपत्रों का भुगतान करते थे। यह प्रक्रिया काफी जटिल थी एवं इसमें काफी विलंब होता था, जिससे राजस्व का हास होता था।

31/12/19

कार्य विभागों के स्तर से वैसे संवेदक जिनके विपत्र के साथ प्रपत्र 'एम' एवं 'एन' में वांछित ब्यौरा संलग्न नहीं किया जाता था, उन मामलों में सिर्फ खनिजवार देय स्वामिस्व की राशि की कटौती कर खनन विभाग के सुसंगत शीर्ष में जमा की जाती थी। इस व्यवस्था में महालेखाकार के अंकेक्षण दल द्वारा प्रत्येक वर्ष कटौती की गई स्वामिस्व राशि के आधार पर व्यवहृत लघु खनिजों को अवैध स्रोत से प्राप्त मानकर दंड स्वरूप खनिज मूल्य के बराबर राशि की क्षति दर्शाते हुए आपत्ति दर्ज की जाती थी।

31/28
28/11/19

विभागीय स्तर से पूर्व प्रेषित पत्रों द्वारा ऐसे संवेदक, जिनके द्वारा विपत्रों के साथ प्रपत्र 'एम' एवं 'एन' में वांछित ब्यौरा समर्पित नहीं किया जाता था, उनकी पूर्ण विवरणी (नाम, पता सहित) भेजने का आग्रह किया जाता रहा है तथा इससे संबंधित एक प्रपत्र भी संलग्न कर भेजा गया था। लेकिन कार्य विभागों से ऐसे संवेदकों की पूर्ण सूची उपलब्ध नहीं होने के कारण नियमाधीन अन्य आवश्यक कार्रवाई नहीं की जा सकी।

56
11-2019

(XVII)

इन सभी को ध्यान रखते हुए विभागीय अधिसूचना-3174/एन०, दिनांक 17.09.2019 द्वारा बिहार खनिज (समानुदान, अवैध खनन, परिवहन एवं भंडारण नियम) विनियमावली, 2019 प्रवृत्त की गई है। उक्त नियमावली के नियम-51 के साथ सहपाठ परिशिष्ट-III क में खनिजवार स्वामिस्य दर अधिसूचित किया गया है एवं नियम-57 में मालिकाना फीस का प्रावधान करते हुए उसकी दर खनिज मूल्य पर 10 प्रतिशत निर्धारित है। स्पष्ट है कि निर्माण कार्यों में व्यवहृत लघु खनिजों पर देय मालिकाना फीस उक्त खनिज के निर्धारित स्वामिस्य दर के अतिरिक्त देय है।

उपरोक्त के आलोक में मालिकाना फीस की वसूली के संबंध में विभिन्न कार्य विभागों से प्राप्त पृच्छाओं के निराकरण हेतु मार्गदर्शिका निम्नवत है :-

1. (क) कार्य विभागों द्वारा प्राक्कलन में लघु खनिज का मूल्य वैध खदान पर वर्तमान में प्रचलित खनिज मूल्य को रॉयल्टी सहित रखा जाय।
- (ख) प्राक्कलन में मालिकाना फीस की कटौती वैध खदान पर रॉयल्टी सहित वर्तमान में प्रचलित मूल्य पर 10 प्रतिशत की दर से की जाए। इसमें अन्य मद यथा दुलाई आदि को शामिल नहीं किया जाए।
- (ग) प्राक्कलन में मालिकाना फीस के प्रावधान के संबंध में कार्य विभागों को स्वयं के स्तर से ही निर्णय लेना है।
- (घ) वैध खदान से खनिज क्रय के समर्थन में संवेदक अपने विपत्रों के साथ खनन विभाग द्वारा निर्गत ई०द्यालान की प्रति संलग्न करेंगे, जिसकी जाँच संबंधित कार्य विभागों द्वारा ही की जाएगी। विपत्रों के साथ खनिज क्रय के साक्ष्य स्वरूप ई०द्यालान संलग्न नहीं किये जाने की स्थिति में संवेदकों के विपत्र से मालिकाना फीस के अतिरिक्त निर्धारित दर पर रॉयल्टी की वसूली भी कार्य विभागों द्वारा की जाएगी। साथ ही नियमाधीन अन्य कार्रवाई हेतु ऐसे संवेदकों की पूर्ण सूची कार्य विभागों द्वारा खान एवं भूतत्व विभाग को उपलब्ध कराया जाएगा।
- (ङ) साधारण मिट्टी निजी/जमीन अथवा सरकारी भूमि से प्राप्त करने की स्थिति में बिहार खनिज (समानुदान अवैध खनन, परिवहन एवं भंडारण नियम) विनियमावली, 2019 के सारे प्रावधान लागू होंगे।
- (च) निजी/सरकारी भूमि से नियमानुसार साधारण मिट्टी प्राप्त करने की स्थिति में व्यवहृत मिट्टी के संबंध में संवेदक द्वारा समर्पित विपत्र के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट साक्ष्य स्वरूप संलग्न रहने की स्थिति में सत्यापनोपरांत सिर्फ स्वामिस्य की 10 प्रतिशत मालिकाना फीस के रूप में वसूली की जाएगी। जिन विपत्रों के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट संवेदक साक्ष्य स्वरूप विपत्रों के साथ संलग्न नहीं किये होंगे या सत्यापनोपरांत गलत पाये जायेगे तो वैसी स्थिति में प्रतिघनमीटर स्वामिस्य दर 33/-रु० के अलावे 10 प्रतिशत मालिकाना फीस 3.30/-रु० की कटौती संवेदक के विपत्र से की जायेगी एवं नियमाधीन अन्य कार्रवाई हेतु ऐसे संवेदकों की पूर्ण सूची कार्य विभागों द्वारा खान एवं भूतत्व विभाग को उपलब्ध कराया जाएगा।

(XVIII)

P.T.O.

2. नियमवली के नियम 37(2) में सिंचाई विभाग द्वारा नहर तथा जल निष्कासन प्रणाली के संधारण की गतिविधि में निष्कासित खनिजों के लिए खनिज निष्कासन परमिट, लघु खनिजों के विनिर्दिष्ट दरों पर रॉयल्टी के पूर्व भुगतान पर दिये जाने का प्रावधान है। साथ ही उक्त नियमवली के नियम 37(3) में विनिर्दिष्ट आपात स्थितियों के लिए समाहर्ता द्वारा लघु खनिजों के विनिर्दिष्ट दरों पर रॉयल्टी के पूर्व भुगतान पर परमिट दिये जाने का प्रावधान है। ऐसी स्थिति में संवेदक द्वारा समर्पित विपत्र के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट साक्ष्य स्वरूप संलग्न रहने की स्थिति में सत्यापनोपरांत सिर्फ स्वामित्व की 10 प्रतिशत मालिकाना फीस के रूप में वसूली की जायेगी। जिन विपत्रों के साथ खान एवं भूतत्व विभाग द्वारा निर्गत परमिट संवेदक द्वारा साक्ष्य स्वरूप विपत्रों के साथ संलग्न नहीं किये होंगे या सत्यापनोपरांत गलत पाये जायेगे तो वैसी स्थिति में स्वामित्व एवं मालिकाना फीस की वसूली की जायेगी।

विश्वासभाजन

ह0/-

अपर सचिव-सह-निदेशक

E-mail

ज्ञापांक-...../एम0, पटना, दिनांक-

प्रतिलिपि:- प्रधान सचिव, भवन निर्माण विभाग को उनके पत्रांक-9496(भ), दिनांक-25.10.2019 के आलोक में सूचनार्थ प्रेषित।

ह0/-

अपर सचिव-सह-निदेशक

E-mail

ज्ञापांक-...../एम0, पटना, दिनांक-

प्रतिलिपि:- कार्यपालक अभियंता, पथ प्रमंडल, बिहारशरीफ (नालंदा) को उनके पत्रांक-995, दिनांक-24.10.2019 के आलोक में सूचनार्थ एवं आवश्यक कार्रवाई प्रेषित।

ह0/-

अपर सचिव-सह-निदेशक

E-mail

ज्ञापांक-...../एम0, पटना, दिनांक-

प्रतिलिपि:- भारतीय निदेशक (वित्त), अध्यायभूत संरचना-विकसन-प्रमोकार, उद्योग-भवन, गाँधी मैदान, पटना को उनके पत्रांक-3450/AC, दिनांक-23.10.2019 के आलोक में सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-

अपर सचिव-सह-निदेशक

E-mail

ज्ञापांक-...../एम0, पटना, दिनांक-

प्रतिलिपि:- मुख्य अभियंता, योजना एवं विकास विभाग, स्थानीय क्षेत्र अभियंत्रण संगठन, विश्वेश्वरैया नयन, देली रोड, पटना को उनके पत्रांक-2335, दिनांक-06.11.2019 के आलोक में सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-

अपर सचिव-सह-निदेशक

E-mail

ज्ञापांक- 3947 /एम0, पटना, दिनांक- 15/11/19

प्रतिलिपि:- सभी संबंधित कार्य विभाग, बिहार को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

प्रेषित।
15/11/19

अपर सचिव-सह-निदेशक

(XIX)

जल संसाधन विभाग, बिहार, पटना के लिये अनुसूचित दर पुस्त 2020 के प्रारूप का राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदन :-

अभियंता प्रमुख (मुख्यालय) सह अध्यक्ष विभागीय अनुसूचित दर निर्धारण समिति जल संसाधन विभाग, बिहार, पटना के पत्रांक-414 दिनांक-25.06.2020 द्वारा वर्ष 2020 में प्रकाशित की जाने वाली अनुसूचित दर पुस्तिका का प्रारूप अनुमोदन हेतु प्राप्त हुआ है, जिसमें जल संसाधन विभाग के कार्यों में प्रयुक्त विभिन्न सामग्रियों एवं मदो का दर सम्मिलित है। दिनांक-09.07.2020 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक में सीमेन्ट, स्टील एवं बिटुमेन के अनुमोदित दरों के आधार पर जल संसाधन विभाग द्वारा इस SoR पुस्त को संशोधित कर पुनः समर्पित किया गया है।

बिहार लोक निर्माण संहिता की कण्डिका-103 में संशोधन के आलोक में बिहार सरकार, पथ निर्माण विभाग द्वारा निर्गत संकल्प सह पठित ज्ञापांक 1/बी0-12/2003-5762 (एस) अनु0, पटना, दिनांक-05.06.2006 की कण्डिका-2 (iii) में यह प्रावधान किया गया है कि अनुसूचित दर निर्धारण के लिए दर विश्लेषण तथा सामग्रियों का दर निर्धारण पथ निर्माण विभाग के संयोजन में गठित राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा किया जायेगा। जल संसाधन विभाग का वर्तमान अनुसूचित दर पुस्त 2020 का दर-विश्लेषण दिनांक-07.12.2007 एवं दिनांक-04.07.2019 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक में जल संसाधन विभाग के अनुमोदित अनुसूचित दर प्रपत्र के आधार पर तैयार किया गया है।

अनुसूचित दर तैयार करने में निम्नलिखित प्रक्रिया अपनायी गयी है :-

- (1) निर्माण कार्य के विभिन्न मदों में उपयोग की जाने वाली सामग्रियों की दर राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा निर्गत दर के अनुरूप है।
- (2) विभिन्न श्रेणी के मजदूरों का दैनिक मजदूरी की दर श्रम संसाधन विभाग, बिहार की श्रम संख्या-1050 दिनांक-24.03.2020 के अनुरूप है। इसे दिनांक-06.05.2020 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक में अनुमोदित किया गया है।
- (3) निर्माण में प्रयुक्त होने वाले Plant एवं Machineries की दर राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा निर्गत दर के अनुरूप है।
- (4) Carriage of Material के Calculation में सर्व सम्मति से यह निर्णय लिया गया है कि जैसे स्थल जहाँ पर Railway के द्वारा निर्माण सामग्रियों की ढुलाई संभव हो वहाँ पर Road एवं Railway दोनों के द्वारा carriage of Materials का दर प्राप्त किया जाय तथा दोनों में से निम्नतम दर को ही प्रयोग में लाया जाय।
- (5) The maximum lead to be considered as per T.E.C. Norms is as follows-
 - (i) For local Sand 3 Km with 1 km kuchcha road.
 - (ii) For brick 8 km with 1 km kuchcha road.

1

(Signature)

(Signature)

P.T.O.

- (iii) For Coarse Sand, Stone Metal, Stone chips, Moorum, Stone Boulder, Bitumen as per actual lead with Provision of kuchcha lead as per requirement of site condition.
- (6) Contractor's Profit एवं overhead मद में एकमुश्त 15% (10%+5%) का प्रावधान रखा गया है।
- (7) सीमेंट के दर में पटना के लिए लागू OPC-grade-43 के दर को व्यवहार में लाया गया है। निरूपण एवं संरचना की आवश्यकतानुसार संबंधित सक्षम पदाधिकारी अन्य प्रकार के सीमेंट का व्यवहार कर सकते हैं।
- (8) स्टील के दर में TMT Bar के लिए Fe 500 HYSD के दर को दर-विश्लेषण के लिए व्यवहार में लाया गया है।
- (9) Brick 100 "A" का दर के लिए Patna Urban के लिए लागू दर को व्यवहार में लाया गया है।
- (10) संबंधित सक्षम पदाधिकारी निर्माण कार्यक्षेत्र के जोन के अनुसार ही Bitumen/Cement/Brick/ Coarse sand के निर्धारित दर का प्रयोग करेंगे और इसके अनुसार दर में अंतर राशि को प्राक्कलन में जोड़ेंगे या घटायेंगे।
- (11) चार स्टील कम्पनियों यथा TATA, SAIL, RINL एवं SHYAM STEEL INDUSTRIES LTD, KOLKATTA के स्टील का प्रयोग निर्माण कार्यों में किया जाना है।
- (12) दर विश्लेषण में Goods & Services tax (GST) शामिल नहीं है, परन्तु रॉयल्टी शामिल है।
- (13) दर-विश्लेषण में लेबर सेस (1%) की राशि सम्मिलित नहीं है। इसे सम्मिलित करने की जिम्मेवारी क्षेत्रीय पदाधिकारियों की होगी।
- (14) **GST से संबंधित निर्णय**—दिनांक-26.02.2019 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक में लिये गये निर्णय के आलोक में Goods & Service tax (GST) की प्रक्रिया समिति द्वारा सर्वसम्मति से विचारोपरान्त निम्न प्रकार से अपनाने का निर्णय लिया गया है :-
- (i) दर-विश्लेषण में प्रयुक्त प्रत्येक सामग्री की दर में GST नहीं जोड़ा जाए।
- (ii) Carriage, overhead charge, Contractor profit, Royalty को जोड़कर प्रत्येक कार्य मद का दर निर्धारित किया जाए तथा इस निर्धारित दर के आधार पर परियोजना की प्राक्कलित राशि निर्धारित की जाए।
- (iii) Work-Contracts के लिए उपरोक्त कंडिका-(ii) में निर्धारित प्राक्कलित राशि/कुल लागत (Labour Cess रहित) पर Contractor Service tax/work contract G.S.T. का प्रावधान वित्त मंत्रालय, भारत सरकार की अधिसूचना संख्या-20/2017-Central Tax (Rate), नई दिल्ली दिनांक-22-08-17 में निर्मित तालिका के

2

P.T.O.

कॉलम-4 में निर्धारित G.S.T. (C.G.S.T.& S.G.S.T. मिलाकर जो वर्तमान में 12% है) तथा समय-समय पर भारत सरकार एवं राज्य सरकार द्वारा अधिसूचित कर की दर के अनुसार किया जाय।

परन्तु "For composite supply of work contract as defined in clause (119) of section 2 of the Central Goods & Services Tax Act 2017, involving predominantly earth work (That is, constituting more than 75% of the value of work contract) provided to the central Government, Union Territory, State Government, local Authority, a Government Authority or a Government Entity, the Goods & Services Tax (GST) for contract is 5% (CGST=2.5%, SGST=2.5%) only and as per revised GST Rates by the respective Government Authority time to time".

(iv) उपरोक्त कंडिका-(ii) में निर्धारित प्राक्कलित राशि (G.S.T रहित) पर 1% Labour Cess का प्रावधान निर्धारित मापदण्डों के अनुसार किया जाय।

(v) Bill of Quantity (B.O.Q.) में work value, labour less value एवं G.S.T. value का अलग-अलग उल्लेख किया जाय।

तत्संबंधी उदाहरण तालिका (Model Calculation Sheet) निम्न प्रकार है :-

(a) Estimated Amount (प्राक्कलित राशि) including carriage, overhead charge, Contractor profit, Royalty but excluding GST & Labour Cess="A"

(b) Contractor Service Tax/Work Contract GST in percentage="Y"%"

(c) Contract Service tax/contract GST Amount

$$= \text{"B"} = \frac{AY}{100}$$

(d) Labour Cess Amount@1% = "C" = A×0.01

(e) Bill of Quantity (B.O.Q.)

Work Value = A

GST Value = B

Labour Cess = C


P.T.O.

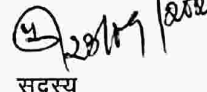
15. लघु खनिजों के उपयोग हेतु मालिकाना फीस (Seigniorage Fee) लागू करने से संबंधित निर्णय :- इस संबंध में दिनांक-22.11.2019 को आहूत राज्य स्तरीय अनुसूचित दर निर्धारण समिति की बैठक में कार्य विभागों द्वारा सरकारी योजनाओं के लिए लघु खनिजों के उपयोग हेतु मालिकाना फीस (Seigniorage Fee) लागू करने से संबंधित लिया गया निर्णय मान्य होगा। साथ ही खान एवं भूतत्व विभाग, बिहार की रॉयल्टी एवं Seigniorage Fee से संबंधित अद्यतन अधिसूचना तथा समय-समय पर प्राप्त निर्देश के अनुरूप कार्रवाई सुनिश्चित करने की जिम्मेवारी क्षेत्रीय पदाधिकारियों की होगी।

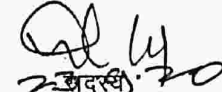
जल संसाधन विभाग, बिहार के प्रस्ताव पर वर्ष 2020 के लिए विभिन्न निर्माण सामग्रियों, Plant Machinery एवं कार्य मर्दों का दर (दर-विश्लेषण सहित) संलग्न विवरणी के अनुसार समिति द्वारा सर्वसम्मति से सम्यक् विचारोपरांत अनुमोदित करने का निर्णय लिया गया।

16. नई अनुसूचित दर पुस्त का प्रकाशन :-


राज्यस्तरीय अनुसूचित दर निर्धारण समिति द्वारा जल संसाधन विभाग, बिहार, पटना के अनुसूचित दर पुस्त को दिनांक-01.10.2020 से लागू किये जाने को सर्वसम्मति से निर्णय लिया गया।

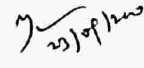

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना।


सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, ग्रामीण कार्य विभाग, बिहार, पटना।

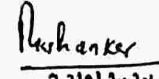

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना।

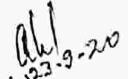
सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (असैनिक) बिहार स्टेट पावर होल्डिंग कंपनी लि०, बिहार, पटना।


सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (विद्युत), भवन निर्माण विभाग, बिहार, पटना।


सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग, निगरानी विभाग, बिहार, पटना।

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना।


सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख मुख्यालय जल संसाधन विभाग, बिहार, पटना।


संयोजक
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना।

बिहार सरकार
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
पथ निर्माण विभाग, बिहार, पटना।
E-mail ID-sorred2012@gmail.com

पत्रांक :- मु0नि0(पथ)-53/2018 35 (अनुष) पटना दिनांक :- 11/05/2020
प्रेषक,

राज कुमार लाल,
संयोजक
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

सेवा में,

1. अभियंता प्रमुख,
ग्रामीण कार्य विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
2. अभियंता प्रमुख (मुख्यालय),
जल संसाधन विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
3. अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
4. अभियंता प्रमुख,
तकनीकी परीक्षण कोषांग, निगरानी विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
5. अभियंता प्रमुख,
भवन निर्माण विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
6. अभियंता प्रमुख,
लघु जल संसाधन विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
7. मुख्य अभियंता (असैनिक),
बिहार स्टेट पावर होल्डिंग कंपनी लिमिटेड-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
8. मुख्य अभियंता (विद्युत),
भवन निर्माण विभाग-सह-सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।

विषय :- राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा दिनांक-06.05.2020 की बैठक में अनुमोदित श्रम दर (Schedule-I & II) एवं कार्यवाही की प्रति के प्रेषण के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि दिनांक-06.05.2020 की बैठक में राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित श्रम दर (Schedule-I & II) एवं कार्यवाही की प्रति आवश्यक कार्रवाई हेतु समर्पित की जाती है।
अनु0-यथोक्त।

विश्वासभाजन,

(राज कुमार लाल)
संयोजक,

राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख(मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

08/05/2020

राज्यस्तरीय अनुसूचित दर निर्धारण समिति की दिनांक-06.05.2020 की बैठक में निर्माण कार्यों (सड़कें, बाँध तथा सिंचाई कार्य) में नियोजित विभिन्न श्रेणी के मजदूरों का संशोधित न्यूनतम दैनिक मजदूरी का अनुमोदन :-

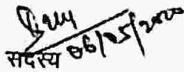
जनवरी, 2019 से जून, 2019 तक का औसत मूल्य सूचकांक श्रम संसाधन विभाग, बिहार सरकार के ज्ञापांक-5/एम डब्लू-403/07-श्र0सं0-4077 पटना/दिनांक-27.09.2019 के अनुसार 7095.05 है। जुलाई, 2019 से दिसम्बर, 2019 तक का औसत मूल्य सूचकांक श्रम संसाधन विभाग, बिहार सरकार के ज्ञापांक-5/एम डब्लू-403/07-श्र0सं0-1050 पटना/दिनांक-24.03.2020 के अनुसार 7395.58 है।

सूचकांक में वृद्धि=7395.58-7095.05=300.53

सूचकांक में प्रतिशत वृद्धि=300.53/7095.05×100=4.2357=4.236%

औसत मूल्य सूचकांक (जनवरी, 2019 से जून, 2019 तक) पर आधारित न्यूनतम श्रम दर की सूची अनुसूची '1' एवं '2' के स्तम्भ '7' पर अंकित है। इसी स्तम्भ के अंकित दर में 4.236% वृद्धि कर न्यूनतम श्रम दर की गणना कर अंकित कर दी गयी है।

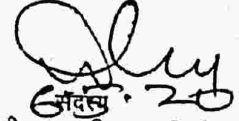
श्रम संसाधन विभाग, बिहार, पटना का ज्ञापांक-5 एम0 डब्लू-403/07-श्र0सं0-1050 पटना/दिनांक-24.03.2020 के आलोक में अनुसूचित दर पुनरीक्षण हेतु उपरोक्त वृद्धि को सम्मिलित करते हुए निर्माण कार्यों, सड़कें, बाँध निर्माण तथा सिंचाई कार्यों में नियोजित दैनिक मजदूरों के न्यूनतम दैनिक मजदूरी में संशोधन के लिए संलग्न अनुसूची-1 तथा 2 के स्तम्भ '8' के अनुसार राज्यस्तरीय अनुसूचित दर निर्धारण समिति द्वारा सहमति प्रदान की जाती है। यह दर भवन निर्माण, ग्रामीण कार्य विभाग, लोक स्वास्थ्य अभियंत्रण विभाग एवं अन्य कार्य विभाग के अंतर्गत कराये जाने वाले समरूप कार्यों के उपयोग में भी लाया जायेगा। Schedule-I के लिए Serial no. 1,2,3,4,5,6,7,71 एवं 72 पर अंकित श्रमदर श्रम संसाधन विभाग का अधिसूचना ज्ञापांक-1050, पटना दिनांक-24.03.2020 में अंकित श्रम दर के अनुसार लिया गया है एवं शेष श्रम दर श्रम संसाधन विभाग के उक्त अधिसूचना में अंकित औसत मूल्य सूचकांक में परिवर्तन के आधार पर संगणित किया गया है। उसी प्रकार Schedule-II के लिए क्रमांक-1,69,70 एवं 71 पर अंकित श्रमदर श्रम संसाधन विभाग का अधिसूचना ज्ञापांक-1050, पटना दिनांक-24.03.2020 में अंकित श्रम दर के अनुसार लिया गया है एवं शेष श्रम दर श्रम संसाधन विभाग के उक्त अधिसूचना में अंकित औसत मूल्य सूचकांक में परिवर्तन के आधार पर संगणित किया गया है। विशेष जानकारी हेतु श्रम संसाधन विभाग, बिहार सरकार का ज्ञापांक-5/एम0डब्लू-403/07-श्र0सं0-1050 पटना/दिनांक-24.03.2020 द्रष्टव्य। अनु0-1 एवं 2


सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना।


सदस्य

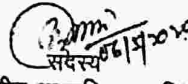
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, ग्रामीण कार्य विभाग, बिहार, पटना


सदस्य

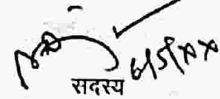
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना

सदस्य

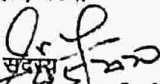
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (असैनिक) बिहार स्टेट पावर होल्डिंग कंपनी लि0, बिहार, पटना


सदस्य

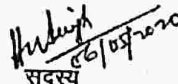
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता, (विद्युत) भवन निर्माण विभाग, बिहार, पटना


सदस्य

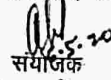
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग, निगरानी विभाग, बिहार, पटना


सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना


सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, मुख्यालय जल संसाधन विभाग, बिहार, पटना।


संयोजक

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना।



SCHEDULE - I		Date:- 06.05.2020					
Approved Schedule of Rates for labour engaged in construction & maintenance of Roads							
Sl. No.	Category of Employees	Minimum Rates of wages per day as per					
		Lab. Deptt. Noti. No. 4835/ 15.09.17	Lab. Deptt. Noti. No. 1453/ 28.03.18	Lab. Deptt. Noti. No. 6770/ 26.09.18	Lab. Deptt. Noti. No. 996/ 27.02.19	Lab. Deptt. Noti. No. 4077/ 27.09.19	Lab. Deptt. Memo No. 1050/ 24.03.2020.
1	2	3	4	5	6(1.04509xcl5)	7(1.03153xcl6)	8(1.04236xcl7)
48	Earth excavator				0.00	0.00	0.00
	(a) For every 110 cu. ft for soft earth	243.00	252.00	254.00	265.00	273.00	285.00
	(b) For every 100 cu. ft for hard earth	243.00	252.00	254.00	265.00	273.00	285.00
	(c) For every 90 cu. ft for highly hard earth	243.00	252.00	254.00	265.00	273.00	285.00
49	Truck driver	352.00	364.00	367.00	384.00	396.00	413.00
50	Car/Jeep driver	309.00	320.00	323.00	338.00	349.00	364.00
51	Crane operator grade-I	415.00	430.00	434.00	454.00	468.00	488.00
	Crane operator grade-II	370.00	383.00	386.00	403.00	416.00	434.00
52	Winch operator	312.00	323.00	326.00	341.00	352.00	367.00
53	Road roller driver	424.00	439.00	443.00	463.00	478.00	498.00
54	Blaster	408.00	422.00	425.00	444.00	458.00	477.00
55	Painter grade-I	312.00	323.00	326.00	341.00	352.00	367.00
56	Polisher	261.00	270.00	272.00	284.00	293.00	305.00
57	Peon / Darvan / Choukidar	258.00	267.00	269.00	281.00	290.00	302.00
58	Clerk / Typist / Typist clerk	291.00	301.00	303.00	317.00	327.00	341.00
59	Time keeper	291.00	301.00	303.00	317.00	327.00	341.00
60	Store Assistant / Storeman	314.00	325.00	328.00	343.00	354.00	369.00
61	Store head	300.00	310.00	313.00	327.00	337.00	351.00
62	Material chaser	300.00	310.00	313.00	327.00	337.00	351.00
63	Male and Road male	261.00	270.00	272.00	284.00	293.00	305.00
64	Munshi	274.00	284.00	286.00	299.00	308.00	321.00
65	Work Supervisor	276.00	286.00	288.00	301.00	310.00	323.00
66	Amin	291.00	301.00	303.00	317.00	327.00	341.00
67	Surveyer	298.00	308.00	311.00	325.00	335.00	349.00
68	Supervisory diploma holder	399.00	413.00	416.00	435.00	449.00	468.00
69	Supervisory non-diploma holder	295.00	305.00	307.00	321.00	331.00	345.00
70	Any other category of semi-skilled workers not mentioned above	257.00	265.00	268.00	279.00	289.00	299.00
71	Any other category of skilled workers not mentioned above	313.00	322.00	325.00	340.00	352.00	364.00
72	Highly skilled labour	381.00	392.00	396.00	415.00	429.00	444.00

Note :- The above rates has been calculated as 4.236 % increase vide Labour Dept. Memo No. 1050 Dtd. 24.03.2020 (e (1.04236 * column 7).

Handwritten signature
06/05/2020

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख,
ग्रामीण कार्य विभाग, बिहार, पटना।

Handwritten signature
06/05/2020
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख, तृचु जल
संसाधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह
-मुख्य अभियंता (असौ), बिहार स्टेट पावर
होल्डिंग कंपनी लिमिटेड, बिहार, पटना।

Handwritten signature
06/05/2020
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-मुख्य अभियंता(विद्युत),
भवन निर्माण विभाग, बिहार, पटना।

Handwritten signature
06/05/2020
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति -सह-अभियंता प्रमुख, तकनीकी
परिक्षण कौर्षांग, निगरानी विभाग, बिहार,
पटना।

Handwritten signature
06/05/2020
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, लोक
स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

Handwritten signature
06/05/2020
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह- अभियंता प्रमुख,
सुख्यालय,
जल संसाधन विभाग, बिहार, पटना।

Handwritten signature
06/05/2020
संयोजक,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख
(मुख्यालय),पथ निर्माण विभाग,
बिहार, पटना।

SCHEDULE - II								Date:- 06.05.2020.
Approved Schedule of Rates for labour engaged in Dam construction & Irrigation works								
Sl. No.	Category of Employees	Minimum Rates of wages per day as per						
		Lab. Deptt. Notl. No. 4835/ 15.09.17	Lab. Deptt. Notl. No. 1453/ 28.03.18	Lab. Deptt. Notl. No. 6770/ 26.09.18	Lab. Deptt. Notl. No. 998/ 27.02.19	Lab. Deptt. Notl. No. 4077/ 27.09.19	Lab. Deptt. Memo. No. 1050/	
1	2	3	4(1.03498xcl3)	5(1.00816xcl4)	6(1.04509xcl5)	7(1.03153xcl6)	8(1.04236xcl7)	
1	Unskilled labour	247.00	254.00	257.00	268.00	277.00	287.00	
2	Mate	266.00	275.00	277.00	289.00	298.00	311.00	
3	Head Mason	330.00	342.00	345.00	361.00	372.00	388.00	
4	Mason	295.00	305.00	307.00	321.00	331.00	345.00	
5	Printer Class-I	312.00	323.00	326.00	341.00	352.00	367.00	
6	Printer Class-II	295.00	305.00	307.00	321.00	331.00	345.00	
7	Head Carpenter	330.00	342.00	345.00	361.00	372.00	388.00	
8	Carpenter	295.00	305.00	307.00	321.00	331.00	345.00	
9	Head black smith	330.00	342.00	345.00	361.00	372.00	388.00	
10	Black Smith	285.00	305.00	307.00	321.00	331.00	345.00	
11	Glazier	281.00	270.00	272.00	284.00	293.00	305.00	
12	Stone Dresser	312.00	323.00	326.00	341.00	352.00	367.00	
13	Water Carrier	243.00	252.00	254.00	265.00	273.00	285.00	
14	Fitter Class-I	336.00	348.00	351.00	367.00	379.00	395.00	
15	Fitter Class-II	295.00	305.00	307.00	321.00	331.00	345.00	
16	Helper	258.00	267.00	269.00	281.00	290.00	302.00	
17	Hammer man	258.00	267.00	269.00	281.00	290.00	302.00	
18	Belowman	243.00	252.00	254.00	265.00	273.00	285.00	
19	Road Roller Driver	424.00	439.00	443.00	463.00	478.00	498.00	
20	Concrete Mixer Operator, Class-I	312.00	323.00	326.00	341.00	352.00	367.00	
21	Concrete Mixer Operator, Class-II	295.00	305.00	307.00	321.00	331.00	345.00	
22	Stone Crusher Driver, Class-I	312.00	323.00	326.00	341.00	352.00	367.00	
23	Stone Crusher Driver, Class-II	295.00	305.00	307.00	321.00	331.00	345.00	
24	Truck Driver	352.00	364.00	367.00	384.00	396.00	413.00	
25	Compressor Operator, Class-I	312.00	323.00	326.00	341.00	352.00	367.00	
26	Compressor Operator, Class-II	295.00	305.00	307.00	321.00	331.00	345.00	
27	Pump Driver, Class-I	312.00	323.00	326.00	341.00	352.00	367.00	
28	Pump Driver, Class-II	295.00	305.00	307.00	321.00	331.00	345.00	
29	Concrete Mixer Attendant	258.00	267.00	269.00	281.00	290.00	302.00	
30	Cleaner or Oilman	250.00	259.00	261.00	273.00	282.00	294.00	
31	TarBoiler Man	285.00	305.00	307.00	321.00	331.00	345.00	
32	Plumber	312.00	323.00	326.00	341.00	352.00	367.00	
33	Thatcher	261.00	270.00	272.00	284.00	293.00	305.00	
34	Khalasi / Chainman	261.00	270.00	272.00	284.00	293.00	305.00	
35	Sweeper	250.00	259.00	261.00	273.00	282.00	294.00	
36	Watchman	250.00	259.00	261.00	273.00	282.00	294.00	
37	Stone Breaker	250.00	259.00	261.00	273.00	282.00	294.00	
38	Work Sarkar	276.00	286.00	288.00	301.00	310.00	323.00	
39	Time Keeper	291.00	301.00	303.00	317.00	327.00	341.00	
40	Welder, Grade-I	370.00	383.00	386.00	403.00	416.00	434.00	
41	Welder, Grade-II	312.00	323.00	326.00	341.00	352.00	367.00	
42	Wireman/Linemman	284.00	294.00	296.00	309.00	319.00	333.00	
43	Mechanic, Grade-I	379.00	392.00	395.00	413.00	426.00	444.00	
44	Mechanic, Grade-II	352.00	364.00	367.00	384.00	396.00	413.00	
45	Sarang	352.00	364.00	367.00	384.00	396.00	413.00	
46	Drill Operator	295.00	305.00	307.00	321.00	331.00	345.00	
47	Tractor Operator	352.00	364.00	367.00	384.00	396.00	413.00	
48	Gauge Reader-cum-silt Observer	258.00	267.00	269.00	281.00	290.00	302.00	
49	Crane Operator, Grade-I	415.00	430.00	434.00	454.00	468.00	488.00	
50	Crane Operator, Grade-II	370.00	383.00	386.00	403.00	416.00	434.00	
51	Dragline / Scraper / Showel Operator	415.00	430.00	434.00	454.00	468.00	488.00	
52	Dragline/Scraper/Showel Operator	370.00	383.00	386.00	403.00	416.00	434.00	
53	Dumper Operator	353.00	366.00	368.00	385.00	397.00	414.00	
54	Foreman	415.00	430.00	434.00	454.00	468.00	488.00	

(M)

 J

 B

 A

 R

 Page 1

 R

SCHEDULE - II		Date:- 06.05.2020.					
Approved Schedule of Rates for labour engaged in Dam construction & Irrigation works							
Sl. No.	Category of Employees	Minimum Rates of wages per day as per					
		Lab. Deptt. Notd. No. 4835/ 15.09.17	Lab. Deptt. Notd. No. 1453/ 28.03.18	Lab. Deptt. Notd. No. 6770/ 26.09.18	Lab. Deptt. Notd. No. 996/ 27.02.19	Lab. Deptt. Notd. No. 4077/ 27.09.19	Lab. Deptt. Memo. No. 1050/
1	2	3	4(1.03498xc13)	5(1.00816xc14)	6(1.04509xc15)	7(1.03153xc16)	8(1.04236xc17)
55	Junior Foreman	370.00	383.00	388.00	403.00	416.00	434.00
56	Chargeman	353.00	365.00	368.00	385.00	397.00	414.00
57	Electrician, Grade-I	312.00	323.00	328.00	341.00	352.00	367.00
58	Electrician, Grade-II	295.00	305.00	307.00	321.00	331.00	345.00
59	Electrician, Grade-III	258.00	267.00	269.00	281.00	280.00	302.00
60	Turner	295.00	305.00	307.00	321.00	331.00	345.00
61	Compounder	295.00	305.00	307.00	321.00	331.00	345.00
62	Supervisor / (Diploma holder)	399.00	413.00	418.00	435.00	449.00	488.00
63	Surveyer / Supervisor	295.00	305.00	307.00	321.00	331.00	345.00
64	Blue Printer	258.00	267.00	269.00	281.00	290.00	302.00
65	Tracer	258.00	267.00	269.00	281.00	290.00	302.00
66	Vibrator Operator	274.00	284.00	286.00	299.00	308.00	321.00
67	Clerk / Typist / Typist Clerk	291.00	301.00	303.00	317.00	327.00	341.00
68	Earth Excavator,						
	(a) For every 110 cubic feet of soft	243.00	252.00	254.00	265.00	273.00	285.00
	(b) For every 100 cubic feet of hard	243.00	252.00	254.00	265.00	273.00	285.00
	(c) For every 90 cubic feet of highly	243.00	252.00	254.00	265.00	273.00	285.00
69	Any other category of semi-skilled workers not mentioned above	267.00	285.00	288.00	279.00	289.00	299.00
70	Any other category of skilled workers not mentioned above	313.00	322.00	325.00	340.00	352.00	364.00
71	Highly skilled labour	361.00	392.00	396.00	415.00	429.00	444.00

Note :- The above rates has been calculated as 4.236 % increase vide Labour Deptt. Memo No.1050 Dtd. 27403.2020 i.e (1.04236 * column 7).

06/05/2020
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग,
बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख,
ग्रामीण कार्य विभाग, बिहार, पटना।

06/05/2020
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख, लघु
जल संसाधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-मुख्य अभियंता (असै), बिहार
स्टेट पावर होल्डिंग कंपनी लिमिटेड, बिहार,
पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-मुख्य अभियंता(विद्युत),
भवन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख,
तकनीकी परीक्षण कोषांग, निगरानी
विभाग, बिहार, पटना।

06/05/2020
सदस्य,
राज्यस्तरीय अनुसूचित दर
निर्धारण समिति-सह-अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह- अभियंता प्रमुख,
मुख्यालय,जल संसाधन विभाग,
बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता
प्रमुख(मुख्यालय),पथ निर्माण विभाग,
बिहार, पटना।

बिहार सरकार
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
पथ निर्माण विभाग, बिहार, पटना।
E-mail ID-sorred2012@gmail.com

पत्रांक :- मु0नि0(पथ) 53/2018

52 (अनु)

पटना, दिनांक :- 21/7/2020

प्रेषक,

राज कुमार लाल,
संयोजक, राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना।

सेवा में,

1. अभियंता प्रमुख,
ग्रामीण कार्य विभाग सह सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
2. अभियंता प्रमुख (मुख्यालय),
जल संसाधन विभाग सह सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
3. अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग सह सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
4. अभियंता प्रमुख,
तकनीकी परीक्षक कोषांग, निगरानी विभाग सह सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
6. अभियंता प्रमुख,
भवन निर्माण विभाग सह सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
6. अभियंता प्रमुख,
लघु जल संसाधन विभाग सह सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
7. मुख्य अभियंता (असैनिक),
बिहार स्टेट पावर होल्डिंग कंपनी लिमिटेड सह सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।
8. मुख्य अभियंता (विद्युत),
भवन निर्माण विभाग सह सदस्य राज्य स्तरीय अनुसूचित दर निर्धारण समिति, बिहार, पटना।

विषय :- राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा दिनांक-09.07.2020 की बैठक में लिये गये निर्णयानुसार सीमेंट, बिटुमेन, इम्लेशन एवं स्टील से संबंधित दर की सूची के प्रेषण के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि दिनांक-09.07.2020 की बैठक में राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित सीमेंट, बिटुमेन, इम्लेशन, स्टील, की पुनरीक्षित दर की सूची "M1", "M3A", "M3B", "M3C", "M4", "M5", "M6", "M8", "M9", "M10A" एवं कार्यवाही की प्रति आवश्यक कार्रवाई हेतु संलग्न की जा रही है।

अनु0-यथोक्त।

विश्वासभाजन,

(राज कुमार लाल)
संयोजक

राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

21/7/2020

11

Date: 09.07.20

Schedule : M1

List of Rates of Ordinary Portland Cement approved by State Level Schedule Rate Committee for the year 2020 - 21 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications. Rates are exclusive of GST @ 28%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Zones	Approved Rate	
				in figure (₹)	in words
1	2	3	4	5	6
1	Ordinary Portland Cement (O.P.C. - 43 Grade)	Per bag of 50 Kg	Patna	265.60	Rupees Two Hundred Sixty Five and Paise Sixty Only
			Muzaffarpur	261.50	Rupees Two Hundred Sixty One and Paise Fifty Only
			Darbhanga	265.60	Rupees Two Hundred Sixty Five and Paise Sixty Only
			Bhagalpur	261.50	Rupees Two Hundred Sixty One and Paise Fifty Only
			Munger	261.50	Rupees Two Hundred Sixty One and Paise Fifty Only
			Salbansa	265.60	Rupees Two Hundred Sixty Five and Paise Sixty Only
			Purnea	265.60	Rupees Two Hundred Sixty Five and Paise Sixty Only
			Gaya	251.50	Rupees Two Hundred Fifty One and Paise Fifty Only
			Saran	261.10	Rupees Two Hundred Sixty One and Paise Ten Only

Note:- The above rate of cement is exclusive of 28% GST.

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
मदन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
मदन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अभियंता (सिफ्टर),
मदन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, मुख्यतम,
जल संसाधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, मुख्यतम,
लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना।

Date: 09.07.20

Schedule : M3A

List of Rates of Portland Pozzolana Cement approved by State Level Schedule Rate Committee for the year 2020- 21(for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications. Rates are exclusive of GST @ 28%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Zones	Approved Rate	
				in figure (₹)	in words
1	Portland Pozzolana Cement (P.P.C.)	Per bag of 50 Kg	4	5	6
			Patna	218.80	Rupees Two Hundred Eighteen and Paise Eighty Only
			Muzaffarpur	211.20	Rupees Two Hundred Eleven and Paise Twenty Only
			Darbhanga	211.20	Rupees Two Hundred Eleven and Paise Twenty Only
			Bhagalpur	218.80	Rupees Two Hundred Eighteen and Paise Eighty Only
			Munger	216.70	Rupees Two Hundred Sixteen and Paise Seventy Only
			Saharsa	215.10	Rupees Two Hundred Fifteen and Paise Ten Only
			Purnea	222.30	Rupees Two Hundred Twenty Two and Paise Thirty Only
			Gaya	192.40	Rupees One Hundred Ninety Two and Paise Forty Only
			Saran	213.80	Rupees Two Hundred Thirteen and Paise Eighty Only

Note:- The above rate of cement is exclusive of 28% GST.

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना।

Date: 09.07.20

Schedule : M3B

List of Rates of Portland Slag Cement approved by State Level Schedule Rate Committee for the year 2020 - 21 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT & H Specifications.
Rates are exclusive of GST @ 28%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Zones	Approved Rate	
				in figure (₹)	in words
1	2	3	4	5	6
1	Portland Slag Cement (P.S.C.) Per bag of 50 Kg		Patna	238.30	Rupees Two Hundred Thirty Eight and Paise Thirty Only
			Muzaffarpur	237.10	Rupees Two Hundred Thirty Seven and Paise Ten Only
			Darbhanga	232.20	Rupees Two Hundred Thirty Two and Paise Twenty Only
			Bhagalpur	237.70	Rupees Two Hundred Thirty Seven and Paise Seventy Only
			Munger	228.70	Rupees Two Hundred Twenty Eight and Paise Seventy Only
			Saharsa	236.00	Rupees Two Hundred Thirty Six and Paise Zero Only
			Purnea	232.20	Rupees Two Hundred Thirty Two and Paise Twenty Only
			Gaya	227.90	Rupees Two Hundred Twenty Seven and Paise Ninety Only
			Saran	234.40	Rupees Two Hundred Thirty Four and Paise Forty Only

Note:- The above rate of cement is exclusive of 28% GST.

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभिधता प्रमुख,
मकन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभिधता प्रमुख,
लघु जल संरक्षण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभिधता प्रमुख, तकनीकी परीक्षा, कोषाग,
निगमकी विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभिधता प्रमुख (पुष्पाक्षय),
मकन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभिधता प्रमुख,
ग्रामीण कार्य विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अभियंता (विद्युत),
मकन निर्माण विभाग,
बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभिधता प्रमुख,
जल संरक्षण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभिधता प्रमुख,
पावर होस्टिंग कंपनी लिमिटेड, बिहार,
पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभिधता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना।

Date: 09.07.20

Schedule : M3C

List of Rates of Portland Composite Cement approved by State Level Schedule Rate Committees for the year 2020 - 21 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT & H Specifications. Rates are exclusive of GST @ 28%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Zones	Approved Rate	
				in figure (₹)	in words
1	Portland Composite Cement (P.C.C.)	Per bag of 50 Kg	4	5	6
			Patna	250.00	Rupees Two Hundred Fifty and Paise Zero Only
			Muzaffarpur	250.00	Rupees Two Hundred Fifty and Paise Zero Only
			Darbhanga	250.00	Rupees Two Hundred Fifty and Paise Zero Only
			Bhagalpur	250.00	Rupees Two Hundred Fifty and Paise Zero Only
			Munger	250.00	Rupees Two Hundred Fifty and Paise Zero Only
			Saharsa	250.00	Rupees Two Hundred Fifty and Paise Zero Only
			Purnea	250.00	Rupees Two Hundred Fifty and Paise Zero Only
			Gaya	250.00	Rupees Two Hundred Fifty and Paise Zero Only
			Saran	250.00	Rupees Two Hundred Fifty and Paise Zero Only

Note:- The above rate of cement is exclusive of 28% GST.

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
ग्रामीण कार्य विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
समु जल संसाधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (सिविल),
पावर होल्डिंग कंपनी लिमिटेड, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (सिविल),
भवन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षा, कोचिंग,
निगमनी विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, मुख्यस्थ,
जल संसाधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Schedule : M4

List of Rates of Different Grades of Bitumen approved by State Level Schedule Rate Committee for the year 2019 - 20 for the preparation of Schedule of Rates only. Materials should confirm to relevant BIS/IRC/MORT&H Specifications.
Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			In Figure(₹)	In words
1	2	3	4	5
1	Bitumen Grade VG-40(30/40) Packed			
	(i) Ex. Muzaffarpur	Per MT	15675.00	Rupees Thirty Five Thousand Six Hundred Seventy Five and Paise Zero Only
	(ii) Ex. Fatuha	Per MT	15375.00	Rupees Thirty Five Thousand Three Hundred Seventy Five and Paise Zero Only
	(iv) Ex. Gaya	Per MT	15138.00	Rupees Thirty Five Thousand One Hundred Thirty Eight and Paise Zero Only
2	Bitumen Grade VG-30(60/70) Packed			
	(i) Ex. Barauni	Per MT	34272.00	Rupees Thirty Four Thousand Two Hundred Seventy Two and Paise Zero Only
	(a) Ex. Gaya	Per MT	33908.00	Rupees Thirty Three Thousand Nine Hundred Eight and Paise Zero Only
	(ii) Ex. Fatuha	Per MT	34145.00	Rupees Thirty Four Thousand One Hundred Forty Five and Paise Zero Only
	(v) Ex. Jaulaha	Per MT	33545.00	Rupees Thirty Three Thousand Five Hundred Forty Five and Paise Zero Only
	(vi) Ex. Muzaffarpur	Per MT	32475.00	Rupees Thirty Two Thousand Four Hundred Seventy Five and Paise Zero Only
3	Bitumen Grade VG-10(80/100) Packed			
	(i) Ex. Barauni	Per MT	33472.00	Rupees Thirty Three Thousand Four Hundred Seventy Two and Paise Zero Only
	(b) Ex. Gaya	Per MT	33138.600	Rupees Thirty Three Thousand One Hundred Thirty Eight and Paise Zero Only
	(iii) Ex. Fatuha	Per MT	33375.00	Rupees Thirty Three Thousand Three Hundred Seventy Five and Paise Zero Only
	(vii) Ex. Muzaffarpur	Per MT	31675.00	Rupees Thirty One Thousand Six Hundred Seventy Five and Paise Zero Only
4	Bitumen Grade VG-40(30/40) Bulk			
	(i) Ex. Barauni	Per MT	27480.00	Rupees Twenty Seven Thousand Four Hundred Eighty and Paise Zero Only
5	Bitumen Grade VG-30(60/70) Bulk			
	(i) Ex. Barauni	Per MT	26980.00	Rupees Twenty Six Thousand Nine Hundred Eighty and Paise Zero Only
6	Bitumen Grade VG-10(80/100) Bulk			
	(i) Ex. Barauni	Per MT	26180.00	Rupees Twenty Six Thousand One Hundred Eighty and Paise Zero Only
7	Modified Graded Bitumen			
	(v) CRMB-55 Packed Ex. Barauni	Per MT	35462.00	Rupees Thirty Five Thousand Four Hundred Sixty Two and Paise Zero Only
	(vi) CRMB-55 Packed Ex. Gaya	Per MT	34988.00	Rupees Thirty Four Thousand Nine Hundred Eighty Eight and Paise Zero Only
	(vi) CRMB-55 Packed Ex. Fatuha	Per MT	35225.00	Rupees Thirty Five Thousand Two Hundred Twenty Five and Paise Zero Only
	(viii) CRMB-55 Packed Ex. Muzaffarpur	Per MT	35525.00	Rupees Thirty Five Thousand Five Hundred Twenty Five and Paise Zero Only
8	Bitumen Emulsion RS1(Packed) Drum			
	(i) Ex. Patna	Per MT	37546.00	Rupees Thirty Seven Thousand Five Hundred Forty Six and Paise Zero Only
	(ii) Ex. Gaya	Per MT	37796.00	Rupees Thirty Seven Thousand Seven Hundred Ninety Six and Paise Zero Only
	(iii) Ex. Muzaffarpur	Per MT	37346.00	Rupees Thirty Seven Thousand Three Hundred Forty Six and Paise Zero Only
9	Bitumen Emulsion MS(Packed) Drum			
	(i) Ex. Patna	Per MT	39386.00	Rupees Thirty Nine Thousand Five Hundred Eighty Six and Paise Zero Only
	(ii) Ex. Gaya	Per MT	39736.00	Rupees Thirty Nine Thousand Seven Hundred Thirty Six and Paise Zero Only
	(iii) Ex. Muzaffarpur	Per MT	39286.00	Rupees Thirty Nine Thousand Two Hundred Eighty Six and Paise Zero Only
10	Bitumen Emulsion SS1(Packed) Drum			
	(i) Ex. Patna	Per MT	39467.00	Rupees Thirty Nine Thousand Four Hundred Sixty Seven and Paise Zero Only
	(ii) Ex. Gaya	Per MT	39617.00	Rupees Thirty Nine Thousand Six Hundred Seventeen and Paise Zero Only
	(iii) Ex. Muzaffarpur	Per MT	39167.00	Rupees Thirty Nine Thousand One Hundred Sixty Seven and Paise Zero Only

[Signature]
 सदस्य,
 राज्यस्तरीय अनुसूचित दर निर्धारण समिति
 -सह-अधिवक्ता प्रमुख,
 पथ निर्माण विभाग, विहार, पटना।

[Signature]
 सदस्य,
 राज्यस्तरीय अनुसूचित दर निर्धारण समिति
 -सह-अधिवक्ता प्रमुख,
 प्राथमिक कार्य विभाग, विहार, पटना।

सदस्य,
 राज्यस्तरीय अनुसूचित दर निर्धारण समिति
 -सह-अधिवक्ता प्रमुख,
 सड़क संरक्षण विभाग, विहार, पटना।

सदस्य,
 राज्यस्तरीय अनुसूचित दर निर्धारण समिति
 -सह-प्रमुख अधिवक्ता (अधीन), विहार स्टेट थार
 हाइड्रो कर्पोरेट सिस्टिम्, विहार, पटना।

[Signature]
 सदस्य,
 राज्य स्तरीय अनुसूचित दर निर्धारण समिति,
 -सह-प्रमुख अधिवक्ता (विपुल)
 पथ निर्माण विभाग,
 विहार, पटना।

[Signature]
 सदस्य,
 राज्यस्तरीय अनुसूचित दर निर्धारण समिति
 -सह-अधिवक्ता प्रमुख, तकनीकी परीक्षण कोष,
 विनसानी विभाग, विहार, पटना।

[Signature]
 सदस्य,
 राज्यस्तरीय अनुसूचित दर निर्धारण समिति
 -सह-अधिवक्ता प्रमुख, राज्य स्तरीय
 अभियंता विभाग, विहार, पटना।

[Signature]
 सदस्य,
 राज्यस्तरीय अनुसूचित दर निर्धारण
 समिति-सह-अधिवक्ता प्रमुख, मुजफ्फर,
 पथ संरक्षण विभाग, विहार, पटना।

[Signature]
 सदस्य,
 राज्यस्तरीय अनुसूचित दर निर्धारण समिति
 -सह-अधिवक्ता प्रमुख (मुजफ्फर),
 पथ निर्माण विभाग, विहार, पटना।

16

[Signatures]

Schedule : M5

Date: 09.07.20

Approved new rate of G.C. Sheet by State Level Schedule Rate Committee for the year 2020- 21 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/RC/MORT & H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			In figure	In words
1	G. C. Sheet in mm	3	4	5
1	0.80	Per MT	63114.41	Rupees Sixty Three Thousand One Hundred Fourteen and Paise Forty One Only
2	0.63	Per MT	51694.92	Rupees Fifty One Thousand Six Hundred Ninety Four and Paise Ninety Two Only
3	0.50	Per MT	53135.59	Rupees Fifty Three Thousand One Hundred Thirty Five and Paise Fifty Nine Only
4	0.40	Per MT	65888.14	Rupees Sixty Five Thousand Eight Hundred Eighty Eight and Paise Fourteen Only
5	0.35	Per MT	68555.93	Rupees Sixty Eight Thousand Five Hundred Fifty Five and Paise Ninety Three Only

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
मकन निर्माण विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह- अभियंता प्रमुख,
ग्रामीण कार्य विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अभियंता (असेट), बिहार स्टेट
पावर होल्डिंग कंपनी लिमिटेड, बिहार,
पटना।

[Signature]
सदस्य,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति, -सह-मुख्य अभियंता (विद्युत)
मकन निर्माण विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग,
बिहार,पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, मुख्यालय
जल संसाधन विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
रघु जल संसाधन विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग,
विगसानी विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय),
पथ निर्माण विभाग, बिहार, पटना।

Date: 09.07.20

Schedule : M6

Approved rate of Steel - Wire Rod in Coil by State Level Schedule Rate Committee for the year 2020- 21 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

SL No.	Name & Description of Material	Unit	Approved Rate	
			In figure (₹)	In words
1	2	3	4	5
Wire Rod in Coil				
1	5.5 mm	Per MT	39500.00	Rupees Thirty Nine Thousand Five Hundred and Paise Zero Only
2	6.0 mm	Per MT	38800.00	Rupees Thirty Eight Thousand Eight Hundred and Paise Zero Only
4	7.0 mm	Per MT	40200.00	Rupees Forty Thousand Two Hundred and Paise Zero Only
5	8.0 mm	Per MT	40100.00	Rupees Forty Thousand One Hundred and Paise Zero Only

₹ 07100/18000

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिवक्ता प्रमुख,
लघु उद्यम संसाधन विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिवक्ता प्रमुख,
ग्रामीण कार्य विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिवक्ता प्रमुख,
मत्तन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिवक्ता प्रमुख, तकनीकी परीक्षा केंद्र,
निगरानी विभाग, विहार, पटना।

सदस्य,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति,
-सह-मुख्य अधिवक्ता (विपुल),
मत्तन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अधिवक्ता (अर्थ), विहार स्टेट पावर
हाइडरो एनर्जी लिमिटेड, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिवक्ता प्रमुख (उद्यम/सह),
एन निर्माण विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिवक्ता प्रमुख, मुख्यमंत्र्य
उद्यम संसाधन विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिवक्ता प्रमुख,
लोक स्यान्ध्व अभियंत्रण विभाग, विहार, पटना।

R

18

18

18

R

Date: 09.07.20

Schedule : M8

Approved rate of Steel Channel by State Level Schedule Rate Committee for the year 2020- 21(for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications. Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			in figure	in words
1	2 STEEL CHANNEL	3	4	5
1	Channel 100 x 50	Per MT	36900.00	Rupees Thirty Six Thousand Nine Hundred and Paise Zero Only
2	Channel 125 x 65	Per MT	36900.00	Rupees Thirty Six Thousand Nine Hundred and Paise Zero Only
3	Channel 150 x 75	Per MT	36900.00	Rupees Thirty Six Thousand Nine Hundred and Paise Zero Only
4	Channel 200 x 75	Per MT	37200.00	Rupees Thirty Seven Thousand Two Hundred and Paise Zero Only

09/07/20

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
राज्य जल संसाधन विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
राज्यीय कार्य विभाग, विहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
महन निर्माण विभाग, विहार, पटना।

09/07/20

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, तकनीकी परीक्षाकेंद्र कोषागार,
निराकारी विभाग, विहार, पटना।

09/07/20

सदस्य,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति,
-सह-मुख्य अभियंता (सिंचन)
भवन निर्माण विभाग, विहार, पटना।

09/07/20

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (सुखांतर),
पथ निर्माण विभाग, विहार, पटना।

09/07/20

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, सुखांतर
जल संसाधन विभाग, विहार, पटना।

09/07/20

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग, विहार,पटना।

Date: 09.07.20

Schedule : M9

Approved rate of Steel Angles by State Level Schedule Rate Committee for the year 2020 - 21 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl. No.	Name & Description of Material	Unit	Approved Rate	
			in figure	in words
1	2	3	0	5
1	STEEL ANGLES 75 x 75 x 6/10	Per MT	36900.00	Rupees Thirty Six Thousand Nine Hundred and Paise Zero Only
4	100 x 100 x 8/10/12	Per MT	36900.00	Rupees Thirty Six Thousand Nine Hundred and Paise Zero Only

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-राह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-राह-अभियंता प्रमुख,
शाहीगंज कर्म विभाग, विहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-राह-अभियंता प्रमुख,
सर्पु जल संसाधन विभाग, विहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-राह-मुख्य अभियंता (अरक्त), विहार स्टेट पावर डेवलपिंग कर्पोरेशन लिमिटेड, विहार, पटना।

[Signature]
सदस्य,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-राह-मुख्य अभियंता (विद्युत), भवन निर्माण विभाग, विहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-राह-अभियंता प्रमुख, रेलवे/की संरक्षण/ओपन, निगरानी विभाग, विहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-राह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, विहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-राह-अभियंता प्रमुख, मुख्यारण, जल संसाधन विभाग, विहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-राह-अभियंता प्रमुख (मुख्यारण), पथ निर्माण विभाग, विहार, पटना।

Schedule : M10A Date: 09.07.20

Approved rate of Steel - TMT BARS (Fe 500) State Level Schedule Rate Committee for the year 2020- 21 (for Preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.

Rates are exclusive of GST @ 18%, Overhead Charges & Contractor's Profit.

Sl No.	Name & Description of Material	Unit	Approved Rate	
			In figure	In words
1	2	3	4	5
	STEEL TMT BARS			
1	TMT Fe 500 - 8 mm	Per MT	38000.00	Rupees Thirty Eight Thousand and Paise Zero Only
2	TMT Fe 500 - 10 mm	Per MT	37000.00	Rupees Thirty Seven Thousand and Paise Zero Only
3	TMT Fe 500 - 12 mm	Per MT	36500.00	Rupees Thirty Six Thousand Five Hundred and Paise Zero Only
4	TMT Fe 500 - 16 mm	Per MT	36500.00	Rupees Thirty Six Thousand Five Hundred and Paise Zero Only
5	TMT Fe 500 - 20 mm	Per MT	36500.00	Rupees Thirty Six Thousand Five Hundred and Paise Zero Only
6	TMT Fe 500 - 25 mm	Per MT	36500.00	Rupees Thirty Six Thousand Five Hundred and Paise Zero Only
7	TMT Fe 500 - 28 mm	Per MT	40085.00	Rupees Forty Thousand Eighty Five and Paise Zero Only
8	TMT Fe 500 - 32 mm	Per MT	36500.00	Rupees Thirty Six Thousand Five Hundred and Paise Zero Only

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिकाता प्रमुख,
तम्रु जल संशोधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिकाता प्रमुख,
ग्रामीण कार्य विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिकाता प्रमुख,
सबन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिकाता प्रमुख, तकनीकी परीक्षा प्रयोग, निगरानी विभाग, बिहार, पटना।

सदस्य,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अधिकाता (विद्युत)
सबन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अधिकाता (अर्थ), बिहार स्टेट पावर एंड लिटिंग कंपनी लिमिटेड, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिकाता प्रमुख (सुव्यवस्था),
पथ निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिकाता प्रमुख, सुव्यवस्था
जल संशोधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अधिकाता प्रमुख,
तम्रु जल संशोधन विभाग, बिहार, पटना।

①

बिहार सरकार
राज्य स्तरीय अनुसूचित दर निर्धारण समिति
पथ निर्माण विभाग, बिहार, पटना।
E-mail ID-sorrcd2012@gmail.com

पत्रांक :- मु0नि0(पथ) 10/2006

२९ (अनु०)

पटना, दिनांक :- 15/04/2020

प्रेषक,

अधीक्षण अभियंता,
मुख्यालय निरूपण अंचल,
पथ निर्माण विभाग, बिहार, पटना।

सेवा में,

राज्य सूचना विज्ञान पदाधिकारी,
राष्ट्रीय सूचना विज्ञान केन्द्र
प्रावैधिकी भवन, तृतीय मंजिल
बेली रोड, पटना।

विषय :- राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा दिनांक-25.03.2020 एवं दिनांक-05.03.2020 की बैठक में लिये गये निर्णय से संबंधित कार्यवाही एवं अनुमोदित दरों को पथ निर्माण विभाग के Website पर Upload करने के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि दिनांक-25.03.2020 एवं दिनांक-05.03.2020 की बैठक में राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा लिये गये निर्णय के अनुसार विभिन्न निर्माण सामग्रियों (Schedule M1, M3A, M3B, M3C, M4, M5, M6, M8, M9, M10A, M11, M/MORTH-1, M/MORTH-1A)), यंत्र संयंत्र (Schedule-P&M/MORTH-1A, WMP1, HMP1, P&M/MORTH-1B, HMP2), Carriage (संलग्न सूची के अनुसार) आदि से संबंधित अनुमोदित दरों, पथ निर्माण विभाग, बिहार के अनुसूचित दर पुस्त 2020 से संबंधित निर्णय एवं दिनांक-25.03.2020 को आहूत बैठक की कार्यवाही Soft Copy (C.D.) में संलग्न की जा रही है।

कृपया इसे पथ निर्माण विभाग के website (www.rcd.bih.nic.in) पर Upload करने की कृपा की जाय।
अनु०-यथोक्त।

विश्वासमाजन,

16-04-2020
अधीक्षण अभियंता,
मुख्यालय निरूपण अंचल,
पथ निर्माण विभाग, बिहार, पटना।

FORM 200A/1178 & 2012

22

Amit

16/4/2020

Amit

Amit

Schedule: M11

Date: 05.03.2020

Approved Rate of Bricks & Bricks related materials by the State Level Schedule Rate Committee for the year 2020 - 21
(for preparation of Schedule of Rates only) - Materials should conform to relevant BIS/IRC/MoRT&H Specifications.

Rates are Inclusive of Royalty but Exclusive of GST, Seigniorage Fee, Contractor's profit and Overhead charges (Rates at source).

Sr. No.	Materials	Unit	Approved Rate	
			In figure (₹)	In words
1	100 A Bricks			
	(i) For urban Patna	Nos/1000	6261.00	Rupees Six Thousand Two Hundred Sixty One and Paise Zero Only
	(ii) For Darbhanga, Bhagalpur, Munger & Muzaffarpur	Nos/1000	5285.00	Rupees Five Thousand Two Hundred Eighty Five and Paise Zero Only
	(iii) For Gaya & Saran	Nos/1000	5001.00	Rupees Five Thousand One and Paise Zero Only
	(iv) For Saharsa	Nos/1000	5429.00	Rupees Five Thousand Four Hundred Twenty Nine and Paise Zero Only
	(v) For Purnea	Nos/1000	5716.00	Rupees Five Thousand Seven Hundred Fifteen and Paise Zero Only
	(vi) For rural Patna	Nos/1000	5215.00	Rupees Five Thousand Two Hundred Fifteen and Paise Zero Only
2	100 B Bricks			
	(i) For urban Patna	Nos/1000	5812.00	Rupees Five Thousand Eight Hundred Twelve and Paise Zero Only
	(ii) For Darbhanga, Bhagalpur, Munger & Muzaffarpur	Nos/1000	4856.00	Rupees Four Thousand Eight Hundred Fifty Six and Paise Zero Only
	(iii) For Gaya & Saran	Nos/1000	4572.00	Rupees Four Thousand Five Hundred Seventy Two and Paise Zero Only
	(iv) For Saharsa	Nos/1000	5001.00	Rupees Five Thousand One and Paise Zero Only
	(v) For Purnea	Nos/1000	5285.00	Rupees Five Thousand Two Hundred Eighty Five and Paise Zero Only
	(vi) For rural Patna	Nos/1000	4787.00	Rupees Four Thousand Seven Hundred Eighty Seven and Paise Zero Only
3	Brick Tiles (300mmx160mmx50mm)			
	(i) For urban Patna and rural Patna	Nos/1000	6261.00	Rupees Six Thousand Two Hundred Sixty One and Paise Zero Only
	(ii) For Saharsa, Bhagalpur, Darbhanga & Muzaffarpur	Nos/1000	6287.00	Rupees Six Thousand Two Hundred Eighty Seven and Paise Zero Only
	(iii) For Purnea	Nos/1000	6574.00	Rupees Six Thousand Five Hundred Seventy Four and Paise Zero Only
	(iv) For other places	Nos/1000	6001.00	Rupees Six Thousand One and Paise Zero Only
4	Picket Jhama Bricks			
	(i) For urban Patna	Nos/1000	5356.00	Rupees Five Thousand Three Hundred Sixty Six and Paise Zero Only
	(ii) For Darbhanga, Bhagalpur, Munger & Muzaffarpur	Nos/1000	4429.00	Rupees Four Thousand Four Hundred Twenty Nine and Paise Zero Only
	(iii) For Gaya & Saran	Nos/1000	4138.00	Rupees Four Thousand One Hundred Thirty Eight and Paise Zero Only
	(iv) For Purnea	Nos/1000	4856.00	Rupees Four Thousand Eight Hundred Fifty Six and Paise Zero Only
	(v) For Saharsa	Nos/1000	4572.00	Rupees Four Thousand Five Hundred Seventy Two and Paise Zero Only
	(vi) For rural Patna	Nos/1000	4329.00	Rupees Four Thousand Three Hundred Twenty Nine and Paise Zero Only
5	Brick Bats			
	(i) For urban Patna	Per m ³	1108.00	Rupees One Thousand One Hundred Eight and Paise Zero Only
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m ³	1093.00	Rupees One Thousand Sixty Three and Paise Zero Only
	(iii) For other places	Per m ³	1017.00	Rupees One Thousand Seventeen and Paise Zero Only
	(iv) For rural Patna	Per m ³	1062.00	Rupees One Thousand Sixty Two and Paise Zero Only
6	Jhama Metals			
	(a) 63 mm to 40 mm size			
	(i) For urban Patna	Per m ³	1315.00	Rupees One Thousand Three Hundred Fifteen and Paise Zero Only
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m ³	1259.00	Rupees One Thousand Two Hundred Fifty Nine and Paise Zero Only
	(iii) For other places	Per m ³	1233.00	Rupees One Thousand Two Hundred Thirty Three and Paise Zero Only
	(iv) For rural Patna	Per m ³	1285.00	Rupees One Thousand Two Hundred Eighty Five and Paise Zero Only
	(b) 40 mm to 20 mm size			
	(i) For urban Patna	Per m ³	1463.00	Rupees One Thousand Four Hundred Sixty Three and Paise Zero Only
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m ³	1403.00	Rupees One Thousand Four Hundred Three and Paise Zero Only
	(iii) For other places	Per m ³	1362.00	Rupees One Thousand Three Hundred Sixty Two and Paise Zero Only
	(iv) For rural Patna	Per m ³	1419.00	Rupees One Thousand Four Hundred Nineteen and Paise Zero Only

Sum

h

Andia

R

a

Bhm

B

B

a

a

23

Bhm

Wdy

Sr. No.	Materials	Unit	Approved Rate	
			In figure (₹)	In words
	(c) 20 mm and down			
	(i) For urban Patna	Per m ³	1675.00	Rupees One Thousand Six Hundred Seventy Five and Paise Zero Only
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m ³	1605.00	Rupees One Thousand Six Hundred Five and Paise Zero Only
	(iii) For other places	Per m ³	1548.00	Rupees One Thousand Five Hundred Forty Eight and Paise Zero Only
	(iv) For rural Patna	Per m ³	1616.00	Rupees One Thousand Six Hundred Sixteen and Paise Zero Only
7	Surkhi			
	(i) For urban Patna	Per m ³	1733.00	Rupees One Thousand Seven Hundred Thirty Three and Paise Zero Only
	(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per m ³	1663.00	Rupees One Thousand Six Hundred Sixty Three and Paise Zero Only
	(iii) For other places	Per m ³	1605.00	Rupees One Thousand Six Hundred Five and Paise Zero Only
	(iv) For rural Patna	Per m ³	1675.00	Rupees One Thousand Six Hundred Seventy Five and Paise Zero Only

Note: For S.No. 1 to 4, Royalty has been Included as Rs. 45.00 per 1000 Nos. & for S.No. 5 to 7 as Rs. 18.00 per m³ (cum)

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख,
ग्रामीण कार्य विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, जल संसाधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (अरीठ), बिहार स्टेट पावर होल्डिंग कंपनी लिमिटेड, बिहार, पटना।

सदस्य,
राज्य स्तरीय अनुसूचित दर निर्धारण समिति, -सह-मुख्य अभियंता (विद्युत), भवन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति -सह-अभियंता प्रमुख, तकनीकी परीक्षण कोष, निगरानी विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति -सह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, मुख्यालय जल संसाधन विभाग, बिहार, पटना।

संयोजक,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति -सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना।

R

24

Amit

A

B

C

Schedule - P&M / MORTH - 1A

Meeting Date:25.03.2020

Approved Usages Rates of Plants and Machinery. The Usages charges for the machines include ownership charges, cost of repair & maintenance including replacement of tyre and running and operating charges which includes crew, fuel & lubricants. These rates are for the preparation of Schedule of Rates for Year 2020-2021 only.

Sl. No.	Description of Machine	Activity	Output of Machine	Output	Unit	Rate (Rs)
P&M-001	Air Compressor	General Purpose	capacity in cfm	170/250	hour	483.70
P&M-002	Batching and Mixing Plant (a) 30 cum capacity	Concrete Mixing	cum/hour	20	hour	2981.00
P&M-003	Batching and Mixing Plant (b) 15 - 20 cum capacity	Concrete Mixing	cum/hour	13	hour	1937.70
P&M-004	Bitumen Pressure Distributor	Applying bitumen tack coat	sqm/hour	1750	hour	1622.20
P&M-005	Bitumen Boiler oil fired	Bitumen Spraying	capacity in litre	1500	hour	299.70
P&M-006	Concrete Paver Finisher with 40 HP Motor	Paving of concrete surface	cum / hour	20	hour	1478.40
P&M-007	Concrete Pump of 45 & 30 cum capacity	Pumping of concrete	cum / hour	33 / 22	hour	387.20
P&M-008	Concrete Bucket	For Pouring concrete	capacity in cum	1	hour	24.30
P&M-009	Concrete Mixer (a) 0.4/0.28 cum	Concrete Mixing	cum/hour	2.5	hour	86.30
P&M-010	Concrete Mixer (b) 1 cum	Concrete Mixing	cum/hour	7.5	hour	259.00
P&M-011	Crane (a) 80 tonnes	Lifting Purpose			hour	1936.00
P&M-012	Crane (b) 35 tonnes	Lifting Purpose			hour	1289.30
P&M-013	Crane (c) 3 tonnes	Lifting Purpose			hour	540.10
P&M-014	Dozer D - 80 - A 12	Spreading /Cutting / Clearing	cum/hour	300/ 150/250	hour	5629.90
P&M-015	Dozer D - 50 - A 15	Spreading /Cutting / Clearing	cum/hour	200/ 120/150	hour	3337.90
P&M-016	Emulsion Pressure Distributor	Applying emulsion tack coat	sqm/hour	1750	hour	1209.90
P&M-017	Front End loader 1 cum bucket capacity	Soil loading / Aggregate loading	cum/hour	60 /25	hour	1403.00
P&M-018	Generator (a) 125 KVA	Generation of electric Energy	KVA	100	hour	2724.00
P&M-019	Generator (b) 63 KVA	Generation of electric Energy	KVA	50	hour	1068.10
P&M-020	GSB Plant 50 cum	Producing GSB	cum/hour	40	hour	1572.90
P&M-021	Hotmix Plant - 120 TPH capacity	DBM/BM/SDC/ Premix	cum/hour	40	hour	52956.00
P&M-022	Hotmix Plant - 100 TPH capacity	DBM/BM/SDC/ Premix	cum/hour	30	hour	40270.00
P&M-023	Hotmix Plant - 60 to 90 TPH capacity	DBM/BM/SDC/ Premix	cum/hour	25	hour	33928.00
P&M-024	Hotmix Plant - 40 to 60 TPH capacity	DBM/BM/SDC/ Premix	cum/hour	17	hour	23729.00
P&M-025	Hydraulic Chip Spreader	Surface Dressing	sqm/hour	1500	hour	3986.60
P&M-026	Hydraulic Excavator of 1 cum bucket	Soil Ordinary/Soil Marshy / Soil Unsuitable	cum/hour	60 /60 /60	hour	1969.20
P&M-027	Integrated Stone Crusher 100TPH	Crushing of Spalls	TPH	100	hour	13110.30
P&M-028	Integrated Stone Crusher 200 TPH	Crushing of Spalls	TPH	200	hour	27581.30
P&M-029	Kerb Casting Machine	Kerb Making	Rm/hour	80	hour	469.70
P&M-030	Mastic Cooker	Mastic Wearing coat	capacity in tonne	1	hour	93.20
P&M-031	Mechanical Broom Hydraulic	Surface Cleaning	sqm/hour	1250	hour	572.00
P&M-032	Motor Grader 3.35 mtr blade	Clearing /Spreading /GSB /WBM	cum/hour	200/200/50/50	hour	2786.00
P&M-033	Mobile slurry seal equipment	Mixing and laying slurry seal	sqm/hour	2700	hour	1524.60
P&M-034	Paver Finisher Hydrostatic with sensor control 100 TPH	Paving of DBM/ BM/SDC/ Premix	cum/hour	40	hour	3566.00
P&M-035	Paver Finisher Mechanical 100 TPH	Paving of WMM /Paving of DLC	cum/hour	40/30	hour	1417.00
P&M-036	Piling Rig with Bantonite Pump	0.75 m dia to 1.2 m dia Boring attachment	Rm/hour	2 to 3	hour	8266.90
P&M-037	Pneumatic Road Roller	Rolling of Asphalt Surface	cum/hour	25	hour	1882.70
P&M-038	Pneumatic Sinking Plant	Pneumatic Sinking of wells	cum/hour	1.5 to 2.00	hour	6308.80

Handwritten signatures and initials are present at the bottom of the page, including a large signature on the right and several smaller ones and initials on the left and center.

Sl. No.	Description of Machine	Activity	Output of Machine	Output	Unit	Rate (Rs)
P&M-039	Pot Hole Repair Machine	Repair of potholes	cum/hour	4	hour	1370.80
P&M-040	Prestressing Jack with Pump & access	Stressing of steel wires/stands			hour	195.10
P&M-041	Ripper	Scarifying	cum/hour	60	hour	43.40
P&M-042	Rotavator	Scarifying	cum/hour	25	hour	26.40
P&M-043	Road marking machine	Road marking	Sqm/hour	100	hour	141.80
P&M-044	Smooth Wheeled Roller 8 tonne	Soil Compaction /BM Compaction	cum/hour	70/25	hour	803.00
P&M-045	Tandem Road Roller	Rolling of Asphalt Surface	cum/hour	30	hour	1731.80
P&M-046	Tipper - 5 cum	Transportation of soil, GSB, WMM, Hotmix etc.	Capacity in cum	5.5	km	37.10
P&M-047	Tipper - 5 cum	Transportation of soil, GSB, WMM, Hotmix etc.	Capacity in cum	5.5	tonne.km	9.07
P&M-048	Tipper - 5 cum	Transportation of soil, GSB, WMM, Hotmix etc.	Capacity in cum	5.5	hour	1043.00
P&M-049	Transit Mixer 4.0/4.5 cum	Transportation of Concrete Mix to site	cum/hour	4.5	hour	1406.00
P&M-050	Transit Mixer 4/4.5 cum	Transportation of Concrete Mix to site	cum/hour	4.5	tonne.km	7.00
P&M-051	Transit Mixer 3.0 cum	Transportation of Concrete Mix to site	cum/hour	3	hour	1289.30
P&M-052	Transit Mixer 3.0 cum	Transportation of Concrete Mix to site	cum/hour	3	tonne.km	9.30
P&M-053	Tractor	Pulling	capacity in HP	50	hour	549.10
P&M-054	Tractor with Rotevator	Rate of Tractor + Rotevator			hour	573.20
P&M-055	Tractor with Ripper	Rate of Tractor 6+ Ripper			hour	591.40
P&M-056	Truck 5.5 cum per 10 tonnes	Material Transport	capacity/cum	4.5	km	32.90
P&M-057	Truck 5.5 cum per 10 tonnes	Material Transport	capacity/cum	4.5	hour	934.30
P&M-058	Truck 5.5 cum per 10 tonnes	Material Transport	capacity/cum	4.5	tonne.km	3.50
P&M-059	Vibratory Roller 8 tonne	Earth or soil / GSB / WBM	cum/hour	100/60/60	hour	2069.00
P&M-060	Water Tanker	Water Transport	capacity in KL	6	hour	184.00
P&M-061	Water Tanker	Water Transport	capacity in KL	6	km	38.10
P&M-062	Wet Mix Plant 60 TPH	Wet Mix	cum/hour	25	hour	1822.30
Sl. No.	Description of Machine				Unit	Rate (Rs)
P&M-063	Air compressor with pneumatic chisel attachment for cutting hard clay.				hour	939.30
P&M-064	Batch type cold mixing plant 100-120 TPH capacity producing an average output of 75 tonne per hour				hour	3751.30
P&M-065	Belt conveyor system				hour	Input
P&M-066	Boat to carry atleast 20 persons				hour	235.30
P&M-067	Cement concrete batch mix plant @ 175 cum per hour (effective output)				hour	7877.60
P&M-068	Cement concrete batch mix plant @ 75 cum per hour				hour	3375.10
P&M-069	Cold milling machine @ 20 cum per hour				hour	1406.00
P&M-070	Crane 5 tonne capacity				hour	1289.30
P&M-071	Crane 10 tonne capacity				hour	1289.30
P&M-072	Crane 15 tonne capacity				hour	1289.30
P&M-073	Crane 20 tonne capacity				hour	1289.30
P&M-074	Crane 40 T capacity				hour	1936.00
P&M-075	Crane with grab 0.75 cum capacity				hour	1936.00
P&M-076	Compressor with guniting equipment along with accessories				hour	235.30
P&M-077	Drum mix plant for cold mixes of appropriate capacity but not less than 75 tonnes/hour.				hour	1822.30
P&M-078	Epoxy Injection gun				hour	175.00
P&M-079	Generator 33 KVA				hour	562.20
P&M-080	Generator 100 KVA				hour	1995.00

Handwritten signatures and initials are present at the bottom of the page, including a large signature on the right and several smaller ones and initials scattered below it.

Sl. No.	Description of Machine	Activity	Output of Machine	Output	Unit	Rate (Rs)
P&M-081	Generator 250 KVA				hour	3795.00
P&M-082	Induction, deinduction and erection of plant and equipment including all components and accessories for pneumatic method of well sinking.				hour	input
P&M-083	Joint Cutting Machine with 2-3 blades (for rigid pavement)				hour	352.00
P&M-084	Jack for Lifting 40 tonne lifting capacity.				day	1289.30
P&M-085	Piling rig Including double acting pile driving hammer (Hydraulic rig)				hrs	8266.90
P&M-086	Plate compactor				hour	469.70
P&M-087	Snow blower equipment 140 HP @ 600 cum per hour				hour	input
P&M-088	Texturing machine (for rigid pavement)				hour	118.70
P&M-089	Truck Tractor 30 tonne capacity				hour	3751.30
P&M-090	Truck Tractor 30 tonne capacity				t.km	3.50
P&M-091	Tunnel Boring machine				hour	input
P&M-092	Vibrating Pile driving hammer complete with power unit and accessories.				hour	input
P&M-093	Wet Mix Plant 100 TPH				hour	2923.00
P&M-094	Wet Mix Plant 75 TPH				hour	2923.00

Beu
सदस्य 25/03/20
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना।

U
सदस्य 25/03/20
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, प्राचीन कार्य विभाग, बिहार, पटना।

U
सदस्य 25/03/20
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (असी), बिहार स्टेट पावर होल्डिंग कंपनी लिमिटेड, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (विद्युत), भवन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग, निगरानी विभाग, बिहार, पटना।

U
सदस्य 25/3
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना।

U
सदस्य 25/03/20
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, मुख्यालय जल संसाधन विभाग, बिहार, पटना।

U
सदस्य 25.3.20
संयोजक,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना।

Meeting Date: 25.03.2020

Schedule - P & M / MORTH - 1 B for Year 2020-2021.

Approved Usages Rates of Plants and Machinery. The Usages charges for the machines include ownership charges, cost of repair & maintenance including replacement of tyre and running and operating charges which includes crew, fuel & lubricants, These rates are for the preparation of Schedule of Rates only.

Sl. No.	Description of Machine	Activity	Output of Machine	Output	Unit	Rate
1	WMM Paver Finisher	Paving of WMM/Paving of DLC.	Cum/hour		hour	1627.00
2	Tipping Truck 14 M *3	Transportation of Soil, GSB, WMM, Hot mix etc.	Capacity in cum		hour	2371.00
3	6.5 KVA Generator	Generation of electric Energy	KVA		hour	268.00
4	Vibratory Earth Compactor		Cum/hour		hour	1888.00
5	Tractor (25 HP)	Carriage	25 HP Capacity	2.25 cum	hour	542.00
6	5 KVA Silent Type Generator	Generation of electric Energy	KVA		hour	234.00
7	Mini HOT MIX PLANT - (6-10) TPH		Cum/hour	2.7	hour	3702.00

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
मन निर्माण विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
मन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (विद्युत)
बिहार स्टेट पावर हाउ कंपनी लि०, बिहार,पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह- अभियंता प्रमुख, लोक स्वास्थ्य, अभियंत्रण विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (विद्युत)
मन निर्माण विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख मुख्यालय
जल संसाधन विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (विद्युत)
मन निर्माण विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (विद्युत)
मन निर्माण विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (विद्युत)
मन निर्माण विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख मुख्यालय
जल संसाधन विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (विद्युत)
मन निर्माण विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख मुख्यालय
जल संसाधन विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
जल संसाधन विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग,
निगरानी विभाग, बिहार, पटना।

सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग,
निगरानी विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (विद्युत)
मन निर्माण विभाग, बिहार, पटना।

[Signature]
सदस्य,
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (विद्युत)
मन निर्माण विभाग, बिहार, पटना।

राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख मुख्यालय,
मन निर्माण विभाग, बिहार,पटना।

CHAPTER-II

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
The rates are exclusive of all taxes, GST, Labour Cess, Contractor's profit and overhead charges.							
1		Cement (as per T.E.C Letter No.23 dated 28.02.06, capacity of one bag of cement = 0.034 Cum)					
	M-1	(i) Ordinary Portland Cement (O.P.C-43 Grade) (Unit-Per bag of 50 kg) approved by State Level schedule rate Committee for the year 2019-20 (for preparation of schedule of rate only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.					
		Patna	Per bags	265.60	-	265.60	7811.80
		Muzaffarpur	Per bags	261.50	-	261.50	7691.20
		Darbhanga	Per bags	265.60	-	265.60	7811.80
		Bhagalpur	Per bags	261.50	-	261.50	7691.20
		Munger	Per bags	261.50	-	261.50	7691.20
		Saharsa	Per bags	265.60	-	265.60	7811.80
		Purnea	Per bags	265.60	-	265.60	7811.80
		Gaya	Per bags	251.50	-	251.50	7397.10
		Saran	Per bags	261.10	-	261.10	7679.40
	M-2	(ii) Ordinary Portland Cement (O.P.C-33 Grade) (Unit-Per bag of 50 kg) approved by State Level Committee for the year 2020-21 on basis of approved rate dated 18.01.2018 (for preparation of schedule of rate only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.					
		Patna	Per bags	210.90	-	210.90	6203.00
		Muzaffarpur	Per bags	213.90	-	213.90	6291.00
		Darbhanga	Per bags	220.90	-	220.90	6497.00
		Bhagalpur	Per bags	220.90	-	220.90	6497.00
		Munger	Per bags	220.90	-	220.90	6497.00
		Saharsa	Per bags	228.10	-	228.10	6709.00
		Purnea	Per bags	228.10	-	228.10	6709.00
		Gaya	Per bags	199.60	-	199.60	5871.00
		Saran	Per bags	213.90	-	213.90	6291.00
	M-3A	(iii) Portland Pozzolana Cement (P.P.C) (Unit-Per bag of 50 kg) approved by State Level Committee for the year 2020-21 (for preparation of schedule of rate only) - Materials should conform to relevant BIS/IRC/MORT&H Specifications.					
		Patna	Per bags	218.80	-	218.80	6435.30
		Muzaffarpur	Per bags	211.20	-	211.20	6211.80
		Darbhanga	Per bags	211.20	-	211.20	6211.80
		Bhagalpur	Per bags	218.80	-	218.80	6435.30
		Munger	Per bags	216.70	-	216.70	6373.50
		Saharsa	Per bags	215.10	-	215.10	6326.50
		Purnea	Per bags	222.30	-	222.30	6538.20
		Gaya	Per bags	192.40	-	192.40	5658.80
		Saran	Per bags	213.80	-	213.80	6288.20



 29

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevalant BIS/ IRC/ MORTH/ AS Specification.The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
	M-3B	(iv) Portland Slag Cement (P.S.C) (Unit-Per bag of 50 kg)approved by State Level Committee for the year 2020-21 (for preparation of schedule of rate only)-Materials should conform to relevant BIS/IRC/MORT&H Specifications.					
		Patna	Per bags	238.30	-	238.30	7008.80
		Muzaffarpur	Per bags	237.10	-	237.10	6973.50
		Darbhanga	Per bags	232.20	-	232.20	6829.40
		Bhagalpur	Per bags	237.70	-	237.70	6991.20
		Munger	Per bags	228.70	-	228.70	6726.50
		Saharsa	Per bags	236.00	-	236.00	6941.20
		Purnea	Per bags	232.20	-	232.20	6829.40
		Gaya	Per bags	227.90	-	227.90	6702.94
		Saran	Per bags	234.40	-	234.40	6894.10
2	M-4	BITUMEN- List of Rates of Different Grades of Bitumen approved by state level Schedule rate committee for the year 2020-21 for the preparation of Schedule rates only. Materials should confirm to relevalant BIS/ IRC/ MORTH Specification					
	a	Bitumen Grade VG - 40 (30/40) Packed			-		
		(i) Ex.Haldia	Per M.T	input	-	#VALUE!	
		(ii) Ex.Barauni	Per M.T	input	-	#VALUE!	
		(iii) Ex.Giddha	Per M.T	input	-	#VALUE!	
		(iv) Ex.Fatuha	Per M.T	35375.00	-	35375.00	
		(v) Ex.Muzaffarpur	Per M.T	35675.00	-	35675.00	
		(vi).Ex.Gaya	Per M.T	35138.00	-	35138.00	
	b	Bitumen Grade VG 30 (60/70) Packed			-		
		(i) Ex.Barauni	Per M.T	34272.00	-	34272.00	
		(ii).Ex.Gaya	Per M.T	33908.00	-	33908.00	
		(iii) Ex.Fatuha	Per M.T	34145.00	-	34145.00	
		(iv) Ex.Muzaffarpur	Per M.T	32475.00	-	32475.00	
		(v) Ex. Jasidih	Per M.T	33545.00	-	33545.00	
	c	Bitumen Grade VG10 (80/100) Packed			-		
		(i) Ex.Barauni	Per M.T	33472.00	-	33472.00	
		(ii).Ex.Gaya	Per M.T	33138.00	-	33138.00	
		(iii) Ex.Fatuha	Per M.T	33375.00	-	33375.00	
		(iv) Ex. Jasidih	Per M.T	input	-	input	
		(iv) Ex.Muzaffarpur	Per M.T	31675.00	-	31675.00	
	d	Bitumen Grade VG- 40 (30/40) Bulk			-		
		(i) Ex.Haldia	Per M.T	input	-	#VALUE!	
		(ii) Ex.Barauni	Per M.T	27480.00	-	27480.00	
	e	Bitumen Grade VG - 30 (60/70) Bulk			-		
		(i) Ex.Haldia	Per M.T	input	-	#VALUE!	
		(ii) Ex.Barauni	Per M.T	26980.00	-	26980.00	
	f	Bitumen Grade VG - 10 (80/100) Bulk			-		

Q

30

R
Q

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
		(i) Ex.Haldia	Per M.T	input	-	#VALUE!	
		(ii) Ex.Barauni	Per M.T	26180.00	-	26180.00	
	g	Modified Graded Bitumen			-		
		(i)CRMB- 50 Packed Ex.Barauni	Per M.T	input	-	#VALUE!	
		(ii)CRMB -50 Packed Ex.Muzaffarpur	Per M.T	input	-	#VALUE!	
		(iii)CRMB- 50 Packed Ex.Gaya	Per M.T	input	-	#VALUE!	
		(iv)CRMB- 50 Packed Ex.Patna	Per M.T	input	-	#VALUE!	
		(v) CRMB -55 Packed Ex.Barauni	Per M.T	35462.00	-	35462.00	
		(vi)CRMB -55 Packed Ex.Gaya	Per M.T	34988.00	-	34988.00	
		(vii)CRMB- 55 Packed Ex Fatuha	Per M.T	35225.00	-	35225.00	
		(viii)CRMB- 55 Packed Ex Muzaffarpur	Per M.T	35525.00	-	35525.00	
		(ix)CRMB- 60 Packed Ex.Barauni	Per M.T	input	-	#VALUE!	
		(x)CRMB -60 Packed Ex-Patna	Per M.T	input	-	#VALUE!	
		(xi) CRMB- 60 Packed Ex Muzaffarpur	Per M.T	input	-	#VALUE!	
		(xii)CRMB -60 Packed Ex Gaya	Per M.T	input	-	#VALUE!	
	h	Bitumen Emulsion			-		
		(A) RS1 (packed) Drum			-		
		(i) Ex. Patna	Per M.T	37546.00	-	37546.00	
		(ii) Ex. Gaya	Per M.T	37796.00	-	37796.00	
		(iii) Ex. Muzaffarpur	Per M.T	37346.00	-	37346.00	
		(B) MS (packed) Drum			-		
		(i) Ex. Patna	Per M.T	39586.00	-	39586.00	
		(ii) Ex. Gaya	Per M.T	39736.00	-	39736.00	
		(iii) Ex. Muzaffarpur	Per M.T	39286.00	-	39286.00	
		(c) SS1 (Packed) Drum			-		
		(i) Ex.Patna	Per M.T	39467.00	-	39467.00	
		(ii) Ex.Gaya	Per M.T	39617.00	-	39617.00	
		(iii)Ex.Muzaffarpur	Per M.T	39167.00	-	39167.00	
3	0368	White Cement	Per Tonne	11200.00	-	11200.00	BCD
4	M-5	G.C sheets thickness in mm			-		
		ii. 0.63	Per M.T	51694.92	-	51694.92	
		iii. 0.50	Per M.T	53135.59	-	53135.59	
		iv. 0.40	Per M.T	65888.14	-	65888.14	
		v. 0.35	Per M.T	68555.93	-	68555.93	
5	M-6	Wire Rod in COIL			-		
		(i) 5.5mm	Per M.T	39500.00	-	39500.00	
		(ii)6.0 mm	Per M.T	38800.00	-	38800.00	
		(iii) 6.5 mm	Per M.T	39200.00	-	39200.00	
		(iv) 7.0 mm	Per M.T	40200.00	-	40200.00	

31

Amit Kumar Sachin

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
		(v) 8.00 mm	Per M.T	40100.00	-	40100.00	
		(vi) 10.0 mm	Per M.T	39500.00	-	39500.00	
		(vii) 12.0/12.7 mm	Per M.T	39500.00	-	39500.00	
6	M-7	Joist size in mm			-		
	1007A	iv. 200x100 (@ Rs 3864.90 Per Quintal)	Per M.T	38649.00	-	38649.00	BCD
		vi. 250x125 (@ Rs 3864.90 Per Quintal)	Per M.T	38649.00	-	38649.00	BCD
		vii. 300x140 (@ Rs 3864.90 Per Quintal)	Per M.T	38649.00	-	38649.00	BCD
		ix. 400x140 (@ Rs 3864.90 Per Quintal)	Per M.T	38649.00	-	38649.00	BCD
		x. 450 x 150 (@ Rs 3864.90 Per Quintal)	Per M.T	38649.00	-	38649.00	BCD
		xii. 600x210 (@ Rs 3864.90 Per Quintal)	Per M.T	38649.00	-	38649.00	BCD
7	M-8	Steel Channel size in mm			-		
	1007B	i. 75x40 (@ Rs3840 Per Quintal)	Per M.T	38400.00	-	38400.00	BCD
		ii. 100 x 50	Per M.T	36900.00	-	36900.00	
		iii. 125 x 65	Per M.T	36900.00	-	36900.00	
		iv. 150 x 75	Per M.T	36900.00	-	36900.00	
		v. 175x75 (@ Rs.3840 Per Quintal)	Per M.T	38400.00	-	38400.00	BCD
		vi. 200 x 75	Per M.T	37200.00	-	37200.00	
		vii. 250 x 82 (@ Rs.3840 Per Quintal)	Per M.T	38400.00	-	38400.00	BCD
		viii. 300 x 90 (@ Rs3840 Per Quintal)	Per M.T	38400.00	-	38400.00	BCD
		ix. 400 x 100 (@ Rs3840 Per Quintal)	Per M.T	38400.00	-	38400.00	BCD
8	M-9	Steel Angle size in mm			-		
	1007C	i) 50 x50 x6 (@ Rs. 3820 Per Quintal)	Per M.T	38200.00	-	38200.00	BCD
		ii) 60 x 60 x6 (@ Rs. 3820 Per Quintal)	Per M.T	38200.00	-	38200.00	BCD
		iii) 65x65x6 (@ Rs. 3820 Per Quintal)	Per M.T	38200.00	-	38200.00	BCD
		iv) 75 x75 x6/10	Per M.T	36900.00	-	36900.00	
		v) 80 x80 x8 /10 /12	Per M.T	38200.00	-	38200.00	BCD
		vi) 90x90x6/8	Per M.T	38200.00	-	38200.00	BCD
		vii) 100x100 x 8 /10 /12	Per M.T	36900.00	-	36900.00	
		viii) 110x110 x 8 /10 /12	Per M.T	38200.00	-	38200.00	BCD
		ix) 130 x130 x10 /12	Per M.T	38200.00	-	38200.00	BCD
		x) 150x150 x12 /16/20	Per M.T	38200.00	-	38200.00	BCD
		xi) 200 x200 x16 /18 /20	Per M.T	38200.00	-	38200.00	BCD
9	M-10A	Steel T.M.T bars			-		
		T.M.T Fe -500- 8 mm	Per M.T	38000.00	-	38000.00	
		T.M.T Fe -500- 10 mm	Per M.T	37000.00	-	37000.00	
		T.M.T Fe -500-12 mm	Per M.T	36500.00	-	36500.00	

a

32

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
		T.M.T Fe -500- 16 mm	Per M.T	36500.00	-	36500.00	
		T.M.T Fe -500-20 mm	Per M.T	36500.00	-	36500.00	
		T.M.T Fe -500-25 mm	Per M.T	36500.00	-	36500.00	
		T.M.T Fe -500-28 mm	Per M.T	40085.00	-	40085.00	
		T.M.T Fe -500- 32 mm	Per M.T	36500.00	-	36500.00	
	10051	T.M.T Fe -500- 36 mm (@ Rs. 3850 Per Quintal)	Per M.T	38500.00	-	38500.00	BCD

Material at Serial No. 10 to 71- The rates are exclusive of all taxes, GST, Labour cess, Contractor's Profit and overhead charges but inclusive of royalty

S.No.	Ref. Code No.	NAME OF MATERIALS	Unit	Basic Rate	Royalty	Basic Rate including Royalty for SOR 2020-21	
1	2	3	4	5	6	7	8
10	M-11	100A Bricks (Rate of 13.03.2018 of SLSRC)					
	a	(i) For Urban Patna	Per 1000 nos	6216.00	45.00	6261.00	
		(ii) For Darbhanga, Bhagalpur, Munger & Muzaffarpur	Per 1000 nos	5240.00	45.00	5285.00	
		(iii) For Gaya & Saran	Per 1000 nos	4956.00	45.00	5001.00	
		(iv) For Saharsa	Per 1000 nos	5384.00	45.00	5429.00	
		(v) For Purnea	Per 1000 nos	5670.00	45.00	5715.00	
		(vi) For Rural Patna	Per 1000 nos	5170.00	45.00	5215.00	
	b	(ii) 100B Bricks					
		(i) For Urban Patna	Per 1000 nos	5767.00	45.00	5812.00	
		(ii) For Darbhanga, Bhagalpur, Munger & Muzaffarpur	Per 1000 nos	4811.00	45.00	4856.00	
		(iii) For Gaya & Saran	Per 1000 nos	4527.00	45.00	4572.00	
		(iv) For Saharsa	Per 1000 nos	4956.00	45.00	5001.00	
		(v) For Purnea	Per 1000 nos	5240.00	45.00	5285.00	
		(vi) For Rural Patna	Per 1000 nos	4722.00	45.00	4767.00	
	c	(iii). Bricks Tiles (300mmx150mmx50mm)					
		(i) For Urban Patna and Rural Patna	Per 1000 nos	6216.00	45.00	6261.00	
		(ii) For Saharsa, Bhagalpur, Darbhanga, & Muzaffarpur	Per 1000 nos	6242.00	45.00	6287.00	
		(iii) For Purnea	Per 1000 nos	6529.00	45.00	6574.00	
		(iv) For Other Places	Per 1000 nos	5956.00	45.00	6001.00	
	d	Picket Jhama Brick					



 33

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should conform to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
		(i) For Urban Patna	Per 1000 nos	5321.00	45.00	5366.00	
		(ii) For Darbhanga, Bhagalpur, Munger & Muzaffarpur	Per 1000 nos	4384.00	45.00	4429.00	
		(iii) For Gaya & Saran	Per 1000 nos	4093.00	45.00	4138.00	
		(iv) For Purnea	Per 1000 nos	4811.00	45.00	4856.00	
		(v) For Saharsa	Per 1000 nos	4527.00	45.00	4572.00	
		(vi) For Rural Patna	Per 1000 nos	4284.00	45.00	4329.00	
	e	Brick Bats					
		(i) For Urban Patna	Per M ³	1090.00	18.00	1108.00	
		(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per M ³	1045.00	18.00	1063.00	
		(iii) For Rural Patna	Per M ³	1044.00	18.00	1062.00	
		(iv) For Other Places	Per M ³	999.00	18.00	1017.00	
	f	Jhama metal					
		(a) 63mm to 40mm size					
		(i) For Urban Patna	Per M ³	1297.00	18.00	1315.00	
		(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per M ³	1241.00	18.00	1259.00	
		(iii) For Rural Patna	Per M ³	1267.00	18.00	1285.00	
		(iv) For Other Places	Per M ³	1215.00	18.00	1233.00	
		(b) 40mm to 20mm size					
		(i) For Urban Patna	Per M ³	1445.00	18.00	1463.00	
		(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per M ³	1385.00	18.00	1403.00	
		(iii) For Rural Patna	Per M ³	1401.00	18.00	1419.00	
		(iv) For Other Places	Per M ³	1344.00	18.00	1362.00	
		(c) 20mm & down size					
		(i) For Urban Patna	Per M ³	1657.00	18.00	1675.00	
		(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per M ³	1587.00	18.00	1605.00	
		(iii) For Rural Patna	Per M ³	1598.00	18.00	1616.00	
		(iv) For Other Places	Per M ³	1530.00	18.00	1548.00	
11	g	Surkhi					
		(i) For Urban Patna	Per M ³	1715.00	18.00	1733.00	
		(ii) For Purnea, Saharsa, Bhagalpur, Munger & Darbhanga	Per M ³	1645.00	18.00	1663.00	
		(iii) For Rural Patna	Per M ³	1657.00	18.00	1675.00	
		(iv) For Other Places	Per M ³	1587.00	18.00	1605.00	
12	1157	stone for masonry work	Per M ³	950.00	150.00	1100.00	BCD
13	1158	Stone for pitching 15cmX22.5cm	Cum	450.00	150.00	600.00	BCD
14		Ashlar stone masonry	Per M ³	input	150.00	value	
15	M-001	Stone Boulder of size 150 mm and below at Crusher Plant	Per M ³	205.68	150.00	355.68	

h

34
34

34

34

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relelevant BIS/ IRC/ MORTH/ AS Specification.The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
16	M-002	Supply of quarried stone 150 - 200 mm size for Hand Broken	Per M ³	205.68	150.00	355.68	
17	M-003	Boulder with minimum size of 300 mm for Pitching	Per M ³	205.68	150.00	355.68	
18	M-004	Coarse sand (i) at source quarry Koilwar/Sone sand	Per M ³	100.80	75.00	175.80	
19	M-005	Coarse sand (ii) Equivalent to koliwar/Sone sand	Per M ³	100.80	75.00	175.80	
20	M-006	Fine sand	Per M ³	66.85	75.00	141.85	
21	M-007	Moorum	Per M ³	76.97	83.00	159.97	
22	M-008	Gravel/Quarry spall	Per M ³	205.68	150.00	355.68	
23		River bed material (30 % sand And 70 % Quarry spall)	Per M ³	164.03	127.50	291.53	
24		River bed material (50% sand And 50% Quarry spall)	Per Cum	136.26	112.50	248.76	
25	M-009	Granular Material or hard murrum for GSB works at site	Per M ³	82.26	83.00	165.26	
26	M-010	Granular Material or hard murrum for GSB works at Mixing Plant	Per Cum	82.26	83.00	165.26	
27	M-011	Fly ash conforming to IS: 3812 (Part II & I) at Plant	Per M ³	0.00	0.00	0	
28	M-012	Filter media/Filter Material as per Table 300-3 (MoRT&H Specification)	Per M ³	362.06	150.00	512.06	
29	M-013	Close graded Granular sub-base Material 53 mm to 9.5 mm	Per M ³	470.62	150.00	620.62	
30	M-014	Close graded Granular sub-base Material 37.5 mm to 9.5 mm	Per M ³	446.69	150.00	596.69	
31	M-015	Close graded Granular sub-base Material 26.5 mm to 9.5 mm	Per M ³	507.85	150.00	657.85	
32	M-016	Close graded Granular sub-base Material 9.5 mm to 4.75 mm	Per M ³	485.73	150.00	635.73	
33	M-017	Close graded Granular sub-base Material 9.5 mm to 2.36 mm	Per M ³	364.58	150.00	514.58	
34	M-018	Close graded Granular sub-base Material 4.75mm to 2.36 mm	Per M ³	154.29	150.00	304.29	
35	M-019	Close graded Granular sub-base Material 4.75mm to 75 micron	Per M ³	139.65	150.00	289.65	
36	M-020	Close graded Granular sub-base Material 2.36 mm & below	Per M ³	139.65	150.00	289.65	
37	M-021	Stone crusher dust finer than 3mm with not more than 10% passing 0.075 sieve.	Per M ³	89.10	30.00	119.10	
38	M-022	Coarse graded Granular sub-base Material 2.36 mm & below	Per M ³	86.71	150.00	236.71	
39	M-023	Coarse graded Granular sub-base Material 4.75mm to 75 micron	Per M ³	86.71	150.00	236.71	
40	M-024	Coarse graded Granular sub-base Material 4.75 mm to 2.36mm	Per M ³	101.35	150.00	251.35	
41	M-025	Coarse graded Granular sub-base Material 9.5 mm to 4.75 mm	Per M ³	432.80	150.00	582.80	
42	M-026	Coarse graded Granular sub-base Material 26.5 mm to 4.75 mm	Per M ³	403.36	150.00	553.36	
43	M-027	Coarse graded Granular sub-base Material 26.5 mm to 9.5 mm	Per M ³	454.91	150.00	604.91	
44	M-028	Coarse graded Granular sub-base Material 37.5 mm to 9.5 mm	Per M ³	393.75	150.00	543.75	
45	M-029	Coarse graded Granular sub-base Material 53 mm to 26.5mm	Per M ³	361.44	150.00	511.44	
46	M-030	Aggregates below 5.6 mm at quarry	Per M ³	101.35	150.00	251.35	
47	M-031	Aggregates 22.4 mm to 2.36 mm at quarry	Per M ³	431.99	150.00	581.99	
48	M-032	Aggregates 22.4 mm to 5.6 mm at quarry	Per M ³	431.99	150.00	581.99	
49	M-033	Aggregates 45 mm to 2.8 mm at quarry	Per M ³	374.27	150.00	524.27	
50	M-034	Aggregates 45 mm to 22.4 mm at quarry	Per M ³	382.52	150.00	532.52	
51	M-035	Aggregates 53 mm to 2.8 mm at quarry	Per M ³	374.27	150.00	524.27	
52	M-036	Aggregates 53 mm to 22.4 mm at quarry	Per M ³	361.44	150.00	511.44	

d

y

(35)

35

(3)

S

R
D
J
y

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
53	M-037	Aggregates 63 mm to 2.8 mm at quarry	Per M ³	330.75	150.00	480.75	
54	M-038	Aggregates 63 mm to 45 mm at quarry	Per M ³	330.64	150.00	480.64	
55	M-039	Aggregates 90 mm to 45 mm at quarry	Per M ³	298.91	150.00	448.91	
56	M-040	Aggregates 10 mm to 5 mm at quarry	Per M ³	432.80	150.00	582.80	
57	M-041	Aggregates 11.2 mm to 0.09 mm	Per M ³	247.73	150.00	397.73	
58	M-042	Aggregates 13.2 mm to 0.09 mm	Per M ³	373.37	150.00	523.37	
59	M-043	Aggregates 13.2 mm to 5.6 mm at quarry	Per M ³	518.80	150.00	668.80	
60	M-044	Aggregates 13.2 mm to 10 mm at quarry	Per M ³	547.55	150.00	697.55	
61	M-045	Aggregates 20 mm to 10 mm at quarry	Per M ³	547.55	150.00	697.55	
62	M-046	Aggregates 25 mm to 10 mm at quarry	Per M ³	517.20	150.00	667.20	
63	M-047	Aggregates 19 mm to 6 mm at quarry	Per M ³	431.99	150.00	581.99	
64	M-048	Aggregates 37.5 mm to 19 mm at quarry	Per M ³	382.52	150.00	532.52	
65	M-049	Aggregates 37.5 mm to 25 mm at quarry	Per M ³	382.52	150.00	532.52	
66	M-050	Aggregates 6 mm nominal size at quarry	Per M ³	311.52	150.00	461.52	
67	M-051	Aggregates 10 mm nominal size at quarry	Per M ³	518.80	150.00	668.80	
68	M-052	Aggregates 13.2/12.5 mm nominal size at quarry	Per M ³	547.55	150.00	697.55	
69	M-053	Aggregates 20 mm nominal size at quarry	Per M ³	454.91	150.00	604.91	
70	M-054	Aggregates 25 mm nominal size at quarry	Per M ³	429.14	150.00	579.14	
71	M-055	Aggregates 40 mm nominal size at quarry	Per M ³	344.15	150.00	494.15	

The rates are exclusive of all taxes, GST, Labour cess, Contractor's Profit and overhead charges.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	Unit	Basic Rate	Royalty	Basic Rate including Royalty for SOR 2020-21	
1	2	3	4	5	6	7	
72	M-056	AC pipe 100 mm dia	metre	40.63	-	40.63	
73	M-057	Acrylic polymer bonding coat	litre	120.99	-	120.99	
74	M-058	Alluminium Paint	litre	114.40	-	114.40	
75	M-059	Aluminium alloy plate 2mm Thick	sqm	8193.06	-	8193.06	
76	M-060	Aluminium alloy/galvanised steel	tonne	32772.23	-	32772.23	
77	M-061	Aluminium sheeting fixed with encapsulated lens type reflective sheeting including 2% towards lettering, cost of angle iron, cost of drilling holes, nuts, bolts etc. and signs as applicable	sqm	7738.53	-	7738.53	
78	M-062	Road Stud with Micro Prismatic lens reflectors(with shank)	each	168.52	-	168.52	
79	M-063	Barbed wire	kg	59.01	-	59.01	
80	M-064	Bearing (Cost of parts)	nos	input	-	#VALUE!	
81	M-065	Bearing (Cast steel rocker bearing assembly of 250 tonne)	nos	81102.76	-	81102.76	
82	M-066	Bearing (Elastomeric bearing assembly consisting of 7 internal layers of elastomer bonded to 6 nos. Internal reinforcing steel laminates by the process of vulcanisation,)	cubic cm	0.58	-	0.58	
83	M-067	Bearing (Forged steel roller bearing of 250 tonne)	nos	44895.62	-	44895.62	

36

36

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
84	M-068	Bearing (Pot type bearing assembly consisting of a metal piston supported by a disc, PTFE pads providing sliding surfaces against stainless steel mating together with cast steel assemblies/ fabricated structural steel assemblies duly painted with all components (a) Fixed POT-PTFE Bearing (b) Free POT-PTFE Bearing (c) Guide Slide (L) POT-PTFE Bearing (d) Guide Slide (T) POT-PTFE Bearing	MT	134.91	-	134.91	
85	M-069	Bearing (PTFE sliding plate bearing assembly of 80 Tonnes)	nos	11949.60	-	11949.60	
86	M-070	Bearing (Supply of sliding plate bearing of 80 tonne)	nos	10792.80	-	10792.80	
87	M-071	Bentonite	kg	3.62	-	3.62	
88	M-072	Binding wire	kg	60.03	-	60.03	
89	M-073	Bitumen (Cationic Emulsion) Ex- Patna(RS1)Packed	tonne	37546.00	-	37546.00	
90	M-074	Bitumen (60-70 grade) Packed Ex- Barauni	tonne	34272.00	-	34272.00	
91	M-075	Bitumen (80-100 grade) Packed Ex- Barauni	tonne	33472.00	-	33472.00	
92	M-076	Bitumen (Cutback) Packed Ex- Barauni	tonne	input	-	input	
93	M-077	Bitumen (emulsion) Packed Ex- Patna (M.S)	tonne	39586.00	-	39586.00	
94	M-078	Bitumen (modified graded) Packed Ex - Barauni (CRMB - 55)	tonne	35462.00	-	35462.00	
95	M-079	Brick 100A for - Patna Urban	each	6.216	0.045	6.261	including royalty
96	M-080	C.I. shoes for the pile	kg	44.38	-	44.38	
97	M-081	Cement - OPC 43 Grade at Patna	tonne	5312.00	-	5312.00	
98	M-082	Cold twisted bars (HYSD Bars) - Fe 500 Av. of M-10A	tonne	37198.10	-	37198.10	
99	M-083	Collar for joints 300 mm dia	nos	input	-	#VALUE!	
100	M-084	Compressible Fibre Board (20mm thick)	sqm	1014.12	-	1014.12	
101	M-085	Connectors / Staples	each	7.44	-	7.44	
102	M-086	Copper Plate (12m long x 250mm wide)	kg	728.10	-	728.10	
103	M-087	Corrosion resistant Structural steel	tonne	44786.06	-	44786.06	
104	M-088	Corrugated sheet, 3 mm thick, "Thrie" beam section railing	kg	47.07	-	47.07	
105	M-089	Credit for excavated rock found suitable for use (add Royalty @30 % of rate)	cum	131.91	39.57	171.48	including royalty
106	M-090	Curing compound	litre	122.56	-	122.56	
107	M-091	Delineators from ISI certified firm as per the standard drawing given in IRC - 79	each	790.92	-	790.92	
108	M-092	Earth Cost or compensation for earth taken from private land	cum	1.81	33	34.81	including royalty
109	M-093	Elastomeric slab seal expansion joint assembly manufactured by using chloroprene, elastomer for elastomeric slab unit conforming to clause 915.1 of IRC: 83 (part II)	metre	27040.49	-	27040.49	
110	M-094	Electric Detonators @ 1 detonator for 1/2 gelatin stick of 125 gms each	100 nos	574.58	-	574.58	
111	M-095	Epoxy compound with accessories for preparing epoxy mortar	kg	568.30	-	568.30	
112	M-096	Epoxy mortar	kg	735.35	-	735.35	
113	M-097	Epoxy primer	kg	116.35	-	116.35	

Q

37

Rajm

S

R
S

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevalant BIS/ IRC/ MORTH/ AS Specification.The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
114	M-098	Epoxy resin-hardner mix for prime coat	kg	690.07	-	690.07	
115	M-099	Flag of red color cloth 600 x 600 mm	each	51.70	-	51.70	
116	M-100	Flowering Plants	each	34.47	-	34.47	
117	M-101	Galvanised MS flat clamp	nos	14.80	-	14.80	
118	M-102	Galvanised steel wire crates of mesh size 100 mm x 100 mm woven with 4mm dia. GI wire in rolls of required size.	sqm	96.39	-	96.39	
119	M-103	Galvanised structural steel plate 200 mm wide, 6 mm thick, 24 m long	kg	43.62	-	43.62	
120	M-104	Gelatin 80%	kg	806.85	-	806.85	
121	M-105	Geo grids	sqm	88.42	-	88.42	
122	M-106	Geomembrane	sqm	107.15	-	107.15	
123	M-107	Geonets	sqm	107.15	-	107.15	
124	M-108	Geotextile	sqm	83.76	-	83.76	
125	M-109	Geotextile filter fabric	sqm	83.76	-	83.76	
126	M-110	GI bolt 10 mm Dia	nos	15.96	-	15.96	
127	M-111	Grouting pump with agitator	hour	141.44	-	141.44	
128	M-112	Grass (Doob)	kg	4.46	-	4.46	
129	M-113	Grass (Fine)	kg	4.46	-	4.46	
130	M-114	HDPE pipes 75mm dia	metre	196.01	-	196.01	
131	M-115	HDPE pipes 90mm dia	metre	196.01	-	196.01	
132	M-116	Hedge plants	each	34.47	-	34.47	
133	M-117	Helical pipes 600mm diameter	metre	input	-	#VALUE!	
134	M-118	Hot applied thermoplastic compound (Sp.gravity - 2.10)	litre	188.53	-	188.53	
135	M-119	HTS strand	tonne	69593.31	-	69593.31	
136	M-120	Joint Sealant Compound	kg	24.51	-	24.51	
137	M-121	Jute netting, open weave, 2.5 cm square opening for seeding and Mulching	sqm	34.20	-	34.20	
138	M-122	LDO for steam curing	litre	input	-	input	
139	M-123	M.S. Clamps	nos	34.68	-	34.68	
140	M-124	M.S. Clamps	kg	62.77	-	62.77	
141	M-125	M.S.shoes @ 35 Kg per pile of 15 m	kg	24.00	-	24.00	
142	M-126	Mild Steel bars (Av-M6)	tonne	39650.00	-	39650.00	
143	M-127	Modular strip/box seal expansion joint including anchorage catering to a horizontal movement beyond 70 mm and upto 140mm assembly comprising of edge beams, central beam, 2 modules chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative	metre	29799.69	-	29799.69	

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
144	M-128	Modular strip/box seal expansion joint catering to a horizontal movement beyond 140mm and upto 210mm box/box seal joint assembly containing 3 modules/cells and comprising of edge beams, two central beams, chloroprene seal, anchorage elements, support and control system, all steel sections protected against corrosion and installed by the manufacturer or his authorised representative	metre	29799.69	-	29799.69	
145	M-129	Nipples 12mm, 300 mm long	nos	40.00	-	40.00	
146	M-130	Nuts and bolts	kg	61.74	-	61.74	
147	M-131	Paint	litre	226.28	-	226.28	
148	M-132	Pavement Marking Paint	litre	226.28	-	226.28	
149	M-133	Paving Fabric	sqm	83.76	-	83.76	
150	M-134	Perforated geosynthetic pipe 150 mm dia	metre	26.40	-	26.40	
151	M-135	Perforated pipe of cement concrete, internal dia 100 mm	metre	107.08	-	107.08	
152	M-136	Pesticide	kg	78.17	-	78.17	
153	M-137	Pipes 200 mm dia, 2.5 m long for drainage	metre	164.79	-	164.79	
154	M-138	Plastic sheath, 1.25 mm thick for dowel bars	sqm	14.68	-	14.68	
155	M-139	Plastic tubes 50 mm dia, 1.2 m high	nos	input	-	#VALUE!	
156	M-140	Polymer braids	metre	input	-	#VALUE!	
157	M-141	Pre moulded Joint filler, 25 mm thick for expansion joint.	sqm	957.49	-	957.49	
158	M-142	Pre-coated stone chips of 13.2 mm nominal size	cum	494.43	150	644.43	including royalty
159	M-143	Preformed continuous chloroprene elastomer or closed cell foam sealing element with high tear strength, vulcanised in a single operation for the full length of a joint to ensure water tightness.	metre	input	-	#VALUE!	
160	M-144	Pre-moulded asphalt filler board	sqm	957.49	-	957.49	
161	M-145	Pre-packed cement based polymer concrete of strength 45 Mpa at 28 days	kg	input	-	#VALUE!	
162	M-146	Primer (wall)	kg	71.19	-	71.19	
163	M-147	Quick setting compound	kg	input	-	#VALUE!	
164	M-148	Random Rubble Stone	cum	190.55	150	340.55	including royalty
165	M-149	RCC Pipe NP 4 heavy duty non pressure pipe 1000 mm dia	metre	2758.22	-	2758.22	
166	M-150	RCC Pipe NP 4 heavy duty non pressure pipe 1200 mm dia	metre	3921.34	-	3921.34	
167	M-151	RCC Pipe NP 4 heavy duty non pressure pipe 300 mm dia	metre	505.12	-	505.12	
168	M-152	Reflectorising glass beads	kg	64.78	-	64.78	
169	M-153	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Copper Strips)	metre	input	-	#VALUE!	
170	M-154	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Galvanised carbon steel strips)	metre	input	-	#VALUE!	
171	M-155	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Glass reinforced polymer/fibre reinforced polymer/polymeric strips)	metre	input	-	#VALUE!	
172	M-156	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Stainless steel strips)	metre	input	-	#VALUE!	
173	M-157	Reinforcement strips 60 mm wide 5 mm thick as per clause 3102. (Aluminium strips)	metre	input	-	#VALUE!	

a

39

B

B

W

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
174	M-158	Rivets	each	8.11	-	8.11	
175	M-159	Sand bags (Cost of sand and Empty cement bag)	nos	5.87	2.59	8.46	including royalty
176	M-160	Sapling 2 m high 25 mm dia	each	22.99	-	22.99	
177	M-161	Scrap tyres of size 900 x 20	nos	76.60	-	76.60	
178	M-162	Seeds	kg	34.47	-	34.47	
179	M-163	Selected earth (excluding royalty @ Rs 33.0 per cum & compensation @ Rs 1.81 per cum)	cum	1.81	33	34.81	including royalty
180	M-164	Separation Membrane of impermeable plastic sheeting 125 micron thick	sqm	14.48	-	14.48	
181	M-165	Sheathing duct	metre	84.27	-	84.27	
182	M-166	Shrubs	each	17.23	-	17.23	
183	M-167	Sludge / Farm yard manure @ 0.18 cum per 100 sqm at site of work for turfing	cum	775.57	-	775.57	
184	M-168	Sodium vapour lamp (70 watt)	each	170.00	-	170.00	
185	M-169	Square Rubble Coursed Stone	cum	190.54	150	340.54	including royalty
186	M-170	Steel circular hollow pole of standard specification for street lighting to mount light at 5 m height above deck level	each	input	-	#VALUE!	
187	M-171	Steel circular hollow pole of standard specification for street lighting to mount light at 9 m height above road level	each	input	-	#VALUE!	
188	M-172	Steel drum 300 mm dia 1.2 m high/empty bitumen drum	nos	127.80	-	127.80	
189	M-173	Steel helmet and cushion block on top of pile head during driving.	kg	39.77	-	39.77	
190	M-174	Steel pipe 25 mm external dia as per IS:1239	metre	124.87	-	124.87	
191	M-175	Steel pipe 50 mm external dia as per IS:1239	metre	223.45	-	223.45	
192	M-176	Steel wire rope 20 mm	kg	41.94	-	41.94	
193	M-177	Steel wire rope 40 mm	kg	41.94	-	41.94	
194	M-178	Strip seal expansion joint	metre	8389.05	-	8389.05	
195	M-179	Structural Steel (Av. Of M6, M8, & M9)	tonne	37842.00	-	37842.00	
196	M-180	Super plastisizer admixture IS marked as per 9103-1999	kg	156.84	-	156.84	
197	M-181	Synthetic Geogrids as per clause 3102.8 and approved design and specifications.	sqm	186.14	-	186.14	
198	M-182	Through and bond stone	each	10.57	-	10.57	
199	M-183	Tie rods 20mm diameter (500mm length) @ 2.47 Kg/m	nos	47.55	-	47.55	
200	M-184	Tiles size 300 x 300 mm and 25 mm thick	each	39.09	-	39.09	
201	M-185	Timber	cum	43744.62	-	43744.62	
202	M-186	Traffic cones with 150 mm reflective sleeve	nos	input	-	value	
203	M-187	Tube anchorage set complete with bearing plate, permanent wedges etc	nos	45.96	-	45.96	
204	M-188	Unslaked lime	tonne	3615.82	-	3615.82	
205	M-189	Water	KL	258.51	-	258.51	
206	M-190	Water based cement paint	litre	115.16	-	115.16	
207	M-191	Welded steel wire fabric	kg	42.10	-	42.10	
208	M-192	Wire mesh 50mm x 50mm size of 3mm wire	kg	41.32	-	41.32	

40

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
209	M-193	Wooden ballies 2" Dia for bracing (Sal)	each	21.74	-	21.74	
210	M-194	Wooden ballies 8" Dia and 9 m long	each	525.75	-	525.75	
211	M-195	Wooden packing	cum	input	-	#VALUE!	
212	M-196	Wooden staff for fastening of flag 25 mm dia, 1.0 m long	each	27.17	-	27.17	
213	M-197	Bitumen (30/40 grade) Ex- Patna Packed	per MT	35375.00	-	35375.00	
214	M-198	deleted					
215	M-199	Paver Block (Excluding GST)			-		
		i) M -35 Grade and 60 mm			-		
		(a) White	Per M ²	487.64	-	487.64	
		(b) Red	Per M ²	496.33	-	496.33	
		(c) Yellow	Per M ²	511.91	-	511.91	
		ii) M-40 Grade and 80mm			-		
		(a) White	Per M ²	559.60	-	559.60	
		(b) Red	Per M ²	574.24	-	574.24	
		(c) Yellow	Per M ²	592.76	-	592.76	
216	M-200	Kerb-Stone Block-M30 Grade(size 375mmx300mmx150mm) inclusive of OH and CP	each	76.70	-	76.70	
217	M-201	Autoclved Aerated concrete (AAC) block	cum	2364.97	-	2364.97	
218	1199	Sal wood Scantling (@ Rs 600.00/10 cudm)	Per M ³	60000.00	-	60000.00	BCD
219	1195	Local Wood in scantling (@ Rs 309.39 / 10 cudm)	Per M ³	30939.00	-	30939.00	BCD
220	1196	First class kail wood in planks (@ Rs300.00 / 10 cudm)	Per M ³	30000.00	-	30000.00	BCD
221	1198	Second class kail wood in planks (@ Rs 260.00 / 10 cudm)	Per M ³	26000.00	-	26000.00	BCD
222		Bamboo			-		
		i. 75 mm dia 6m long to 8m long	Each	141.50	-	141.50	WRD
		ii. 100 mm dia 6m long to 8m long	Each	151.00	-	151.00	WRD
		iii. 50 mm dia Hill Bamboo	Each	94.35	-	94.35	WRD
223		Sal Ballah Post			-		
		i. 100 mm dia	Per M	30.59	-	30.59	WRD
		ii. 125 mm dia	Per M	53.99	-	53.99	WRD
		iii. 150 mm dia	Per M	67.02	-	67.02	WRD
224		Wire			-		
		i. G.I wire, 3.15mm dia (IS 4826-79)	Per Kg	69.30	-	69.30	WRD
		ii. Black annealed wire 3.15mm dia.(IS 280-78)	Per kg.	62.924	-	62.924	WRD
225	1029	Galvanised steel Barbed wire o 9.8 kg/100 metre (@ Rs 5500.00/ Quintal)	Per M.T	55000.00	-	55000.00	BCD
226		Welded mesh (8 to 10 SWG) 100 to 125 mm square size	Per M ²	input	-	input	
227	1213	water proofing compound 'Impermo' of Snowcem India Ltd.	Per Kg	35.00	-	35.00	BCD
228	1219	Wire Nails	Per Kg	58.00	-	58.00	BCD
229		Narial coir string	Per Kg	27.98	-	27.98	WRD
230		Narial rope 20 mm to 25 mm dia	Per Kg	35.38	-	35.38	WRD
231		Narial rope above 25 mm dia	Per Kg	42.80	-	42.80	WRD

L

41 (2mm)

3

WRD

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
232		Sutali	Per Kg	19.75	-	19.75	WRD
233		Sabey string	Per Kg	14.81	-	14.81	WRD
234	322	Bitumen felt Type 3, grade I, confirming to IS 1322	Sqm	70.00	-	70.00	BCD
235	370	Coal (steam)	Per quintal	440.00	-	440.00	BCD
236	1207	washers cadmium Coated G.I Limpet washer	per 100 Nos.	21.00	-	21.00	BCD
237	1208	Washers Bitumen washer	per 100 Nos.	30.00	-	30.00	BCD
238	341	Flat pressed 3 layer particle board (medium density) Grade-I 12mm thick	Per M ²	288.00	-	288.00	BCD
239	1701	R.C.C. Pipes NP ₂ Class 150 mm dia	Per M	212.00	-	212.00	BCD
240	1703	R.C.C. Pipes NP ₂ Class 300 mm dia	Per M	445.00	-	445.00	BCD
241	1706	R.C.C. Pipes NP ₂ Class 600 mm dia	Per M	1100.00	-	1100.00	BCD
242	1710	R.C.C. Pipes NP ₂ Class 900 mm dia	Per M	2500.00	-	2500.00	BCD
243	1713	R.C.C. Pipes NP ₂ Class 1200 mm dia	Per M	3510.00	-	3510.00	BCD
244	1715	RCC Collars NP2 class 150mm dia.	Each	35.00	-	35.00	BCD
245	1717	RCC Collars NP2 class 300mm dia.	Each	55.00	-	55.00	BCD
246	1720	RCC Collars NP2 class 600mm dia.	Each	140.00	-	140.00	BCD
247	1724	RCC Collars NP2 class 900mm dia.	Each	235.00	-	235.00	BCD
248	1727	RCC Collars NP2 class 1200mm dia.	Each	350.00	-	350.00	BCD
249		(i) Analysis of rate of brick khoa (63 mm to 40 mm size)			-		
		For 2.832 Cum Khoa					
		(i) Material- 100B Bricks (Patna Urban) 800 Nos. @ Rs.5812 per thousand including royalty = 4649.60					
		ii) Labour -Unskilled mazdoor 3 Nos. @ Rs.287 = 861.00					
		Total cost for 2.832 cum = 5510.60		cum	1945.83	1945.83	
250		(ii) Analysis of rate of brick khoa (40 mm to 20 mm size)			-		
		For 2.832 Cum Khoa					
		(i) Material- 100B Bricks (Patna Urban) 850 Nos. Rs.5812 per thousand including royalty = 4940.20 @					
		(ii) Labour- Unskilled mazdoor 4 Nos. @ Rs.287 = 1148.00					
		Total cost for 2.832 cum = 6088.20		cum	2149.79	2149.79	
251		(ii) Analysis of rate of brick khoa (20 mm and down)			-		
		For 2.832 Cum Khoa					
		(i) Material- 100B Bricks (Patna Urban) 900 Nos. Rs.5812 per thousand including royalty = 5230.80 @					
		(ii) Labour- Unskilled mazdoor 5 Nos. @ Rs.287 = 1435.00					
		Total cost for 2.832 cum = 6665.80		cum	2353.74	2353.74	
252		Pressure release valves (Vertical non return valve)	Each	input	-	#VALUE!	
253		Pocket valve (non return pocket valve)	Each	input	-	#VALUE!	
254		Safety valve	Each	input	-	#VALUE!	
255		Reflex valve	Each	input	-	#VALUE!	
256		Burnt clay pipe of internal dia 30 mm . External dia 31.75 mm		input	-	#VALUE!	

R

42

Rajm

Rajm

Rajm

List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.


Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
		(a). 100 mm long	Each	input	-	#VALUE!	
		(b) 222mm long	Each	input	-	#VALUE!	
257		Jute	Per Kg	20.44	-	20.44	WRD
258		M.S Bends	Each	input	-	#VALUE!	
259		Rubber seal	metre	input	-	#VALUE!	
260		Sheet Pile	Per M.T	input	-	#VALUE!	
261		Tree branches of dia 150 mm to 200 mm and 3 M to 4.5 M long with jhankhi covering the space of 100 cft in volume	nos	input	-	#VALUE!	
262	0761	Fuel (wood) (Rs 500.00 per Quintal)	Kg	5.00	-	5.00	BCD
263	0326	Blasting fuse (Fuse Wire)	each	15.00	-	15.00	BCD
264		Cardium compound	kg	input	-	#VALUE!	
265		M.S. Bolt 20mm dia., 25 Cm long	Each	32.88	-	32.88	WRD
266	8509	Special primer (C.W)	Litre	140.00	-	140.00	BCD
267	8510	Metal Primer (U.G)	Litre	90.00	-	90.00	BCD
268	0818	Linseed oil (double boiled)	Litre	200.00	-	200.00	BCD
269		Electric Charge	K.W.H	input	-	#VALUE!	
270		Slotted pins and wedges 10 mm dia and 60 mm long	nos	input	-	#VALUE!	
271		Tube and nuts 26 no. 25 mm dia and above	nos	input	-	#VALUE!	
272		M.S Electrodes	nos	input	-	#VALUE!	
273	771	Kerosene Oil	litre	50.00	-	50.00	BCD
274		Gun metal in gate	Kg	input	-	#VALUE!	
275		Old empty cement bag (synthetic) (Annexure-I)	Per 100 nos	292.00	-	292.00	WRD
276		Nylon Crate of size 1mx1mx1m (As per Annex-II)	Each	39.85	-	39.85	WRD
277		Geo bag (non woven) size 1mx0.70m (As per Annex-III)	nos	81.00	-	81.00	Based upon lowest rate by quotation approved by WRD SOR committee
278		Mega Geo Bag of size 2mx1.5m (As per Annex-IV)	nos	620.96	-	620.96	WRD
279		P.P. Rope Gabion of size 1.80mx1.80mx0.5m (As per Annex-V)	nos.	1780.00	-	1780.00	WRD
280		P.P.Rope Gabion of size 1.80mx1.20mx0.5m (As per Annex-VI)	Nos.	1385.00	-	1385.00	WRD
281	7754	Gravel 5 mm to 10mm	Cum	700.00	150	850.00	including of royalty BCD
282		Shalitex Board (For use as per expansion Joint)					
283		(i) 25mm thick	Per Sqm	input	-	input	
284		(ii) 12mm thick	Per Sqm	input	-	input	
285		(iii) 18mm thick	Per Sqm	input	-	input	
286		Shalitex Primer	Per litre	input	-	input	
287	312	Bitumen grade PMB-40	M.T	32200.00	-	32200.00	BCD

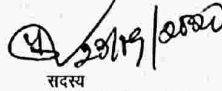
43 (8)mi

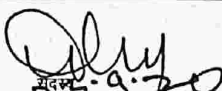
WRD SOR 01.10.2020

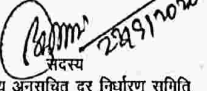
List of Basic rates of construction material approved by state level schedule rate committee for the year 2020-21 for the preparation of schedule of rates only. Material should confirm to relevant BIS/ IRC/ MORTH/ AS Specification. The rates are exclusive of GST, CP & overhead charge.

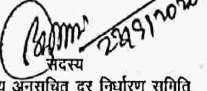
Sr.No.	Ref. Code No.	NAME OF MATERIALS	UNIT	Basic Rate	Royalty	Basic Rate for SOR 2020-21	Reference
1	2	3	4	5	6	7	8
288	M-3 C	Portland Composite Cement (P.C.C) (Unit-Per bag of 50 kg) approved by State Level Committee for the year 2020-21 (for preparation of schedule of rate only)-Materials should conform to relevant BIS/IRC/MORT&H Specifications.					Per M ³
		Patna	Per bags	250.00	-	250.00	7353.00
		Muzaffarpur	Per bags	250.00	-	250.00	7353.00
		Darbhanga	Per bags	250.00	-	250.00	7353.00
		Bhagalpur	Per bags	250.00	-	250.00	7353.00
		Munger	Per bags	250.00	-	250.00	7353.00
		Saharsa	Per bags	250.00	-	250.00	7353.00
		Purnea	Per bags	250.00	-	250.00	7353.00
		Gaya	Per bags	250.00	-	250.00	7353.00
		Saran	Per bags	250.00	-	250.00	7353.00
289		Mechanically Woven Double Twisted Hexagonal shaped wire Mesh Gabion Boxes/Crates of required Sizes, mesh Type 10cm x12 cm, heavily Zinc Coated Mesh wire Dia 8 to 10 (SWG), Mechanically edged/selvedged with partitions at every one mt. interval as per IS 16014: 2012 .					
		a) size (3m x1.5m x 0.60m)	Each	2070.00	-	2070.00	WRD
		b) size (3m x1.5m x 0.75m)	Each	2264.00	-	2264.00	WRD
290	M-202	Waste Plastic (as per IRC: SP:98-2013)	tonne	15000		15000	
291		New Empty Cement Bag Conforming to IS 11652 : 2000	Each	7.72		7.72	Based upon lowest rate by quotation approved by WRD SOR committee
292	324	coal tar	kg	30		30	BCD
293	1550	G.I Pipe 50 mm dia	m	310		310	BCD

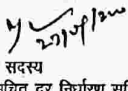

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
भवन, निर्माण विभाग, विहार, पटना

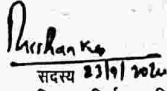

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
ग्रामीण कार्य विभाग, विहार, पटना

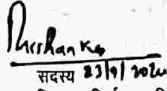

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
सघु जल संसाधन विभाग, विहार, पटना

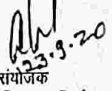

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अभियंता (असी),
विहार स्टेट पावर होल्डिंग कंपनी लि०,
विहार, पटना


सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अभियंता, (विद्युत)
भवन निर्माण विभाग, विहार, पटना


सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
तकनीकी परीक्षण, कोयांग, निगरानी विभाग, विहार, पटना


सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग, विहार, पटना


सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख, (मुख्यालय)
जल संसाधन विभाग, विहार, पटना


संयोजक
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख (मुख्यालय)
पथ निर्माण विभाग, विहार, पटना

CHAPTER - III

Schedule -P&M/ MORTH-1A

Date: 25-03-2020

Approved Usages Rates of Plants and Machinery. The Usages charges for the machines include ownership charges, cost of repair & maintenance including replacement of tyre and running and operating charges which includes crew, fuel & lubricants. These rates are for the preparation of Schedule of Rates for Year 2020-21 only.

Sl. No.	Description of Machine	Activity	Output of Machine	Output	Unit	Rate(Rs)
P&M-001	Air Compressor	General Purpose	capacity in cfm	170/250	hour	483.70
P&M-002	Batching and Mixing Plant (a) 30 cum capacity	Concrete Mixing	cum/hour	20	hour	2981.00
P&M-003	Batching and Mixing Plant (b) 15 - 20 cum capacity	Concrete Mixing	cum/hour	13	hour	1937.70
P&M-004	Bitumen Pressure Distributor	Applying bitumen tack coat	sqm/hour	1750	hour	1622.20
P&M-005	Bitumen Boiler oil fired	Bitumen Spraying	capacity in litre	1500	hour	299.70
P&M-006	Concrete Paver Finisher with 40 HP Motor	Paving of concrete surface	cum / hour	20	hour	1478.40
P&M-007	Concrete Pump of 45 & 30 cum capacity	Pumping of concrete	cum / hour	33 / 22	hour	387.20
P&M-008	Concrete Bucket	For Pouring concrete	capacity in cum	1	hour	24.30
P&M-009	Concrete Mixer (a) 0.4/0.28 cum	Concrete Mixing	cum/hour	2.5	hour	86.30
P&M-010	Concrete Mixer (b) 1 cum	Concrete Mixing	cum/hour	7.5	hour	259.00
P&M-011	Crane (a) 80 tonnes	Lifting Purpose			hour	1936.00
P&M-012	Cranes b) 35 tonnes	Lifting Purpose			hour	1289.30
P&M-013	Cranes c) 3 tonnes	Lifting Purpose			hour	540.10
P&M-014	Dozer D - 80 - A 12	Spreading /Cutting / Clearing	cum/hour	300/ 150/250	hour	5629.90
P&M-015	Dozer D - 50 - A 15	Spreading /Cutting / Clearing	cum/hour	200/ 120/150	hour	3337.90
P&M-016	Emulsion Pressure Distributor	Applying emulsion tack coat	sqm/hour	1750	hour	1209.90
P&M-017	Front End loader 1 cum bucket capacity	Soil loading / Aggregate loading	cum/hour	60 /25	hour	1403.00
P&M-018	Generator (a) 125 KVA	Generation of electric Energy	KVA	100	hour	2724.00
P&M-019	Generator(b) 63 KVA	Generation of electric Energy	KVA	50	hour	1068.10
P&M-020	GSB Plant 50 cum	Producing GSB	cum/hour	40	hour	1572.90
P&M-021	Hotmix Plant - 120 TPH Capacity	DBM/BM/SDC/ Premix	cum/hour	40	hour	52956.00
P&M-022	Hotmix Plant - 100 TPH Capacity	DBM/BM/SDC/ Premix	cum/hour	30	hour	40270.00
P&M-023	Hotmix Plant - (60 to 90) TPH Capacity	DBM/BM/SDC/ Premix	cum/hour	25	hour	33928.00
P&M-024	Hotmix Plant - (40 to 60) TPH capacity	DBM/BM/SDC/ Premix	cum/hour	17	hour	23729.00
P&M-025	Hydraulic Chip Spreader	Surface Dressing	sqm/hour	1500	hour	3986.60
P&M-026	Hydraulic Excavator of 1 cum bucket	Soil Ordinary/Soil Marshy / Soil Unsuitable	cum/hour	60 /60 /60	hour	1969.20
P&M-027	Integrated Stone Crusher 100THP	Crushing of Spalls	TPH	100	hour	13110.30

45

3

12

P&M-028	Integrated Stone Crusher 200 THP	Crushing of Spalls	TPH	200	hour	27581.30
P&M-029	Kerb Casting Machine	Kerb Making	Rm/hour	80	hour	469.70
P&M-030	Mastic Cooker	Mastic Wearing coat	capacity in tonne	1	hour	93.20
P&M-031	Mechanical Broom Hydrolic	Surface Cleaning	sqm/hour	1250	hour	572.00
P&M-032	Motor Grader 3.35 mtr blade	Clearing /Spreading /GSB /WBM	cum/hour	200/200/50/50	hour	2786.00
P&M-033	Mobile slurry seal equipment	Mixing and laying slurry seal	sqm/hour	2700	hour	1524.60
P&M-034	Paver Finisher Hydrostatic With Sensor Control 100 TPH	Paving of DBM/ BM/SDC/ Premix	cum/hour	40	hour	3566.00
P&M-035	Paver Finisher Mechanical 100 TPH	Paving of WMM /Paving of DLC	cum/hour	40/30	hour	1417.00
P&M-036	Piling Rig with Bantonite Pump	0.75 m dia to 1.2 m dia Boring attachment	Rm/hour	2 to 3	hour	8266.90
P&M-037	Pneumatic Road Roller	Rolling of Asphalt Surface	cum/hour	25	hour	1882.70
P&M-038	Pneumatic Sinking Plant	Pneumatic Sinking of wells	cum/hour	1.5 to 2.00	hour	6308.80
P&M-039	Pot Hole Repair Machine	Repair of potholes	cum/hour	4	hour	1370.80
P&M-040	Prestressing Jack with Pump & access	Stressing of steel wires/stands			hour	195.10
P&M-041	Ripper	Scarifying	cum/hour	60	hour	43.40
P&M-042	Rotavator	Scarifying	cum/hour	25	hour	26.40
P&M-043	Road marking machine	Road marking	Sqm/hour	100	hour	141.80
P&M-044	Smooth Wheel Roller 8 tonne	Soil Compaction /BM Compaction	cum/hour	70/25	hour	803.00
P&M-045	Tandem Road Roller	Rolling of Aspalt Surface	cum/hour	30	hour	1731.80
P&M-046	Tipper - 5 cum	Transportation of soil, GSB, WMM, Hotmix etc.	Capacity in cum	5.5	km	37.10
P&M-047	Tipper - 5 cum	Transportation of soil, GSB, WMM, Hotmix etc.	Capacity in cum	5.5	tonne km	9.07
P&M-048	Tipper - 5 cum	Transportation of soil, GSB, WMM, Hotmix etc.	Capacity in cum	5.5	hour	1043.00
P&M-049	Transit Mixer 4.0/4.5 cum	Transportation of Concrete Mix to site	cum/hour	4.5	hour	1406.00
P&M-050	Transit Mixer 4/4.5 cum	Transportation of Concrete Mix to site	cum/hour	4.5	tonne km	7.00
P&M-051	Transit Mixer 3.0 cum	Transportation of Concrete Mix to site	cum/hour	3	hour	1289.30
P&M-052	Transit Mixer 3.0 cum	Transportation of Concrete Mix to site	cum/hour	3	tonne km	9.30
P&M-053	Tractor	Pulling	capacity in HP	50	hour	549.10
P&M-054	Tractor with Rotevator	Rate of Tractor + Rotevator			hour	573.20
P&M-055	Tractor with Ripper	Rate of Tractor 6 + Ripper			hour	591.40
P&M-056	Truck 5.5 cum per 10 tonnes	Material Transport	capacity/cum	4.5	km	32.90
P&M-057	Truck 5.5 cum per 10 tonnes	Material Transport	capacity/cum	4.5	hour	934.30
P&M-058	Truck 5.5 cum per 10 tonnes	Material Transport	capacity/cum	4.5	tonne km	3.50
P&M-059	Vibratory Roller 8 tonne	Earth or soil / GSB / WBM	cum/hour	100/60/60	hour	2069.00
P&M-060	Water Tanker	Water Transport	capacity in KL	6	hour	184.00
P&M-061	Water Tanker	Water Transport	capacity in KL	6	km	38.10

a 46 10 (P&M) 3 P
 July

P&M-062	Wet Mix Plant 60 TPH	Wet Mix	cum/hour	25	hour	1822.30
Sl. No.	Description of Machine				Unit	Rate (Rs)
P&M-063	Air compressor with pneumatic chisel attachment for cutting hard clay.				hour	939.30
P&M-064	Batch type cold mixing plant 100-120 TPH capacity producing an average output of 75 tonne per hour				hour	3751.30
P&M-065	Belt conveyor system				hour	input
P&M-066	Boat to carry atleast 20 persons				hour	235.30
P&M-067	Cement concrete batch mix plant @ 175 cum per hour (effective output)				hour	7877.60
P&M-068	Cement concrete batch mix plant @ 75 cum per hour				hour	3375.10
P&M-069	Cold milling machine @ 20 cum per hour				hour	1406.00
P&M-070	Crane 5 tonne capacity				hour	1289.30
P&M-071	Crane 10 tonne capacity				hour	1289.30
P&M-072	Crane 15 tonne capacity				hour	1289.30
P&M-073	Crane 20 tonne capacity				hour	1289.30
P&M-074	Crane 40 T capacity				hour	1936.00
P&M-075	Crane with grab 0.75 cum capacity				hour	1936.00
P&M-076	Compressor with guniting equipment along with accessories				hour	235.30
P&M-077	Drum mix plant for cold mixes of appropriate capacity but not less than 75 tonnes/hour.				hour	1822.30
P&M-078	Epoxy Injection gun				hour	175.00
P&M-079	Generator 33 KVA				hour	562.20
P&M-080	Generator 100 KVA				hour	1995.00
P&M-081	Generator 250 KVA				hour	3795.00
P&M-082	Induction, deinduction and erection of plant and equipment including all components and accessories for pneumatic method of well sinking.				hour	input
P&M-083	Joint Cutting Machine with 2-3 blades (for rigid pavement)				hour	352.00
P&M-084	Jack for Lifting 40 tonne lifting capacity.				day	1289.30
P&M-085	Piling rig Including double acting pile driving hammer (Hydraulic rig)				hrs	8266.90
P&M-086	Plate compactor				hour	469.70
P&M-087	Snow blower equipment 140 HP @ 600 cum per hour				hour	input
P&M-088	Texturing machine (for rigid pavement)				hour	118.70
P&M-089	Truck Trailor 30 tonne capacity				hour	3751.30
P&M-090	Truck Trailor 30 tonne capacity				t.km	3.50
P&M-091	Tunnel Boring machine				hour	input
P&M-092	Vibrating Pile driving hammer complete with power unit and accessories.				hour	input
P&M-093	Wet Mix Plant 100 TPH				hour	2923.00
P&M-094	Wet Mix Plant 75 TPH				hour	2923.00
BCD-4.1.1	Vibrator				day	350.00



Schedule -P&M/ MORTH-1B (For year 2020-21

Meeting Date: 25-03-2020

Approved Usages Rates of Plants and Machinery. The Usages charges for the machines include ownership charges, cost of repair & maintenance including replacement of tyre and running and operating charges which includes crew, fuel & lubricants. These rates are for the preparation of Schedule of Rates only

Sl. No.	Description of Machine	Activity	Output of Machine	Output	Unit	Rate(Rs)
1	WMM Paver Finisher	Paving of WMM/Paving of DLC	Cum/hour		hour	1627.00
2	Tipping Truck 14 Cum	Transportation of Soil,GSB,WMM,Hot Mix etc.	Capacity In cum		hour	2371.00
3	6.5 KVA Generator	Generation of electric energy	KVA		hour	268.00
4	Vibratory Earth Compactor		Cum/hour		hour	1888.00
5	Tractor(25 HP)	carriage	25 HP Capacity	2.25 cum	hour	542.00
6	5 KVA silent Type Generator	Generation of electric energy	KVA		hour	234.00
7	Mini HOT MIX PLANT -(6-10) TPH		Cum/hour	2.7	hour	3702.00








CALCULATION OF HIRE CHARGES OF MACHINE									
Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
3.1	Drill Jumbo								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	12000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1200	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines	0			#VALUE!	A			
B	Repair and Maintenance charge 60 % of Depreciation of machine /hr	60	%		#VALUE!	B			
C	Running charges (P.O.L)								
	a.Fuel				0.00				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		0.00				
	c.Sundries and miscellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
	Direct labour charge	Nos	Days	Rate	Amount				
	i.Operator Gr I	2	30	345.00	20700.00	(SII-46)			
	ii.Helper	4	30	302.00	36240.00	(SII-16)			
	iii.Formen	1/8	30	434.00	1627.50	(SII-55)			
	iv.Mechanic	1/4	30	413.00	3097.50	(SII-44)			
	v.Chowkidar	1/4	30	294.00	2205.00	(SII-36)			
	Total Direct labour charge				63870.00				
	Direct labour charge per hr (Total labour charge/Working hr in year)				638.70	D			
	Hourly use rate				#VALUE!	Per hr			
3.2	Jack hammer (52 lb)								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	10000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1000	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	60	%		#VALUE!	B			
C	Running charges (P.O.L)								
	a.Fuel compressed air	100/100cfm			#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and miscellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	d.Pneumatic rubber hose pipe 38 mm with fitting per 100 working hrs	15	mtr	46.80	7.02				
	Total charge				#VALUE!	C			
D	Labour charge								
	Direct labour charge	Nos	Days	Rate	Amount				
	i.Operator Gr I	1	30	345.00	10350.00	(SII-46)			
	ii.Helper	1/2	30	302.00	4530.00	(SII-16)			
	iii.Mechanic	1/8	30	413.00	1548.75	(SII-44)			
	iv.Chawkidar	1/8	30	294.00	1102.50	(SII-36)			
	v. Supervisor	1/5	30	345.00	2070.00	(SII-63)			
	Total Direct labour charge				19601.25	Per hr			
	Direct labour charge per hr= Total labour charge/Working hr in year				235.20	D			
	Hourly use rate				#VALUE!				
3.2a	a. Jack Hammer drill rod								
	Cost of m drill rod at site		per mtr		IINPUT	Per mtr			
	Economic life	130	mtr						
	Use rate of drill rod				#VALUE!				
3.2b	b. Jack Hammer drill bit								
	Cost of bit				IINPUT				
	Economic life	130	mtr						
	Use rate of drill bit				#VALUE!	Per mtr			
3.3	Scalling hammer								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	10000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1000	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			

R
49
(Bmr)
3
2
R
Wly

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.				
B	Repair and Maintenance charge % of Depreciation of machine /hr	60	%		#VALUE!	B				
C	Running charges (P.O.L)									
	a.Fuel compressed air	100	/100cfm		0.00					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		0.00					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator Gr I	1	30	345.00	10350.00				(SII-46)	
	ii.Helper	1/2	30	302.00	4530.00				(SII-16)	
	iii.Chaukidar	1/10	30	294.00	882.00				(SII-36)	
	iv. Supervisor	1/8	30	345.00	1293.75				(SII-63)	
	Total Direct labour charge				17055.75					
	Direct labour charge per hr				204.67	D				
	Hourly use rate				#VALUE!	Per hr				
3.4	Diamond core drilling machine and diesel pump.									
A	Depreciation charge									
	Capital cost of machine				input					
	Life of machine	8	Year							
	Rated life of machine	8000	hrs							
	Working Hours per year (Rated life in hrs/yr)	1000	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge % of Depreciation of machine /hr	80	%		#VALUE!	B				
C	Running charges (P.O.L)									
	a.Fuel:-Diesel (2/3x0.5x0.6xH.Px4.54/8.26)	14.29	lit	69.22	989.19					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		247.30					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					
1	For Drilling Machine									
	i.Operator Gr I	2	30	345.00	20700.00				(SII-46)	
	ii.Helper	3	30	302.00	27180.00				(SII-16)	
	iii.For men	1/8	30	434.00	1627.50				(SII-55)	
	iv.Mechanic	1/4	30	413.00	3097.50				(SII-44)	
	v.Chaukidar	1/4	30	294.00	2205.00				(SII-36)	
	Total Direct labour charge				54810.00					
	Direct labour charge per hr				657.72	D				
	Hourly use rate				#VALUE!	Per hr				
3.5	Wagon Drill									
A	Depreciation charge									
	Capital cost of machine				IINPUT					
	Life of machine	8	Year							
	Rated life of machine	8000	hrs							
	Working Hours per year (Rated life in hrs/yr)	1000	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge % of Depreciation of machine /hr	80	%		#VALUE!	B				
C	Running charges (P.O.L)									
	a.Fuel Compressed air	400	/100cfm	0.00	0.00					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		0.00					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator Gr I	1	30	345.00	10350.00				(SII-46)	
	ii.Helper	1	30	302.00	9060.00				(SII-16)	
	iii.For men	1/8	30	434.00	1627.50				(SII-55)	
	iv.Mechanic	1/8	30	413.00	1548.75				(SII-44)	
	v.Chaukidar	1/4	30	294.00	2205.00				(SII-36)	
	iv. Supervisor	1/4	30	345.00	2587.50				(SII-63)	
	Total Direct labour charge				27378.75					
	Direct labour charge per hr				328.55	D				

R 50 (B) R Wly

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.				
	Hourly use rate				#VALUE!					
3.7	Hoist winch 30T									
A	Depreciation charge									
	Capital cost of machine				INPUT					
	Life of machine	12	Year							
	Rated life of machine	15000	hrs							
	Working Hours per year (Rated life in hrs/yr)	1250	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge % of Depreciation of machine /hr	120	%		#VALUE!	B				
C	Running charges (P.O.L)									
	a.Fuel Diesel		lit	69.22	0.00					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		0.00					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator Gr I	1	30	367.00	11010.00	(SI-52)				
	ii.Helper	0	30	302.00	0.00	(SII-16)				
	iii.Formen	0	30	434.00	0.00	(SII-55)				
	iv.Mechanic	0	30	413.00	0.00	(SII-44)				
	v.Choukidar	0	30	294.00	0.00	(SII-36)				
	iv. Supervisor	0	30	345.00	0.00	(SII-63)				
	Total Direct labour charge				11010.00					
	Direct labour charge per hr				105.70	D				
	Hourly use rate				#VALUE!					
3.8	Shot crete Machine									
A	Depreciation charge									
	Capital cost of machine				INPUT					
	Life of machine	10	Year							
	Rated life of machine	15000	hrs							
	Working Hours per year (Rated life in hrs/yr)	1500	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge % of Depreciation of machine /hr	80	%		#VALUE!	B				
C	Running charges (P.O.L)									
	a.Fuel Compressed air	600	per100cfm	input	#VALUE!					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					

Q ✓ 51 (3) R

R
Rajy

Sr.N o.	Description	Quantity	Unit	Rate	Amount	Ref.			
	i.Operator Gr I	1	30	input	#VALUE!				
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/2	30	413.00	6195.00		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				#VALUE!				
	Direct labour charge per hr				#VALUE!	D			
	Hourly use rate				#VALUE!				
3.9	Convey muckers (1.5 cubic yard42 "wide conveyer 165 H.P)								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	15000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1500	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	100	%		#VALUE!	B			
C	Running charges (P.O.L)								
	a.Electrical energy charge (H.Px0.746)	123.09	KWH	#VALUE!	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and misellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Operator Gr I	1	30	input	#VALUE!				
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/2	30	413.00	2065.00		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				#VALUE!				
	Direct labour charge per hr				#VALUE!	D			
	Hourly use rate				#VALUE!	Per hr			
3.10	Shovel (Diesel) 2 cum 262 H.P								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	12	Year						
	Rated life of machine	15000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1250	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150.00	%		#VALUE!	B			
C	Running charges (P.O.L)								
	a.Fuel Diesel (2/3x0.5xh.Px0.6x4.546/8.28)	28.55	lit	69.22	1978.04				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		494.01				
	c.Sundries and misellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Operator Gr I	1	30	434.00	13020.00		(SII-52)		
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/4	30	434.00	3255.00		(SII-55)		
	iv.Mechanic	1/2	30	413.00	6195.00		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	iv. Supervisor	1	30	345.00	10350.00		(SII-63)		
	Total Direct labour charge				44085.00				
	Direct labour charge per hr				423.22	D			
	Hourly use rate				#VALUE!	Per hr			
	Shovel (Electric) 6 cum 350 H.P								

52 R

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.				
A	Depreciation charge									
	Capital cost of machine				IINPUT					
	Life of machine	20	Year							
	Rated life of machine	40000	hrs							
	Working Hours per year (Rated life in hrs/Yr)	2000	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B				
C	Running charges (P.O.L)									
	H.P motor =350 Electric energy required=350x0.746=261 KWH Electric energy for 40 kv .A.C. control @ 0.80 Power factor=40x0.80=32 KWH Total Electric energy required=261+32=293 KWH Assuming diversity factor @ 60 % energy required=0.6x293=175.86 KWH									
	a.Electrical energy charge	175.86	KWH	#VALUE!	#VALUE!					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		0.00					
	Total charge				#VALUE!	C				
D	Labour charge									
(e)	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator Gr I	1	30	434.00	13020.00	(SII-52)				
	ii Helper	1	30	302.00	9060.00	(SII-16)				
	iii.Formen	1/4	30	434.00	3255.00	(SII-55)				
	iv.Mechanic	1/2	30	413.00	6195.00	(SII-44)				
	v.Chokidar	1/4	30	294.00	2205.00	(SII-36)				
	vi. Electrician	1/2	30	345.00	5175.00	(S II-58)				
	vii. Cableman	2	30	333.00	10980.00	(SII-42)				
	viii.Supervisor	1	30	345.00	10350.00	(SII-63)				
	Total Direct labour charge				69240.00					
	Direct labour charge per hr				415.44	D				
	Hourly use rate				#VALUE!	Per hr				
3.11	D.8 Tractor Dozer (Push Plate) 270 H.P									
A	Depreciation charge									
	Capital cost of machine				IINPUT					
	Life of machine	10	Year							
	Rated life of machine	12000	hrs							
	Working Hours per year (Rated life in hrs/Yr)	1200	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge % of Depreciation of machine /hr	100	%		#VALUE!	B				
C	Running charges (P.O.L)									
	Rated H.P=270 Consumption of diesel oil= 0.5xB.H.P x0.6/8.26 Gallons / hr =0.04 BHP gallons / hr Actual consumption adopted= 65 % or 2/3 of above =0.026 BHPx4.546 litres/hr=									
	a.Fuel Diesel	29.42	lit	69.22	2036.38					
	b.Lubricant and grease waste									
	Hydraulic oil	0.25	lit	Input	#VALUE!					
	Petrol	1	lit	Input	#VALUE!					
	Lubricant oil	0.75	lit	Input	#VALUE!					
	Filter oil	0.6	lit	Input	#VALUE!					
	Gear oil	0.25	lit	254.00	63.50					
	Grease	0.5	kg	Input	#VALUE!					
	Cardium compound	200	gm	Input	#VALUE!					
	c.Sundries and miscellaneous supplies at site @ 15 % of R/M(B)	15	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator Gr II	1	30	434.00	13020.00	(SI-41b)				
	ii.Helper	1	30	302.00	9060.00	(SII-16)				
	iii.Formen	1/4	30	434.00	3255.00	(SII-55)				
	iv.Mechanic	1/4	30	413.00	3097.50	(SII-44)				
	v.Chokidar	1/4	30	294.00	2205.00	(SII-36)				
	Total Direct labour charge				30637.50					
	Direct labour charge per hr				306.38	D				
	Hourly use rate				#VALUE!	Per hr				

R 53 ✓ (R) ✓ R ✓ R ✓

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
	D.9 Tractor Dozer 385 H.P								
A	Depreciation charge								
	Capital cost of machine				INPUT				
	Life of machine	10	Year						
	Rated life of machine	12000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1200	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	100	%		#VALUE!	B			
C	Running charges (P.O.L)								
	Rated H.P.=385 Consumption of diesel oil= 0.5xH.P x0.6/8.26 Gallons / hr =0.04 BHP gallons / hr Actual consumption adopted= 65 % or 2/3 of above =0.026 BHPx4.546 litres/hr								
	a.Fuel Diesel	41.95	lit	input	#VALUE!				
	b.Lubricant and grease waste								
	Hydraulic oil	0.25	lit	Input	#VALUE!				
	Petrol	1	lit	Input	#VALUE!				
	Lubricant oil	0.75	lit	Input	#VALUE!				
	Filter oil	0.6	lit	Input	#VALUE!				
	Gear oil	0.25	lit	254.00	63.50				
	Grease	0.5	kg	Input	#VALUE!				
	Cardium compound	200	gm	Input	#VALUE!				
	c.Sundries and miscellaneous supplies at site @ 15 % of R/M(B)	15	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Operator Gr II	1	26	434.00	11284.00			(SI-41b)	
	ii.Helper	1	26	302.00	7852.00			(SII-16)	
	iii.Formen	1/4	26	434.00	2821.00			(SII-55)	
	iv.Mechanic	1/4	26	413.00	2684.50			(SII-44)	
	v.Chokidar	1/4	26	294.00	1911.00			(SII-36)	
	Total Direct labour charge				26552.50				
	Direct labour charge per hr				265.53			D	
	Hourly use rate				#VALUE!			Per hr	
3.12	Dumper or Tipper(7T) 4.5 cum								
A	Depreciation charge								
	Capital cost of machine				INPUT				
	Life of machine	8	Year						
	Rated life of machine	10000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1250	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	140	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel (2/3x0.5XHPx0.6x4.546/8.26)	11.99	lit	69.22	829.63				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		207.41				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	414.00	12420.00			(SII-42)	
	ii.Cleaner	1	30	287.00	8610.00			(SI-4)	
	iv.Mechanic	1/8	30	413.00	1548.75			(SII-44)	
	v.Chokidar	1/8	30	294.00	1470.00			(SII-36)	
	Total Direct labour charge				24048.75				
	Direct labour charge per hr				230.87				
	Hourly use rate				#VALUE!			Per hr	
	Dumper or Tipper(15 T)								
A	Depreciation charge								
	Capital cost of machine				INPUT				
	Life of machine	8	Year						
	Rated life of machine	10000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1250	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			

54 ✓ (Signature) (Signature) R (Signature)

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.				
B	Repair and Maintenance charge % of Depreciation of machine /hr	140	%		#VALUE!	B				
C	Running charges (P.O.L)									
	H.P motor =200									
	a.Diesel (2/3X0.5XHPx0.6x4.546/8.26)	21.79	lit	69.22	1508.43					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		377.11					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator	1	30	414.00	12420.00				(SII-42)	
	ii.Helper	1	30	302.00	9060.00				(SII-16)	
	iii.Formen	1/8	30	434.00	1627.50				(SII-55)	
	iv.Mechanic	1/6	30	413.00	2065.00				(SII-44)	
	v.Choukidar	1/6	30	294.00	1470.00				(SII-36)	
	Total Direct labour charge				26642.50					
	Direct labour charge per hr				255.77				D	
	Hourly use rate				#VALUE!				Per hr	
	Dumper or Tipper(35 T)									
A	Depreciation charge									
	Capital cost of machine				IINPUT					
	Life of machine	10	Year							
	Rated life of machine	12000	hrs							
	Working Hours per year (Rated life in hrs/yr)	1200	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge % of Depreciation of machine /hr	140	%		#VALUE!	B				
C	Running charges (P.O.L)									
	H.P motor =560									
	a.Diesel (2/3X0.5XHPx0.6x4.546/8.26)	61.02	lit	69.22	4223.59					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		1055.90					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)				#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator	1	30	414.00	12420.00				(S1-42)	
	ii.Helper	1	30	302.00	9060.00				(SII-16)	
	iii.Formen	1/4	30	434.00	3255.00				(SII-55)	
	iv.Mechanic	1/4	30	413.00	3097.50				(SII-44)	
	v.Choukidar	1/4	30	294.00	2205.00				(SII-36)	
	Total Direct labour charge				30037.50					
	Direct labour charge per hr				300.38				D	
	Hourly use rate				#VALUE!				Per hr	
3.13	Batching and mixing plant (35cu.yd/hr)									
A	Depreciation charge									
	Capital cost of machine				IINPUT					
	Life of machine	18	Year							
	Rated life of machine	30000	hrs							
	Working Hours per year (Rated life in hrs/yr)	1666.67	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge % of Depreciation of machine /hr	100	%		#VALUE!	B				
C	Running charges (P.O.L)									
	a.Electrical energy charge	59.68	KWH	#VALUE!	#VALUE!					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator Gr I	2	30	345.00	20700.00				(SII-46)	
	ii.Welder	6	30	367.00	66060.00				(SII-41)	
	iii.Formen	1/2	30	434.00	6510.00				(SII-55)	
	iv.Mechanic	1/2	30	413.00	6195.00				(SII-44)	
	v.Choukidar	1	30	294.00	8820.00				(SII-36)	
	Total Direct labour charge				108285.00					
	Direct labour charge per hr				779.65				D	
	Hourly use rate				#VALUE!				Per hr	
3.14	Ventilation blower (20000cfm)									

2 55 Y (Mm) 3/2 R 2 Qly

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.				
A	Depreciation charge									
	Capital cost of machine				INPUT					
	Life of machine	12	Year							
	Rated life of machine	58000	hrs							
	Working Hours per year (Rated life in hrs/yr)	4833.33	hrs							
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A				
B	Repair and Maintenance charge of Depreciation of blower /hr	80	%		#VALUE!	B				
C	Running charges (P.O.L)									
	H.P motor =20									
	a.Electrical energy charge	14.92	KWH	#VALUE!	#VALUE!					
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!					
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!					
	Total charge				#VALUE!	C				
D	Labour charge									
(a)	Direct labour charge	Nos	Days	Rate	Amount					
	i.Operator	1/4	30	345.00	2587.50		(SII-46)			
	ii.Helper	1/4	30	302.00	2265.00		(SII-16)			
	iii.Mechanic	1/2	30	413.00	6195.00		(SII-44)			
	Total Direct labour charge				11047.50					
	Direct labour charge per hr				27.43		D			
	Hourly use rate				#VALUE!	Per hr				

a
y - 3m
③
R
Dly

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.							
3.15	Pump												
(i).	DIESEL PUMP				5 H.P	10H.P	15H.P	20H.P	25H.P	30 H.P			
	Capital cost				IINPUT	IINPUT	IINPUT	IINPUT	IINPUT	IINPUT			
	Life in year	8	Years										
	Rated life	10000	hrs										
	Annual operational hours	1250	hrs										
	Annual operational days	300.00	Days										
A	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
B	Major & Minor repair @ 100 % of depreciation	80	%		#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
C	Operation charge												
		Nos	Days	Rate	Amount								
	Operator ---x26 per month .	1.00	30	345.00	10350								
	Annual operational hours	1250.00	hr		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
D	Fuel												
	I.H.S.D --- lit / hr				0.61	1.21	1.82	2.42	3.03	3.63			
					41.90	83.80	125.70	167.60	209.51	251.41			
	ii. Lubricant, cotton waste etc 10 % of (i)	10	%		4.19	8.38	12.57	16.76	20.95	25.14			
					46.09	92.18	138.27	184.37	230.46	276.55			
	Hourly use rate (A+B+C+D)				#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
(ii).	ELECTRIC PUMP				5 H.P	10H.P	15HP	20H.P	30H.P	40H.P	50H.P		
	Capital cost				IINPUT	IINPUT	IINPUT	IINPUT	IINPUT	IINPUT	IINPUT		
	Life in year	12	Years										
	Rated life	20000	hrs										
a.	Depreciation /hr				#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
b.	Major & Minor repair @ --- % of depreciation	70	%		#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
c	Labour charge												
		Nos	Days	Rate	Amount								
	Operator	1	30	345.00	10350								(SII-28)
	Mechanic	1/4	30	413.00	3097.5		1/4	413.00	3097.50				(SII-44)
	Electrician	1/8	30	345.00	1293.75		1/6	345.00	1725.00				(SI-11)
	Helper			302.00			1	302.00	9060.00				(SII-16)
					14741.25				24232.50				
	Rated life in hrs/yr	1666.67			106.14	106.14	106.14	174.47	174.47	174.47	174.47		
d	Running charges (P.O.L)				Unit = 3.73	7.46	11.19	14.92	22.38	29.84	37.30		
					Rate = #VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
					Amount = #VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	a.Electrical energy charge				#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	b.Lubricant and grease waste etc 25% of	25	%		#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	c.Sundries and miscelleneous supplies at site @ 10 % of RM(B)	10	%		#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	Total charge				#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
	Hire charge of Electric Pump Per /hour (a+b+c+d)			Per hour	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
(iii).	5 H.P vacuum pumping set												
A	Capital cost of machine				IINPUT								
	Life of machine	12	Year										
	Rated life of machine	20000	hrs										
	Working Hours per year (Rated life in hrs/yr)	1666.67	hrs										
	a. Depreciation of machine /hr				#VALUE!	A							
B	Repair and Maintenance charge % of Depreciation of blower /hr	50	%		#VALUE!	B							
C	Running charges (P.O.L)												
	H.P motor =20												
	a.Electrical energy charge	3.73	KWH		#VALUE!	#VALUE!							
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!								
	c.Sundries and miscelleneous supplies at site @ 10 % of RM(B)	10	%		#VALUE!								
	Total charge				#VALUE!	C							
D	Labour charge												
(a)	Direct labour charge	Nos	Days	Rate	Amount								
	i.Operator	1	26	345.00	8970								
	Direct labour charge per hr				64.58								
	Hourly use rate				#VALUE!	Per hr							
3.16	Roller												
	Sheep foot roller												
A	Capital cost of machine				IINPUT								
	Life of machine	8	Year										
	Rated life of machine	10000	hrs										
	Working Hours per year	1250	hrs										
	a. Depreciation of machine /hr				#VALUE!	A							
B	Repair and Maintenance charge % of Depreciation of machine /hr	70	%		#VALUE!	B							
	Hourly use rate of Sheep foot roller				#VALUE!	Per hr							
3.17	Locomotives												

57

(3)

(B)

(C)

R

Ally

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
1	Diesel Locomotives								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	15000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1600	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Tated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	120	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	10.79	lit	69.22	746.68				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		186.67				
	c.Sundries and miscellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	414.00	12420.00		(SII-53)		
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				28410.00				
	Direct labour charge per hr				213.08				
	Hourly use rate				#VALUE!	Per hr			
2	Battery Locomotive								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	22	Year						
	Rated life of machine	40000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1818.18	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Tated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	120	%		#VALUE!	B			
	Sundries and miscellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	414.00	12420.00		(SII-53)		
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				28410.00				
	Direct labour charge per hr				187.51				
	Hourly use rate				#VALUE!	Per hr			
3.18	Grouting machine								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	10000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1000	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Tated life of				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	80	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Fuel Compressed air	200.00	/100cfm	input	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and miscellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	345.00	10350.00		(S II-26)		
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/6	30	413.00	2065.00		(SII-44)		
	v.Choukidar	1/6	30	294.00	1470.00		(SII-36)		
	Total Direct labour charge				24572.50				
	Direct labour charge per hr				294.87				

R 58 (Rev) R Waly

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
	Hourly use rate				#VALUE!	Per hr			
3.19	Air Compressor.								
	A. Diesel compressors								
	1.Diesel Air compressorcfm				210cfm		300cfm		500cfm
A	Depreciation charge								
	Capital cost of machine				IINPUT		IINPUT		IINPUT
	Life of machine	8	Year						
	Rated life of machine	10000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1250	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Tated life of Machines				#VALUE!	A	#VALUE!		#VALUE!
B	Repair and Maintenance charge % of Depreciation of machine /hr	100	%		#VALUE!	B	#VALUE!		#VALUE!
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	6.77	lit	69.22	468.58	10.3B	718.49	16.13	1118.24
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		117.15		179.62		279.06
	c.Sundries and miscellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!		#VALUE!		#VALUE!
	Total charge				#VALUE!	C	#VALUE!		#VALUE!
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount		Amount		Amount
	i.Driver	1	30	345.00	10350.00	(SII-26)	10350.00		10350.00
	ii.Helper	1	30	302.00	9060.00	(SII-16)	9060.00		9060.00
	iii.Formen	1/8	30	434.00	1627.50		1627.50		1627.50
	iv.Mechanic	1/4	30	413.00	3097.50		3097.50		3097.50
	v.Choukidar	1/4	30	294.00	2205.00		2205.00		2205.00
	Total Direct labour charge				26340.00		26340.00		26340.00
	Direct labour charge per hr				252.86	D	252.86		252.86
	Hourly use rate				#VALUE!	Per hr	#VALUE!	Per hr	#VALUE!
	B.Electric compressors								
	1.Electric Air compressor 500 cfm								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	12	Year						
	Rated life of machine	20000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1666.67	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Tated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	80	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Electrical energy charge	90.00	KWH	#VALUE!	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and miscellenceous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	345.00	10350.00	(SII-26)			
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50				
	v.Electrician	1/2	30	345.00	5175.00		(S II-58)		
	vi.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				31515.00				
	Direct labour charge per hr				226.91				
	Hourly use rate				#VALUE!	Per hr			
	2.Electric Air compressor 1500 cfm								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	8	Year						
	Rated life of machine	8000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1000	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Tated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Electrical energy charge	240.00	KWH	#VALUE!	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				

a 2 (B) 59 2 Only

Sr.N o.	Description	Quantity	Unit	Rate	Amount	Ref.			
	c.Sundries and miscellaneous supplies at site @ 10 % of	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	345.00	10350.00				
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/3	30	413.00	4130.00		(SII-44)		
	v.Electrician	1/2	30	345.00	5175.00		(S II-58)		
	vi.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				32547.50				
	Direct labour charge per hr				390.57				
	Hourly use rate				#VALUE!	Per hr			
3.20	Crane								
	Crawler Mounted 10 T								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	12000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1200	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	120	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.i.Diesel	3.50	lit	69.22	242.27				
	ii.Petrol	8.00	lit	Input	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	434.00	13020.00		(SII 50)		
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/4	30	434.00	3255.00		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	vi.Supervisor	1/4	31	345.00	2673.75		(SII-63)		
	Total Direct labour charge				33311.25				
	Direct labour charge per hr				333.11				
	Hourly use rate				#VALUE!	Per hr			
3.21	Muck / car (12 cubic yard)								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	20	Year						
	Rated life of machine	30000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1500	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
	Running charges (P.O.L)								
C	Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
	Hourly use rate				#VALUE!	Per hr			
3.22	Vibrator								
A	Depreciation charge								
	Capital cost of machine				Input				
	Life of machine	5	Year						
	Rated life of machine	8000	hrs						

R

60

(Rm)

3/2

R

Wdy

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
	Working Hours per year (Rated life in hrs/yr)	1600	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =5								
	a.Diesel	1.50	lit	69.22	103.83				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		25.96				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	321.00	9630.00	(SII-66)			
	Total Direct labour charge				9630.00				
	Direct labour charge per hr				72.23				
	Hourly use rate				#VALUE!	Per hr			
3.23	Scraper								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	8	Year						
	Rated life of machine	9000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1125	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	17.98	lit	69.22	1244.45				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		311.11				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	434.00	13020.00	(S II-52)			
	ii.Helper	1	30	302.00	9060.00	(SII-16)			
	iii.Formen	1/4	30	434.00	3255.00	(SII-55)			
	iv.Mechanic	1/4	30	413.00	3097.50	(SII-44)			
	v.Choukidar	1/4	30	294.00	2205.00	(SII-36)			
	Total Direct labour charge				30637.50				
	Direct labour charge per hr				326.80				
	Hourly use rate				#VALUE!	Per hr			
3.24	GRADER 110 hp								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	12000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1200	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	12.53	lit	69.22	867.35				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		216.84				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	349.00	10470.00	(S I-28)			
	ii.Helper	1	30	302.00	9060.00	(SII-16)			
	iii.Formen	1/8	30	434.00	1627.50	(SII-55)			
	iv.Mechanic	0	30	413.00	0.00	(SII-44)			
	v.Choukidar	1/2	30	294.00	4410.00	(SII-36)			
	Total Direct labour charge				25567.50				
	Direct labour charge per hr				255.68				

R

61 (R/S)

S

R

Wiley

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
	Hourly use rate				#VALUE!	Per hr			
3.28	Tractors								
A	Depreciation charge				Input				
	Capital cost of machine								
	Life of machine	5	Year						
	Rated life of machine	12000	hrs						
	Working Hours per year (Rated life in hrs/yr)	2400	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor = 110								
	a.Diesel	2.75	lit	69.22	190.36				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		47.59				
	c.Sundries and miscelleneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	413.00	12390.00	(SII-47)			
	ii.Helper	1	30	302.00	9060.00	(SII-16)			
	Total Direct labour charge				21450.00				
	Direct labour charge per hr				107.25	D			
	Hourly use rate				#VALUE!	Per hr			
	Hire charge of Tractor per day				#VALUE!	Per day			
3.32	Drill extractors (Compressed air)								
A	Depreciation charge				Input				
	Capital cost of machine								
	Life of machine	8	Year						
	Rated life of machine	8000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1000	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	80	%		#VALUE!	B			
C	Running charges (P.O.L)								
	a.Fuel Compressed air	400	/100cfm	input	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and miscelleneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Operator Gr I	1	30	345.00	10350.00	(SII-26)			
	ii.Helper	1	30	302.00	9060.00	(SII-16)			
	iii.Formen	1/8	30	434.00	1627.50	(SII-55)			
	iv.Mechanic	1/8	30	413.00	1548.75	(SII-44)			
	v.Choukidar	1/4	30	294.00	2205.00	(SII-36)			
	iv. Supervisor	1/4	30	345.00	2587.50	(SII-63)			
	Total Direct labour charge				27378.75				
	Direct labour charge per hr				328.55	D			
	Hourly use rate				#VALUE!				
3.33	Grinder								
A	Depreciation charge				Input				
	Capital cost of machine								
	Life of machine	8	Year						
	Rated life of machine	8000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1000	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	80	%		#VALUE!	B			
C	Running charges (P.O.L)								
	a.Fuel Compressed air	400	/100cfm	input	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and miscelleneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Operator Gr I	1	30	345.00	10350.00	(SI-35)			
	ii.Helper	1	30	302.00	9060.00	(SII-16)			
	iii.Formen	1/8	30	434.00	1627.50	(SII-55)			

R 7-62 2 R Galy

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
	iv.Mechanic	1/8	30	413.00	1548.75		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				24791.25				
	Direct labour charge per hr				297.50	D			
	Hourly use rate				#VALUE!				
3.34	Sheet Pile Driving plant								
A	Depreciation charge								
	Capital cost of machine				INPUT				
	Life of machine	10	Year						
	Rated life of machine	15000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1500	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	50	%		#VALUE!	B			
C	Running charges (P.O.L)								
	a.Fuel Compressed air	400	/100cfm	Input	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Operator Gr I	1	30	Input	#VALUE!				
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				#VALUE!				
	Direct labour charge per hr				#VALUE!	D			
	Hourly use rate				#VALUE!				
3.35	Loader								
A	Depreciation charge								
	Capital cost of machine				INPUT				
	Life of machine	10	Year						
	Rated life of machine	15000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1500	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	12.79	lit	69.22	885.55				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		221.39				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	Input	#VALUE!				
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50		(SII-44)		
	v.Chokidar	1/2	30	294.00	4410.00		(SII-36)		
	Total Direct labour charge				#VALUE!				
	Direct labour charge per hr				#VALUE!				
	Hourly use rate				#VALUE!	Per hr			
	Overhead loader 1cu. yd								
A	Depreciation charge								
	Capital cost of machine				INPUT				
	Life of machine	16	Year						
	Rated life of machine	20000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1250	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	70	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	119.36	lit	69.22	8262.10				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		2065.52				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			

R 7-63 (P.M) 2 R Ody

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	I.Driver	1	30	input	#VALUE!				
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50		(SII-44)		
	v.Choukidar	1/6	30	294.00	1470.00		(SII-36)		
	Total Direct labour charge				#VALUE!				
	Direct labour charge per hr				#VALUE!				
	Hourly use rate				#VALUE!	Per hr			
3.36	Pneumatic concrete placer (1 CUBIC YARD)								
A	Depreciation charge								
	Capital cost of machine				INPUT				
	Life of machine	10	Year						
	Rated life of machine	10000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1000	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	120	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Fuel Compressed air	200.00	/100cfm	input	#VALUE!				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		#VALUE!				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	I.Driver	1	30	input	#VALUE!				
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/6	30	413.00	2065.00		(SII-44)		
	v.Chokidar	1/6	30	294.00	1470.00		(SII-36)		
	Total Direct labour charge				#VALUE!				
	Direct labour charge per hr				#VALUE!				
	Hourly use rate				#VALUE!	Per hr			
3.37	Draglines 2 cum 262 H.P								
A	Depreciation charge								
	Capital cost of machine				INPUT				
	Life of machine	12	Year						
	Rated life of machine	15000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1250	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	28.55	lit	69.22	1976.04				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		494.01				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	I.Driver	1	30	345.00	10350.00		(SI-46B)		
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/4	30	434.00	3255.00		(SII-55)		
	iv.Mechanic	1/2	30	413.00	6195.00		(SII-44)		
	v.Chokidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				31065.00				
	Direct labour charge per hr				298.22				
	Hourly use rate				#VALUE!	Per hr			
3.38	Hydraulic excavators (Diesel)1.25cu.yd								
A	Depreciation charge								
	Capital cost of machine				input				
	Life of machine	10	Year						
	Rated life of machine	12000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1200	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								

R 7-64 (B) R Wdy

Sr.N o.	Description	Quantity	Unit	Rate	Amount	Ref.			
	H.P motor =110								
	a.Diesel	11.28	lit	69.22	780.61				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		195.15				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	434.00	13020.00		(SI-41 ii)		
	ii.Helper	1	30	302.00	9060.00		(SII-16)		
	iii.Formen	1/4	30	434.00	3255.00		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50		(SII-44)		
	v.Choukidar	1/4	30	294.00	2205.00		(SII-36)		
	Total Direct labour charge				30637.50				
	Direct labour charge per hr				306.38				
	Hourly use rate				#VALUE!	Per hr			
3.40	Agitating car 4cu.yd								
A	Depreciation charge								
	Capital cost of machine				IINPUT				
	Life of machine	10	Year						
	Rated life of machine	10000	hrs						
	Working Hours per year (Rated life in hrs/yr)	1000	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	120	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	5.33	lit	69.22	368.84				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		92.21				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	input	#VALUE!				
	ii.Helper	1	30	302.00	4530.00		(SII-16)		
	iii.Formen	1/8	30	434.00	1627.50		(SII-55)		
	iv.Mechanic	1/4	30	413.00	3097.50		(SII-44)		
	v.Choukidar	1/6	30	294.00	1470.00		(SII-36)		
	Total Direct labour charge				#VALUE!				
	Direct labour charge per hr				#VALUE!				
	Hourly use rate				#VALUE!	Per hr			
3.42	Crushing & Processing Plant								
	Integrated Stone Crusher TPH		100 TPH				200TPH		
A	Depreciation charge								
	Capital cost of machine				IINPUT		IINPUT		
	Life of machine	12	Year						
	Rated life of machine	8000	hrs						
	Working Hours per year (Rated life in hrs/yr)	666.67	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A	#VALUE!		
B	Repair and Maintenance charge % of Depreciation of machine /hr	80	%		#VALUE!	B	#VALUE!		
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	400.00	lit	69.22		800.00	0		
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		0.00		0.00		
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!		#VALUE!		
	Total charge				#VALUE!	C	#VALUE!		
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	2	30	345.00	20700.00	2	(SII-23)	20700	
	ii.Helper	0	30	302.00	0.00	0	(SII-16)	0	(SII-16)
	iii.Formen	1	30	434.00	13020.00	1		13020	
	iv.Mechanic	1/4	30	413.00	3097.50	1/4		3097.5	
	v.Chokidar	1	30	294.00	8820.00	1	(SII-36)	8820	
	vi.Beldar	15	30	287.00	129150.00	20		172200	
	Total Direct labour charge				174787.50			217837.5	
	Direct labour charge per hr				3148.18			3921.08	
	Hourly use rate				#VALUE!	Per hr		#VALUE!	
3.43	Boat								
	40 quintal capacity boat						100 quintal capacity boat		
A	Depreciation charge								
	Capital cost of machine				input		input		

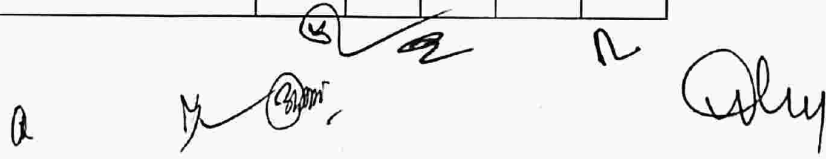
R *65* *R* *Calby*

Sr.No.	Description	Quantity	Unit	Rate	Amount	Ref.			
	Life of machine	8	Year						
	Rated life of machine	35000	hrs						
	Working Hours per year (Rated life in hrs/yr)	4375	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A		#VALUE!	
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B		#VALUE!	
C	Running charges								
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!	C		#VALUE!	
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	Driver	2	30	Input	#VALUE!			#VALUE!	
	Total Direct labour charge				#VALUE!			#VALUE!	
	Direct labour charge per hr				#VALUE!	D		#VALUE!	
	Hourly use rate				#VALUE!	Per hr		#VALUE!	
					#VALUE!	Per day		#VALUE!	
	100 quintal capacity boat (Pump Fitted)								
A	Depreciation charge								
	Capital cost of machine				Input				
	Life of machine	8	Year						
	Rated life of machine	35000	hrs						
	Working Hours per year (Rated life in hrs/yr)	4375	hrs						
	Depreciation of machine /hr = 0.9x Cost of Machine/Rated life of Machines				#VALUE!	A			
B	Repair and Maintenance charge % of Depreciation of machine /hr	150	%		#VALUE!	B			
C	Running charges (P.O.L)								
	H.P motor =110								
	a.Diesel	0.54	lit	69.22	37.71				
	b.Lubricant and grease waste etc 25% of above Fuel	25	%		9.43				
	c.Sundries and miscellaneous supplies at site @ 10 % of R/M(B)	10	%		#VALUE!				
	Total charge				#VALUE!	C			
D	Labour charge								
(a)	Direct labour charge	Nos	Days	Rate	Amount				
	i.Driver	1	30	Input	#VALUE!				
	Direct labour charge per hr				#VALUE!				
	Hourly use rate				#VALUE!	Per hr			
					#VALUE!	Per day			

a y (30m) 12 July

CHAPTER ---III

Machine Related Material						
Sl.No	Material	Cost	Unit	Life of Material	Approved Rate	
						Unit
1	Jumbo drill steel	IINPUT	per mtr		IINPUT	per mtr
2a.	Jack Hammer drill rod	IINPUT	per mtr	130	IINPUT	per mtr
2b.	Jack Hammer drill bit	IINPUT	per mtr	130	IINPUT	per mtr
3	For Diamond core drilling machine	IINPUT				
3a	Diamond bit for N x size (53 mm to 75 mm)(Internal dia To External dia) 'D'	IINPUT	per mtr	10	IINPUT	per mtr
3b	Diamond bit for (Bxsize (41mm to 59 mm)(Internal dia To External dia) 'T'	IINPUT	per mtr	10	IINPUT	per mtr
3c	Tungston Carbide bit	IINPUT	per mtr	20	IINPUT	per mtr
3d	(NxSize) Reaming shell 'S'	IINPUT	per mtr	50	IINPUT	per mtr
3e	(BxSize) Reaming shell 'TK'	IINPUT	per mtr	50	IINPUT	per mtr
3f	Reaming shell 'N'	IINPUT	per mtr	100	IINPUT	per mtr
3g	Core box (wooden 3m long x 0.85 m wide x 0.15 m deep) with longitudinal compartment to accommodate 5 rows of 3 m long cores. i.e total 15 m	IINPUT	Each		IINPUT	Each
4	Wagon Drill(Steel) equipment required with Wagon drill	IINPUT				
4a	Shank adopter	IINPUT	per mtr	460	IINPUT	per mtr
4b	Coupling sleeves	IINPUT	per mtr	460	IINPUT	per mtr
4c	Extension rod 1 x 3.00metre	IINPUT	per mtr	460	IINPUT	per mtr
4d	Extension rod 1 x 2.50 metre	IINPUT	per mtr	460	IINPUT	per mtr
4e	Extension rod 1 x 2.00 metre	IINPUT	per mtr	460	IINPUT	per mtr
4f	Extension rod 1 x 1.50 metre	IINPUT	per mtr	460	IINPUT	per mtr
4g	Extension rod 1 x 1.00 metre	IINPUT	per mtr	460	IINPUT	per mtr
4h	Cost of 4 point drill bit	IINPUT	per mtr	130	IINPUT	per mtr



CHAPTER—III

Usage Rate of Plant And Machinery

TABULATION OF OPERATING & MAINTENANCE CREW ADOPTED IN THE HOURLY USE RATE OF EQUIPMENT

S.N	Name of Equipment	Operation & Maintenance crew required for the operational of the M/C															
		Fore-man	Operator	Mechanic	Helper	Watchman	Electrician	Supervisor	Driver	Cableman	Beldar	Cleaner	Chargeman	Filter	Grea-ser	Khalasi	Tar man
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
3.1	Drill Jumbo	1/8	2	1/4	4	1/4											
3.2	Jack hammer (52 lb)		1	1/8	1/2	1/8		1/5									
3.3	Scalling hammer		1		1/2	1/10		1/8									
3.4	Diamond core drilling machine and diesel pump.	1/8	2	1/4	3	1/4											
3.5	Wagon Drill	1/8	1	1/8	1	1/4		1/4									
3.6	Paving Breakers (85 Lb or 38.6 Kg)																
3.7	Holst winch (30 T)		1	1/8	1/2	1/8											
3.8	Shot crete Machine	1/8	1	1/2	1	1/4											
3.9	Convey muckers (1.5 cubic yard 42 " wide conveyor)	1/8	1	1/6	1	1/4											
3.10	Shovel (Diesel) 2 cum 262 H.P	1/4	1	1/2	1	1/4		1									
	Shovel (Electric) 5 cum 350 H.P	1/4	1	1/2	1	1/4	1/2	1		2							
3.11	D.8 Tractor Dozer (Push Plate)H.P 270	1/4		1/4	1	1/4			1								
	D.9 Tractor Dozer H.P 335	1/4		1/4	1	1/4			1								
3.12	Dumper/Tipper (7 T) 4.5 cum		1	1/8		1/6					1						
	Dumper (15 T)	1/8	1	1/6	1	1/6											
	Rear Dumper(35 T) 17 cum	1/4	1	1/4	1	1/4											
3.13	Batching and mixing plant (25-35 cum)	1/2	2	1/2		1					6						
3.14	Ventilation blower (20000cfm)		1/4	1/4	1/2												
3.15	Pump																
	Diesel																
	5 H.P		1														
	10 H.P																
	15 H.P																
	20 H.P																
	25 H.P																
	30 H.P																
	Electric Pump																
	5 H.P																
	10 H.P																
	15 H.P		1	1/4												1/8	
	20 H.P																

R

68

(Signature)

(Signature)

(Signature)

Operation & Maintenance crew required for the operational of the M/C

S.N	Name of Equipment	Fore-man	Operator	Mechanic	Helper	Watchman	Electrician	Supervisor	Driver	Cableman	Beldar	Cleaner	Chargeman	Filter	Grea-ser	Khalasi	Tar man
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	30 H.P																
	40 H.P																
	50 H.P	1	1/4	1			1/6										
	Vacuum pumping set																
	5 H.P		1														
3.16	Roller																
	Smooth drum(8-10 MT)																
	Vibratory roller	1/8	1	1/4	1	1/8											
	Pneumatic tyred rollers	1/8	1	1/4	1	1/8											
	Drawn Sheep foot roller																
	D-4 Tractor (drawn by) For Sheep foot roller	1/8		1/6	1/2				1								
3.17	Locomotives																
	Diesel Locomotives	1/8	1	1/4	1	1/4											
	Battery Locomotive	1/8	1	1/4	1	1/4											
3.18	Grouting machine	1/8	1	1/6	1	1/6											
3.19	Air Compressor.																
	A. Diesel compressors																
	210 cfm	1/8	1	1/4	1	1/4											
	300 cfm.	1/8	1	1/4	1	1/4											
	500 cfm	1/8	1	1/4	1	1/4											
	B. Electric compressors																
	500 cfm	1/8	1	1/4	1	1/4	1/2										
	1500 cfm Stationery	1/8	1	1/3	1	1/4	1/2										
3.20	Crane																
	Mobile Crawler Mounted Upto 10 T	1/4	1	1/4	1	1/4		1/4					1				
3.21	Muck / Car (12 cubic yard)																
3.22	Concrete vibrator		1														
3.23	Scraper Motorised Push Loaded Upto 10 cu yds	1/4	1	1/4	1	1/4											
3.24	GRADER 115 hp	1/8	1	0	1	1/2											
3.25	Concrete mixer																
3.26	Diesel Truck				1				1								
3.27	Ripper																
3.28	Tractors				1				1								
3.29	Water Tanker 6kl				1				1								
3.30	Concrete buckets																
3.31	Trolley																
3.32	Drill extractors (electrical)	1/8	1	1/8	1	1/4	1/4	1/4									
	Compressed air	1/8	1	1/8	1	1/4		1/4									
3.33	Grinder	1/8	1	1/8	1	1/4											
3.34	Pile Driving plant	1/8	1	1/4	1	1/4											
3.35	Loader																
	Front end loader 2cu.yd	1/8	1	1/4	1	1/2											

69

[Handwritten signature]

Operation & Maintenance crew required for the operational of the M/C

S.N	Name of Equipment	Fore-man	Operator	Mechanic	Helper	Watchman	Electrician	Supervisor	Driver	Cableman	Beldar	Cleaner	Chargeman	Filter	Grea-ser	Khalasi	Tar man
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Overhead loader 1cu. yd	1/8	1	1/4	1	1/6											
3.36	Pneumatic concrete placer (1 Cubic yard)	1/8	1	1/6	1	1/6											
3.37	Draglines (Diesel) 2 cum 262 H.P	1/4	1	1/2	1	1/4		1		2							
	Draglines (Electric) 5 cum 350 H.P	1/4	1	1/2	1	1/4	1/2	1									
3.38	Hydraulic excavators (Diesel) 1.25cu.yd or 0.96 cum	1/4	1	1/4	1	1/4											
	Hydraulic excavators (Diesel) 0.3 cum	1/4	1	1/4	1	1/4											
3.39	Wet Mix Plant (Soil Stabilization Plant) 60 TPH	1/4	2	1/4	2	1/4					2						
	Wet Mix Plant (Soil Stabilization Plant) 110 HP	1/4	2	1/4	2	1/4					2						
3.40	Agitating car 4cu.yd	1/8	1/2	1/4	1/2	1/6											
3.41	Generator set																
	250 KVA		1	1/4		1/6	1/4			1							
	125 KVA		1	1/4		1/6	1/4			1							
	63 KVA		1	1/4		1/6	1/4			1							
	32 KVA		1	1/4		1/6	1/4			1							
3.42	Crushing & Processing Plant																
	Integrated Stone Crusher 100 TPH	1	2	1/4		1					15						
	Integrated Stone Crusher 200 TPH	1	2	1/4		1					20						
3.43	40 quintal capacity boat		2														
	100 quintal capacity boat		2														
	100 quintal capacity boat (Motor Fitted)		1		1												
3.44	Bullock cart		1		1												
3.45	Transit Mixer 4.0/4.5 cum	1/8	1	1/4	1	1/6											
	Transit Mixer 3.0 cum	1/8	1	1/4	1	1/6											

a

70

y
 (Signature)
 (Signature)
 R
 (Signature)
 (Signature)

CHAPTER - III

TABULATION OF COST & LIFE OF MACHINES. FUEL CONSUMPTION ADOPTED IN THE HOURLY USE RATE OF EQUIPMENT & ADOPTED USE RATE

Sl No	Machine	Activity	Cost of machine	Life of Machine	Year	Hour	Repair %	Engine Horse Power	Qty	Unit	Output	Unit	Rates	Unit	Hourly use rate	Adopted Rate	Use Rate of	Building
																	Ref	
1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16		
3.1	Drill Jumbo	Number of holes drilled simultaneously	IINPUT	10	12000	60							#VALUE!	Per hr	#VALUE!			
3.2	Jack hammer (52 lb)	Drilling	IINPUT	10	10000	60			100	cfm	2.3 M	35mmhole /hr	#VALUE!	Per hr	#REF!			
3.3	Scaling Hammer	Drilling	IINPUT	10	10000	60			100	cfm			#VALUE!	Per hr	#VALUE!			
3.4	Diamond core drilling machine and diesel pump.	Core samples	IINPUT	8	8000	80	32.25		3.55	lit/hr	0.5	mt/hr	#VALUE!	Per hr	#VALUE!			
3.5	Pneumatic Breakers (65 Lb or 38.6 Kg)	Drilling	IINPUT	8	8000	80			400.00	cfm	0.2	mt/hr	#VALUE!	Per hr	#VALUE!			
3.6			IINPUT	10	10000	60			100.00	cfm			#VALUE!	Per hr	#REF!			
3.7			IINPUT	12	15000	120			0	lit/hr			#VALUE!	Per hr	#REF!			
3.8	Shotcrete Machine/ Concrete Pump of 45 & 30 cum capacity	Pumping of Concrete	IINPUT	10	15000	80			600	cfm	33/22	cum/hour	#VALUE!	Per hr	#REF!			
3.9	Convey muckers (1.5 cubic yard 42" wide conveyor) or 1.15 cum	Transporting	IINPUT	10	15000	100			123.09	KWH	76.5	cum/hour	#VALUE!	Per hr	#VALUE!	P & M 085		
3.10	Shovel (Diesel) 2 cum 262 H.P	Excavation	IINPUT	12	15000	150			28.55	lit/hr	100	cum/hour	#VALUE!	Per hr	#VALUE!			
	Shovel (Electric) 5 cum 350 H.P		IINPUT	20	40000	150			175.86	KWH	238.08	cum/hour	#VALUE!	Per hr	#VALUE!			
3.11	D.8 Tractor Dozer (Push Plate) H.P. 270	Spreading	IINPUT	10	12000	100			29.42	lit/hr	300	cum/hour	#VALUE!	Per hr	#VALUE!			
b	D.9 Tractor Dozer H.P. 385		IINPUT	10	12000	100			41.95	lit/hr			#VALUE!	Per hr	#VALUE!			
c	BD 50 Bulldozer with suitable diesel engine	Spreading, cutting, clearing	IINPUT	10	12000	100			5.45	lit/hr	200	cum/hour	#VALUE!	Per hr	3337.90	P&M-015		
			IINPUT	10	12000	100					100	cum/hour	#VALUE!	Per hr				
			IINPUT	10	12000	100					150	cum/hour	#VALUE!	Per hr				
d	BD 80 Bulldozer with suitable diesel engine	Spreading, cutting, clearing	IINPUT	10	12000	100			8.72	lit/hr	300	cum/hour	#VALUE!	Per hr	5629.90	P&M-014		
3.12	Dumper or Tipper (7 T) 4.5 cum	Transportation of soil.	IINPUT	8	10000	140			11.99	lit/hr			#VALUE!	Per hr	#VALUE!			
b	Dumper or Tipper (10 T) 5.5 cum		IINPUT	8	10000	140			0.00	lit/hr			#VALUE!	Per hr	1043.00	P&M-048		
c	Dumper (15 T)	GSB, WMM, Homix etc	IINPUT	8	10000	140			21.79	lit/hr	25.22	cum/hour	#VALUE!	Per hr	#VALUE!			
d	Rear Dumper (35 T) 17 cum		IINPUT	10	12000	140			61.02	lit/hr			#VALUE!	Per hr	#VALUE!			
3.13	Batching and mixing plant (35 cu/yd/hr for 27 cum)	Concrete Mixing	IINPUT	18	30000	75			59.68	kwh	27	cum/hour	#VALUE!	Per hr	2981.00	P&M-002		
b	Batching and mixing plant (15-20 cum)		IINPUT								13	cum/hour	#VALUE!	Per hr	1937.70	P&M-003		
3.14	Ventilation blower (20000cfm)		IINPUT	12	58000	80			14.92	kwh			#VALUE!	Per hr	#VALUE!			
3.15	Pump	Pumping, water supply, sewage, dredging etc											#VALUE!	Per hr	#VALUE!			
(i)	Diesel												#VALUE!	Per hr	#VALUE!			
a	5 H.P		IINPUT	8	10000	100			0.61	lit/hr			#VALUE!	Per hr	#VALUE!			
b	10 H.P		IINPUT	8	10000	100			1.21	lit/hr			#VALUE!	Per hr	#VALUE!			
c	15 H.P		IINPUT	8	10000	100			1.82	lit/hr			#VALUE!	Per hr	#VALUE!			
d	20 H.P		IINPUT	8	10000	100			2.42	lit/hr			#VALUE!	Per hr	#VALUE!			
e	25 H.P		IINPUT	8	10000	100			3.03	lit/hr			#VALUE!	Per hr	#VALUE!			
f	30 H.P		IINPUT	8	10000	100			3.63	lit/hr			#VALUE!	Per hr	#VALUE!			
(ii)	Electric Pump												#VALUE!	Per hr	#VALUE!			
g	5 H.P		IINPUT	12	20000	70			3.73	kwh			#VALUE!	Per hr	#VALUE!			
h	10 H.P		IINPUT	12	20000	70			7.46	kwh			#VALUE!	Per hr	#VALUE!			
i	15 H.P		IINPUT	12	20000	70			11.19	kwh			#VALUE!	Per hr	#VALUE!			
j	20 H.P		IINPUT	12	20000	70			14.92	kwh			#VALUE!	Per hr	#VALUE!			

71

TABULATION OF COST & LIFE OF MACHINES - FUEL CONSUMPTION ADOPTED IN THE HOURLY USE RATE OF EQUIPMENT & ADOPTED USE RATE

Sl No	Description of machine	Machine	Activity	Cost	Life of Machine		Repair %	Horse Power	Fuel consumption per		Output of machine		Hourly use rate (By)		Adopted Rate	Use Rate of Building
					Year	Hour			Qty	Unit	Unit	Unit	Unit	Unit		
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
k	30 H.P	IINPUT		IINPUT	12	20000	70	30	22.38	kwh			#VALUE!	Per hr	#VALUE!	
l	40 H.P	IINPUT		IINPUT	12	20000	70	40	29.84	kwh			#VALUE!	Per hr	#VALUE!	
m	50 H.P	IINPUT		IINPUT	12	20000	70	50	37.3	kwh			#VALUE!	Per hr	#VALUE!	
(iii)	Vacuum pumping set 5 H.P	IINPUT		IINPUT	12	20000	50	5	3.73	kwh			#VALUE!	Per hr	#VALUE!	
3.16	Roller															
a	Smooth wheeled Roller 8 tonne	IINPUT	Soil, BM Compaction	IINPUT	8	12000	80		3	lit/hr				Per hr	803.00	P&M-044
b	Vibratory roller 8 tonne	IINPUT	Earth/ Soil GSB W/M Compaction	IINPUT	8	8000	150	62	7.51	lit/hr				Per hr	2069.00	P&M-059
c	Pneumatic Road rollers	IINPUT	Rolling of Asphalt Surfaces Compaction	IINPUT	8	10000	80	60	7.26	lit/hr				Per hr	1882.70	P&M-037
d	Sheep foot roller		Compaction of Earth	IINPUT									#VALUE!	Per hr	#VALUE!	P&M-053+Sheep foot roller
3.17	Locomotives			IINPUT	10	16000	120	98	10.79	lit/hr			#VALUE!	Per hr	#VALUE!	
a	Diesel Locomotives			IINPUT	22	40000	120						#VALUE!	Per hr	#VALUE!	
b	Battery Locomotive (For 12 cubic yard capacity muckcar)			IINPUT	10	10000	80		200	cfm			#VALUE!	Per hr	175.00	P & M 078
3.18	Grouting machine/ Epoxy Injection gun															
3.19	Air Compressor		General Purpose													
	A. Diesel compressors			IINPUT	8	10000	100	61.50	6.77	lit/hr			#VALUE!	Per hr	483.70	P&M-001
	210 cfm	IINPUT		IINPUT	10	10000	100	94.30	10.38	lit/hr			#VALUE!	Per hr	#VALUE!	
	300 cfm	IINPUT		IINPUT	10	12000	100	148.00	16.13	lit/hr			#VALUE!	Per hr	#VALUE!	
	500 cfm															
	B. Electric compressors			IINPUT	12	20000	80		90.00	kwh			#VALUE!	Per hr	#VALUE!	
	500 cfm	IINPUT		IINPUT	20	30000	80		240.00	kwh			#VALUE!	Per hr	#VALUE!	
	1500 cfm Stationery															
3.20	Crane 10 tonne capacity		Lifting purpose	IINPUT	10	12000	120			lit/hr			#VALUE!	Per hr	1289.30	P&M-071
3.21	Muck car (12 cubic yard)		Transporting	IINPUT	20	30000	50						#VALUE!	Per hr	#VALUE!	
3.22	Concrete vibrator				5	8000	150		1.5	lit/hr			#VALUE!	Per hr	#VALUE!	
3.23	Scraper Motorised Push Loaded upto 10 cu yds			IINPUT	8	9000	150	165	17.98	lit/hr			#VALUE!	Per hr	#VALUE!	
3.24	GRADER 115 hp		Clearing Spreading GSB W/M	IINPUT	10	12000	150	115	12.53	lit/hr	200	200	#VALUE!	Per hr	2786.00	P&M-032
3.25	Concrete mixer		Concrete Mixing	IINPUT	5	8000	80		5	lit/hr	0.40	cum/hour		Per hr	86.30	P&M-009
	(I). Concrete mixer 0.4/0.28 cum			IINPUT	5	8000	80		4.5	lit/hr	2.5	cum/hour		Per hr	#REF!	
	(II). 107 (0.20 cum) cft. Capacity fitting drum type concrete mixer etc. radiator cooled diesel engine.			IINPUT	10	12000	150		3.2	lit/hr	8/4.8cum	Tone.cum		Per hr	934.30	P&M-057

Handwritten signatures and initials are present at the bottom of the page, including a signature that appears to be 'Sachin' and another that looks like 'Dey'.

TABULATION OF COST & LIFE OF MACHINES, FUEL CONSUMPTION ADOPTED IN THE HOURLY USE RATE OF EQUIPMENT & ADOPTED USE RATE

Sl No	Description of machine		Activity	Cost of Machine	Year	Life of Machine	Repair provision %	Engine Horse Power	Fuel consumption per			Hourly use rate (By)			Use Rate of	
	Machine	Activity							Qty	Unit	Output	Unit	Rates	Unit		Rate
1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16
3.27	a. Farm Tractor with Ripper	Loosen the hard earth and other material	IINPUT	12000	5	12000	150	50	6.05	lit/hr	150	cum/hour		Per hr	\$91.40	P&M-055
	b Tractor 50H.P c-Ripper	Excavation of Earth	IINPUT	12000	10	12000	100		nil					Per hr	\$49.10	P&M-053
3.28	Tractor 30-H.P with Leveller/Bucket	Excavation of Earth	IINPUT	684000	5	12000	150	30	2.75	lit/hr			#VALUE!	Per hr	input	
3.29a	Water Tanker 6kl	Water Transport	IINPUT	16000	10	16000	100							Per hr	184.00	P&M-060
b	Water Tanker 6kl(With Tractor)													Per hr	733.10	(P&M-060)+(P&M-053)
3.30	Concrete buckets 3.06 cum 4 cuyd		IINPUT	15000	10	15000	50							Per hr	24.30	P&M-008
3.31	Trolley	Transporting	IINPUT	15000	10	15000	50							Per hr	#REF!	
3.32	Drill extractors (Compressed air)		IINPUT	8000	8	8000	80		400	cfm			#VALUE!	Per hr	#VALUE!	
3.33	Grinder		IINPUT	8000	8	8000	80		400	cfm			#VALUE!	Per hr	#VALUE!	
3.34	Sheet Pile Driving plant	Sheet Pile Driving	IINPUT	15000	10	15000	50		400	cfm			#VALUE!	Per hr	#VALUE!	
3.35	Loader															
a	Front end loader 1.0cum bucket capacity	Soil, Aggregate loading	IINPUT	15000	10	15000	150	130	12.79	lit/hr	60.25	cum/hour	#VALUE!	Per hr	1403.00	P&M-017
b	Overhead loader 1cu. Yd or 0.768 cum		IINPUT	20000	16	20000	70	160	119.36	kwh			#VALUE!	Per hr	#VALUE!	
3.36	Pneumatic concrete placer (1 Cubic yard) or 0.768 cum	Placing Concrete	IINPUT	10000	10	10000	120		200	Cfm			#VALUE!	Per hr	#VALUE!	
3.37	Draglines (Diesel) 2 cum 262 H.P (Crane with grab)	In well Shinking, Excavators	IINPUT	15000	12	15000	150	262	28.55	lit/hr			#VALUE!	Per hr	input	
3.38	Hydraulic excavators (Diesel) 1 cum bucket	Excavators	IINPUT	4253885	10	12000	150	103.5	11.28	lit/hr	60/60/60	cum/hour	#VALUE!	Per hr	1989.20	P&M-026
3.39	Wet Mix Plant (Soil Stabilization Plant) 60 TPH	Stabilization Wet Mix	IINPUT	12000	10	12000	150	38.5	4.19	lit/hr	25	cum/hour		Per hr	1822.30	P&M-062
3.40	Agitating car 4cu.yd or 3.07 cum		IINPUT	10000	10	10000	120	5	5.33	kwh			#VALUE!	Per hr	#VALUE!	
3.41	Generator set															
a	250 KVA	Generation of Electric Energy	IINPUT	30000	15	30000	120		0.00	lit/hr				Per hr	3795.00	P&M-081
b	125 KVA		IINPUT	30000	15	30000	120		0.00	lit/hr	100	KVA		Per hr	2724.00	P&M-018
c	100 KVA		IINPUT	30000	15	30000	120		0.00	lit/hr				Per hr	1995.00	P&M-080
d	63 KVA		IINPUT	30000	15	30000	120		0.00	lit/hr				Per hr	1068.10	P&M-019
e	33 KVA		IINPUT	20000	10	20000	100		0.00	lit/hr	50	KVA		Per hr	562.20	P&M-079
f																
3.42	Crushing & Processing Plant															
a	Integrated Stone Crusher 100 TPH	Crushing of Spoil	IINPUT	18000	12	18000	80		400	kwh	100	TPH	#VALUE!	Per hr	13110.30	P&M-027
b	Integrated Stone Crusher 200 TPH		IINPUT	18000	12	18000	80		800	kwh	200	TPH	#VALUE!	Per hr	27581.30	P&M-028
3.43	100 quintal capacity boat	Transportation		35000	8	35000	150		nil				#VALUE!	Per day		
b	40 quintal capacity boat			35000	8	35000	150		nil				#VALUE!	Per day		
c	100 quintal capacity boat (Motor Fitted)			1000000	8	35000	150	5	0.54	lit/hr			#VALUE!	Per day	#VALUE!	
d	Boat to carry atleast 20 persons	Transportation		7500000	8	40000	50						#VALUE!	Per day	235.30	
3.44	Bullock cart	Transportation	IINPUT		8									Per day		

Handwritten signatures and initials are present at the bottom of the page, including a large signature on the right and initials '73' in the center.

TABULATION OF COST & LIFE OF MACHINES, FUEL CONSUMPTION ADOPTED IN THE HOURLY USE RATE OF EQUIPMENT & ADOPTED USE RATE

Sl No	Description of machine		Cost of machine	Life of Machine			Repair provision %	Engine Horse Power	Fuel consumption per		Hourly use rate (By)			Use Rate of Building
	Machine	Activity		Year	Hours in	Days			Qty	Unit	Output	Unit	Rates	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3.45	Transit Mixer 4.0/4.5 cum	Transportation of concrete mix to site	INPUT	10	10000	120		0	lit/hr	4.5	cum/hour		Per hr	P&M-049
b	Transit Mixer 3.0 cum		INPUT	10	10000	120		0	lit/hr	3	cum/hour		Per hr	P&M-051

R ✓ R B R Qty

CHAPTER - IV

CARRIAGE OF MATERIALS (By TRACTOR)

SI.No	Description	Unit	Quantity	Rate(Rs)	Cost(Rs)	Ref.	
4.1	Loading and Unloading of Stone Boulder/ Stone aggregates/Sand /Kanker/Moorum by Mechanical Means						
	Placing tractor at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip.						
	Unit = cum						
	Taking output = 2.25 cum						
	Time required for						
	i) Positioning of tipper at loading point		1Min				
	ii) Loading by front end loader 1cum bucket capacity @ 25 cum per hour		5 Min				
	iii) Maneuvering, reversing, dumping and turning for return.		0 Min				
	iv) Waiting time, unforeseen contingencies etc		0 Min				
	Total		6 Min				
	a) Labour						
	Mate	no.	0.03	311.00	9.33		
	Mazdoor for loading and unloading	no.	0.72	287.00	206.64		
	b) Machinery						
	Tractor 3.6 tonnes capacity	hour	0.100	542.00	54.20	P&M-1B 5	
	Front end-loader 1cum bucket capacity @ 25 cum/hour	hour	0.083	1403.00	116.45	P&M017	
					386.62		
	Overhead charges & C.P @ 15%				57.99		
	Cost for 2.25 cum				444.61		
	Rate per cum				197.61		
				say	197.60		
	Note:-Unloading will be done manually.						
4.2	Loading and Unloading of stone Boulders by Manual means						
	Unit = cum						
	Taking output = 2.25 cum						
	a) Labour						
	Mate	no.	0.05	311.00	15.55		
	Mazdoor for loading and unloading	no.	0.31	287.00	88.97		
	b) Machinery						
	Tractor 3.60 tonne capacity	hour	0.31	542	168.02		
					272.54		
	Overhead charges & C.P @ 15%				40.88		
	Cost for 2.25 cum				313.42		
	Rate per cum				139.3		
				say	139.30	Xa	
	Note:-Unloading will be done manually.						
4.3	Loading and Unloading of Cement or Steel by manual means and stacking						
	Unit = tonne						
	Taking output = 3.6 tonnes						
	a) Labour						

a

75

~ (AM)

✓

R
Jey

	Mate	no.	0.03	311.00	9.33	
	Mazdoor for loadina and unloading	no.	0.72	287.00	206.64	
	b) Machinery					
	Tractor 3.6 tonne capacity	hour	0.72	542.00	390.24	
					606.21	
	Overhead charges & C.P @ 15%				90.93	
	Cost for 3.6 tonnes				697.14	
	Rate per tonnes				193.65	
				say	193.70	Xb
4.4	Cost of Haulage Excluding Loading and Unloading					
	Haulage of materials by tractor excluding cost of loading, unloading and stacking.					
	Unit = t.km or cum.km					
	Taking output (3.60 tonnes load and lead 10 km) =36 t. km					
4.4a	Surfaced Road					
	Speed with load : 15 km / hour.					
	Speed while Returning empty :25 km /					
	a) Machinery					
	Tractor 3.60 tonne capacity					
	Time taken for onward haulage with load	hour	0.667	542.00	361.51	
	Time taken for empty return trip.	hour	0.40	542.00	216.80	
					578.31	
	Overhead charges & C.P @ 15%				86.7465	
	cost for 36 t km				665.06	
	Rate per t.km				18.47	
				say	18.50	Hsb
4.4b	Unsurfaced Graveled Road					
	Speed with load: 12 km / hour					
	Speed for empty return trip : 20 km / hour					
	a) Machinery					
	Tractor 3.6 tonnes capacity					
	Time taken for onward haulage with load	hour	0.833	542.00	451.49	
	Time taken for empty return trip	hour	0.50	542.00	271.00	
					722.49	
	Overhead charges & C.P @ 15%				108.37	
	Cost for 36 t.km				830.86	
	Rate per t.Km				23.08	
				say	23.10	Hub
4.4c	Katcha Track and Track in River Bed/Nallah Bed and choe Bed					
	Speed with load :10 km / hour					
	Soeed while returning empty : 15 km / hour					
	a) Machinery					
	Tractor 3.6 tonnes capacity					
	Time taken for onward haulage	hour	1.00	542.00	542.00	
	Time taken for empty return trip	hour	0.667	542.00	361.51	
					903.51	
	Overhead charges & C.P @ 15%				135.53	
	Cost for 36 t.km				1039.04	
	Rate per t.Km				28.86	
				say	28.90	Hkb

R

76

76

Wky

CARRIAGE OF MATERIALS (By TIPPER)

No.	Description	Unit	Quantity	Rate	Cost	
4.1	Loading and Unloading of Stone Boulder/ Stone aggregates/Sand /Kanker/Moorum by Mechanical Means					
	Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip.					
	Unit = cum					
	Taking output = 5.5 cum					
	Time required for					
	i) Positioning of tipper at loading point		1Min			
	ii) Loading by front end loader 1cum bucket capacity @ 25 cum per hour		13 Min			
	iii) Maneuvering, reversing, dumping and turning for return		2 Min			
	iv) Waiting time, unforeseen contingencies etc		4 Min			
	Total		20 Min			
	a) Machinery					
	Tipper 5.5 tonnes capacity	hour	0.33	1043.00	344.19	P&M048
	Front end-loader 1cum bucket capacity @ 25 cum/hour	hour	0.33	1403.00	462.99	P&M017
					807.18	
	b) Overhead charges & C.P @ 15%					
	Cost for 5.5 cum					
	Rate per cum					
	say 168.80					
	Note:-Unloading will be by tipping.					
4.2	Loading and Unloading of Stone Boulders by Manual means					
	Unit = cum					
	Taking output = 5.5 cum					
	a) Labour					
	Mate	no.	0.11	311.00	34.21	
	Mazdoor for loading and unloading	no.	0.75	287.00	215.25	
	b) Machinery					
	Tipper 5.5 tonne capacity	hour	0.75	1043.00	782.25	
					1031.71	
	c) Overhead charges & C.P @ 15%					
	Cost for 5.5 cum					
	Rate per cum = (a+b+c+d)/5.5					
	say 215.70					
	Note:-Unloading will be by tipping.					
4.3	Loading and Unloading of Cement or Steel by manual means and stacking.					
	Unit = tonne					
	Taking output = 10 tonnes					
	a) Labour					
	Mate	no.	0.08	311.00	24.88	
	Mazdoor for loading and unloading	no.	2.00	287.00	574.00	
	b) Machinery					
	Truck 10 tonne capacity	hour	2.00	934.30	1868.60	P&M057
					2467.48	
	c) Overhead charges & C.P @ 15%					
	Cost for 10 tonnes					
	Rate per tonnes					
	say 283.80					
	Unit = t.km					
	Taking output (for 10 tonnes or 5.5 cum load and lead 10					

a
77
(B)
P
Gly

4.4a	Surfaced Road					
	Speed with load : 25 km / hour.					
	Speed while Returning empty :35 km /					
	a) Machinery					
	Tipper 10 tonne capacity					
	Time taken for onward haulage with load	hour	0.40	1043.00	417.2	
	Time taken for empty return trip.	hour	0.29	1043.00	302.47	
					719.67	
	b) Overhead charges & C.P @ 15%				107.9505	
	cost for 100 t.km or 55cum.km				827.62	
	Rate per t.km				8.28	
				say	8.30	Hsb
	Rate per cum.km				15.05	
				say	15.10	Has
4.4b	Unsurfaced Graveled Road					
	Speed with load: 20 km / hour					
	Speed for empty return trip :30 km / hour					
	a) Machinery					
	Tipper 10 tonnes or 5.5 cum capacity					
	Time taken for onward haulage with load	hour	0.50	1043.00	521.50	
	Time taken for empty return trip	hour	0.33	1043.00	344.19	
					865.69	
	b) Overhead charges & C.P @ 15%				129.85	
	Cost for 100 t.km or 55cum.km				995.54	
	Rate per t.Km				9.96	
				say	10.00	Hub
	Rate per cum.km				18.10	
				say	18.10	Hua
4.4c	Katcha Track and Track in River Bed/Nallah Bed and choe Bed					
	Speed with load :10 km / hour					
	Speed while returning empty: 15 km / hour					
	a) Machinery					
	Tipper 10 tonnes capacity					
	Time taken for onward haulage	hour	1.00	1043.00	1043.00	
	Time taken for empty return trip	hour	0.67	1043.00	698.81	
					1741.81	
	b) Overhead charges & C.P @ 15%				261.27	
	Cost for 100 t.km				2003.08	
	Rate per t.Km				20.03	
				say	20.00	Hkb
	Rate per cum.km				36.42	
				say	36.40	Hka

CARRIAGE OF MATERIAL BY TIPPER OF 5.5 CUM CAPACITY INCLUDING OVER HEAD CHARGES & C.P

Sr.No	Name of Materials	Unit	Gross Tipper Capacity per trip	(For void) Multiplying Factor	Net Tipper capacity (Payable Qty) Per Trip	Cost of loading, Unloading & Stacking per Trip Of Tipper (Tipper capacity 5.5 cum Xa) by Machinery	Cost Of Haulage Per cum			Cost of Haulage per Tipper			Lead in KM			Cost of Carriage=[(5.5Hsa.Ls+5.5Hua.Lu+5.5Hka.Lk)+5.5Xa]	Per Unit Rate =(col17/Net Payable capacity)	
							For Surface Road	For Unsurfaced graveled Road	For Hatcha track & Track in river bed/ Nallah bed & Choe Bed	For Surface Road	For Unsurfaced graveled Road	For Hatcha track & Track in river bed/ Nallah bed & Choe Bed	L _s	L _u	L _k			
1		3	4	5	6	5.5X _s	H _{sa}	H _{ua}	H _{ka}	5.5H _{sa}	5.5H _{ua}	5.5H _{ka}	L _s	L _u	L _k	16	17	18
1	Lime, Moorum, Rubbish	M ³	6	1	6	928.40	15.10	18.10	36.40	83.05	99.55	200.20	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	#VALUE!
2	Earth	M ³	6	0.80	4.80	928.40	15.10	18.10	36.40	83.05	99.55	200.2	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	#VALUE!
3	Manur or Sludge	M ³	6	0.92	5.52	928.40	15.10	18.10	36.40	83.05	99.55	200.20	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	#VALUE!
4	Excavated Rock (120lbs)	M ³	6	0.67	4.02	928.40	15.10	18.10	36.40	83.05	99.55	200.20	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	#VALUE!
5	Stone metal (above 50 mm)	M ³	5.4	0.85	4.59	928.40	15.10	18.10	36.40	83.05	99.55	200.20	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	#VALUE!

Handwritten signatures and initials: *RP*, *Adm*, *Adm*, *R*, *Adm*, *R*

CARRIAGE OF MATERIAL BY TIPPER OF 5.5 CUM CAPACITY INCLUDING OVER HEAD CHARGES & C.P

Sr.No	Name of Materials	Unit	Gross Tipper Capacity per trip	(For void) Multiplying Factor	Net Tipper capacity (Payable Qty) Per Trip	Cost of loading, Unloading & Stacking 5.5 cum Xa) by Machinery	Cost Of Haulage Per cum			Cost of Haulage per Tipper			Lead in KM			Cost of Carriage= [(5.5Hsa.Ls+5.5Hua.Lu+5.5Hka.Lk)+5.5Xa]	Per Unit Rate =(col17/Net Payable capacity)
							H _{sa}	H _{ua}	H _{ka}	For Surface Road	For Unsurfaced graveled Road	For Hatcha track & Track in river bed/ Nallah bed & Choe Bed	L _s	L _u	L _k		
1						5.5X _s	8	9	10	11	12	13	14	15	16	17	18
6	Boulder	M ³	6	0.80	4.80	928.40	15.10	18.10	36.40	83.05	99.55	200.20	INPUT	INPUT	INPUT	#VALUE!	#VALUE!
7	Stone chips / Sand / Stone Agg	M ³	5.4	0.924	4.99	928.40	15.10	18.10	36.40	83.05	99.55	200.20	INPUT	INPUT	INPUT	#VALUE!	#VALUE!
8	Soling stone	M ³	5	0.85	4.25	928.40	15.10	18.10	36.40	83.05	99.55	200.20	INPUT	INPUT	INPUT	#VALUE!	#VALUE!

Handwritten notes and signatures on the right side of the table, including a signature at the top right and several initials and marks below.

80

CARRIAGE OF MATERIAL BY TIPPER OF 10 Tonnes CAPACITY INCLUDING OVERHEAD CHARGES & C.P.
(by manual means)

Sr.No	Name of Materials	Unit	Gross Tipper Capacity per trip	(For void) Multiplying Factor	Net Tipper capacity (Payable Qty)	Cost of loading, Unloading & Stacking per Trip (Tipper capacity & Stacking 8x) (By Manual Means)	Cost Of Haulage Per Tonne-KM			Cost of Haulage per Tipper of 8t capacity				Lead in KM			Cost of carriage = (8Hsb.Ls+8Hsb.Lu+8Hkb.Lk)+8xb]	Per Unit Rate =(col17/Net Payable capacity
							Hsb	Hub	Hkb	8Hsb	8Hsb	8Hsb	8Hsb	Ls	Lh	Lk		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	Cement, Steel, Stone CC pipe	M.T	8	1	8	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
2	Brick (93/4x43/4x23/4)	Per %0	2000	1	2000.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
3	G.I. Crate (3x1.5x0.75)	Per %	80	1	80.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
4	Bitumen, Tar, Steam, Coal	MT	8	1	8.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
5	R.C.C hume, A.C. pipe	mt	290	1	290.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	100 mm dia	mt	200	1	200.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	125 mm dia	mt	180	1	180.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	150 mm dia	mt	100	1	100.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	200 mm dia	mt	75	1	75.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	300 mm dia	mt	60	1	60.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	350 mm dia	mt	47.5	1	47.50	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	400 mm & 450 dia	mt	32.5	1	32.50	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	500 mm & 600 mm dia	mt	15	1	15.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	700 mm & 800 mm dia	mt	12.5	1	12.50	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	900mm & 1000 mm dia	mt	10	1	10.00	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	1100 & 1200 m dia	mt	7.5	1	7.50	2270.40	8.30	10.00	20.00	66.40	80.00	160.00	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
6	Bamboo																	
	75 mm to 100 mm dia	Per %	280	1	280.00	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
	50 mm to 75 mm dia	Per %	300	1	300.00	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
7	E.C bag 30000 nos	Per %0	30000	1	30000.00	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	
8	Timber	Cum	9.6	1	9.60	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	#VALUE!	#VALUE!	

Y P

 a

CARRIAGE OF MATERIAL BY TIPPER OF 10 Tonnes CAPACITY INCLUDING OVERHEAD CHARGES & C.P.
(by manual means)

Sr.No	Name of Materials	Unit	Gross Tipper Capacity per trip	(For void) Multiplying Factor	Net Tipper capacity (Payable Qtynt)	Per Trip 8X _b	Cost Of Haulage Per Tonne-KM			Cost of Haulage per Tipper of 8t capacity			Lead in KM			Cost of carriage= [(8H _{sb} .L _s +8H _{ub} .L _u +8H _k .L _k)+8X _b]	Per Unit Rate =(col17/Net Payable capacity	
							H _{sb}	H _{ub}	H _{kb}	For Surface Road	For Unsurfaced gravelled Road	For Katcha track & Track in river bed/ Nallah bed & Choe Bed	L _s	L _u	L _k			For Surface Road
1		3			6	7												
9	Sai ballah av.6m length																	
	100 mm dia	Nos	125	1	125.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	125 mm dia	Nos	80	1	80.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	150 mm dia	Nos	60	1	60.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	175 mm dia	Nos	45	1	45.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	200 mm dia	Nos	25	1	25.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	225 mm dia	Nos	20	1	20.00	-	-	-	-	-	-	-	-	-	-	-	-	-
10	S.W.Pipe 60 cm length																	
	100 mm dia	Mtr	480	1	480.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	150 mm dia	Mtr	240	1	240.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	200 mm dia	Mtr	135	1	135.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	230 mm dia	Mtr	105.6	1	105.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	250 mm dia	Mtr	84	1	84.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	300 mm dia	Mtr	67.2	1	67.20	-	-	-	-	-	-	-	-	-	-	-	-	-
	350 mm dia	Mtr	48	1	48.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	400 mm dia	Mtr	33.6	1	33.60	-	-	-	-	-	-	-	-	-	-	-	-	-
	450 mm dia	Mtr	26.4	1	26.40	-	-	-	-	-	-	-	-	-	-	-	-	-
	500 mm dia	Mtr	24	1	24.00	-	-	-	-	-	-	-	-	-	-	-	-	-
	600 mm dia	Mtr	19.2	1	19.20	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Tiles (Manglore / Mosaic)	Per %0	3200	1	3200.00	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Brick Tiles(300x150x50mm)	Per %0	1760	1	1760.00	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Steel and C.I pipe																	
	100 mm dia	Mtr	292.8	1	292.80	-	-	-	-	-	-	-	-	-	-	-	-	-

Handwritten signature

Handwritten mark

Handwritten mark

CARRIAGE OF MATERIAL BY TIPPER OF 10 Tonnes CAPACITY INCLUDING OVERHEAD CHARGES & C.P.
(by manual means)

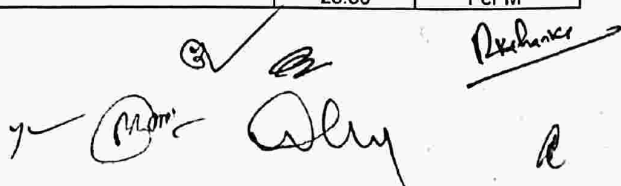
Sr.No	Name of Materials	Unit	Gross Tipper Capacity per trip	(For void) Multiplying Factor	Net Tipper capacity (Payable Qtynt)	Per Trip Per Trip x Xb) (By Manual Means)	Cost Of Haulage Per Tonne-KM			Cost of Haulage per Tipper of 8t capacity			Lead in KM			Cost of carriage= [(8Hsb.Ls+8Hhub.Lu+8Hkb.Lk)+8Xb]	Per Unit Rate =(col17/Net Payable capacity)
							H _{sb}	H _{ub}	H _{kb}	8H _{sb}	8H _{ub}	8H _{kb}	L _s	L _u	L _k		
1	125 mm dia	Mtr	219.6	1	219.60	8X _b	8	9	10	11	12	13	14	15	16	17	18
	150 mm dia	Mtr	183	1	183.00	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	200 mm dia	Mtr	109.8	1	109.80	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	250 mm dia	Mtr	80.52	1	80.52	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	300 mm dia	Mtr	62.22	1	62.22	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	350 mm dia	Mtr	43.92	1	43.92	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	400 mm dia	Mtr	32.94	1	32.94	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	500 mm dia	Mtr	25.62	1	25.62	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	600 mm dia	Mtr	18.3	1	18.30	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	700 mm & 800 mm dia	Mtr	15	1	15.00	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	900mm & 1000 mm dia	Mtr	10	1	10.00	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT
	1100mm & 1200mm dia	Mtr	7.5	1	7.50	-	-	-	-	-	-	-	INPUT	INPUT	INPUT	INPUT	INPUT

Y.P. 2
 (Signature)
 a

CHAPTER ---V**CANAL EMBANKMENT AND STRUCTURE****5.1 EARTH WORK**

Sr.No	Items	Rate	Unit
5.1.1	Preparation of seat of embankment or canals by 75 mm ploughing and removing the grass roots etc as per specifications and direction of E/I.	4.4	Per M ²
5.1.2	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including roots and leveling all complete as per specifications and direction of E/I.	2.70	Per M ²
5.1.3	Jungle clearance and weeding out shrubs including small tree up to 0.50 M girth and removal as per specifications and direction of E/I.	8	Per M ²
5.1.4	Cutting of trees along with branches and their removal away from the work site and stacking the same as per specifications and direction of E/I.(Measurement of girth at a height of one meter above the ground level)		
	(a) Girth above 0.50 meter but up to 0.75 meter	264.20	Each
	(b) Girth above 0.75 meter but upto 1.50 meter	528.40	Each
	(c) Girth above 1.5 meter but upto 2.50 meter	957.70	Each
	(d) Girth above 2.50 meter but up to 4.00 meter	1551.90	Each
	(e) Girth above 4.00 meter	2245.40	Each
5.1.5	Uprooting of stumps and their removal ,away from the work site as per		
	(a) Girth above 0.50 meter but up to 0.75 meter	165.00	Each
	(b) Girth above 0.75 meter but up to 1.50 meter	165.00	Each
	(c) Girth above 1.5 meter but upto 2.50 meter	220.00	Each
	(d) Girth above 2.50 meter but up to 4.00 meter	330.10	Each
	(e) Girth above 4.00 meter	412.50	Each
5.1.6	Earth work in excavation of canals and dhars caring minimum full supply discharge above 28 cumecs (1000 cusecs) in ordinary soil (vide classification of soil item -A) and making the banks with excavated earth in proper profile and clod breaking and laying earth in 225 mm layers with an initial lead of 30 M and lift of 1.5 M all complete as per specifications and direction of E/I.	140.10	Per M ³
5.1.7	Earth work in excavation of canals and dhars caring minimum full supply discharge between 28 cumecs (1000 cusecs) and 8.5 cumecs (300 cusecs) in ordinary soil (vide classification of soil item A) and making the banks with excavated earth in proper profile and clod breaking and laying earth in 225 mm layers and rough dressing with an initial lead of 30 M and lift of 1.5 M all complete as per specifications and direction of E/I.	111.80	Per M ³
5.1.8	Earth work in excavation of canals and dhars caring minimum full supply discharge between 8.5 cumecs (300 cusecs) and 0.14 cumecs (5 cusecs) in ordinary soil (vide classification of soil item A) and making the banks with excavated earth in proper profile and clod breaking and laying earth in 225 mm layers and rough dressing with an initial lead of 30 M and lift of 1.5 M all complete as per specifications and direction of E/I.	105.90	Per M ³
5.1.9	Earth work in filling for the maintenance of canals having minimum full supply discharge up to 28 cumecs (1000 cusecs) and flood embankment in ordinary soil (vide classification of soil item A) including clod breaking having earth in 225 mm layers and rough dressing of soil with all leads and lift all complete as per specifications and direction of E/I.	105.90	Per M ³
5.1.10	Extra for earth work in hard soil (vide classification of soil item B) all complete as per specifications and direction of E/I.	23.30	Per M ³

84



5.1.11	Extra for earth work in marshy, slushy and daladal soil (vide classification of soil item F) all complete as per specifications and direction of E/I.	35.00	Per M ³
5.1.12.1	Earth work in excavation in soft rock or ordinary rock (vide classification of soil item C)with initial lead of 10 M and lift of 1.5 M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	538.50	Per M ³
5.1.12.2	Earth work in excavation in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C)with initial lead of 10M and lift of 1.5 M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete as per specifications and direction of E/I.	398.40	Per M ³
5.1.13.1	Earth work in excavation in soft rock or ordinary rock (vide classification of soil item C)with initial lead of 300M and lift of 1.5 M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	555.00	Per M ³
5.1.13.2	Earth work in excavation in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C)with initial lead of 30M and lift of 1.5 M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete as per specifications and direction of E/I.	414.90	Per M ³
5.1.14	Earth work in excavation in hard rock (vide classification of soil item D) where blasting is needed with initial lead of 10 mtr and lift of 1.5 mtr including dressing , making the sides in profile and dressing the bed in proper grade etc all complete as per specifications and direction of E/I.	941.60	Per M ³
5.1.15	Earth work in excavation in hard rock (vide classification of soil item D) where blasting is needed with initial lead of 30 M and lift of 1.5 M including dressing , making the sides in proper profile and dressing the bed in proper grade as well as fine dressing of side and slopes etc. all complete as per specifications and direction of E/I.	958.10	Per M ³
5.1.16	Earth work in excavation of water course in ordinary soil with all lead and lift including clod breaking ,rough dressing all complete as per specifications and direction of E/I.	105.90	Per M ³
5.1.17	Earth work in maintenance of canals having discharge less than 28 cumecs (1000 cusecs) in ordinary soil (vide classification of soil item A) including clod breaking and rough dressing of soil with all leads and lift all complete including royalty as per specifications and direction of E/I.	105.90	Per M ³
5.1.18	Earth work in bed clearance or desilting of canals caring full supply discharge of 28 cumecs (1000 cusecs) or more in dead courses of river etc, in ordinary soil and removing the excavated earth in proper profile in spoils etc.with an initial lead of 30 mtr and lift of 1.5M all complete as per specifications and direction of E/I.	108.00	Per M ³
5.1.19	Earth work in bed clearance or desilting of canals having full supply discharge between of 28 cumecs (1000 cusecs) and 8.5cumecs (300 Cusecs) including rough dressing .with all lead and lift all complete including royalty as per specifications and direction of E/I.	105.90	Per M ³
5.1.20	Earth work in bed clearance or desilting of canals having full supply discharge between 8.5 cumecs (300 cusecs) and 0.14cumecs (5 Cusecs) and renovation of pynes etc. in ordinary soil and disposal of excavated earth etc.including rough dressing .with all lead and lift all complete including royalty as per specifications and direction of E/I.	105.90	Per M ³

5.1.21	Earth work in leap cutting in side slopes and bed of canal in ordinary soil with initial lead of 30 M and lift of 1.5 M including the cost of formation of sub grade of canal lining profiling, leveling ,controlling of slopes and fine dressing ,disposal of excavated earth and nominal dewatering if any all complete as per approved design , specifications and direction of E/I.	132.90	Per M ³
5.1.22	Extra for wet earth all complete as per specifications and direction of E/I.	11.70	Per M ³
5.1.23	Earth work in excavation of filling of E.R.P.set channels, tube well channels (lined or unlined) in ordinary soil with all lead and lift including clod breaking dressing of sides of banks etc. all complete as per specifications and direction of E/I.	105.90	Per M ³
5.1.24	Earth work in filling in flood embankment ,canal banks (canals discharge above 28 cumecs)as well as special repairs of embankment and canal banks in ordinary soil in proper profile (vide classification of soil item A) obtained from borrow area or any other source free from logs, roots or any other ingredients etc. with initial lead of 30 M and initial lift of 1.5 M including breaking the clods to maximum 60 mm.cube ,placing the earth in layers not exceeding 225 mm, thick all complete as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)	122.80	Per M ³
5.1.25	Earth work in filling in canal banks (canals discharge up to 28 cumecs)as well as special repairs of canal banks in ordinary soil in proper profile (vide classification of soil item A) obtained from borrow area or any other source free from logs, roots or any other ingredients etc. with initial lead of 30 M and initial lift of 1.5 M including breaking the clods to maximum 60 mm.cube ,placing the earth in layers not exceeding 225mm, thick all complete including royalty as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)	111.80	Per M ³
5.1.26	Deleted		
5.1.27	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance up to 50 mtr and average lift of 1.5 M including leveling , ramming the foundation trenches, removing the roots of shrubs etc. all complete as per specifications and direction of E/I.	132.10	Per M ³
5.1.28	Earth work in excavation of foundation trenches in soft rock or ordinary rock (vide classification of soil item C)with initial lead of 300M and lift of 1.5 M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	555.00	Per M ³
5.1.29	Earth work in excavation of foundation trenches in proper section in hard rock (vide classification of soil item D) (non- blasting zone) with chisel and hammer with. disposal of excavated rock to a distance up to 30 M lifts of 1.5 M in proper stack including leveling, dressing of foundation trenches all complete as per specifications and direction of E/I.	429.30	Per M ³
5.1.30	Earth work in excavation of foundation trenches in hard rock (vide classification of soil item D) in proper section by blasting disposal of excavated rock in proper stack sat places beyond working site with initial lead of 30 mtr and lift of 1.5M including leveling, dressing of foundation trenches all complete as per specifications and direction of E/I.	958.10	Per M ³
5.1.31	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable profile within a lead of 30 mtr and lift of 1.5 mtr. complete job as per specifications and direction of E/I.	101.00	Per M ³

a

y

Sachin

A

E

R
Waly

5.1.32	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with semi -pervious or suitable earth obtained after cutting of borrow pits within a lead of 30 M and lift of 1.5 M complete job as per specifications and direction of E/I.	112.70	Per M ³
5.1.33.1	Extra for earth work for ordinary or hard soil (vide classification of soil item-A and B) in each additional lead up to 25 M beyond the initial lead of 30 M as per specifications and direction of E/I.	11.70	Per M ³
5.1.33.2	Extra for earth work for ordinary or hard soil (vide classification of soil item-C and D) in each additional lead up to 25 M beyond the initial lead of 30 M as per specifications and direction of E/I.	17.50	Per M ³
5.1.34.1	Extra for earth work for ordinary or hard soil(vide classification of soil item-A and B) of each subsequent lift up to 1 M over the initial lift of 1.5 M as per specification and direction of E/I.	11.70	Per M ³
5.1.34.2	Extra for earth work for ordinary soft or hard rock(vide classification of soil item-C and D) of each subsequent lift up to 1 M over the initial lift of 1.5 M as per specification and direction of E/I.	17.50	Per M ³
5.1.35	Deleted		
5.1.36	Trimming and fine dressing the side slopes of canal (of preparation of soil of lining for precast P.C.C. slab) to proper section and profile and disposal of spoil at a suitable place complete job as per specifications and direction of E/I.	23.30	Per % M ³
5.1.37	Providing coarse clean local sand in filling in foundation trenches including ramming, watering ,royalty all complete job as per specifications and direction of E/I.	279.70	Per M ³
5.1.38	Watering and consolidation of earth laid in 150 mm to 225 mm layers by manual labour with C.I hammer to achieve minimum 85 % of dry density including supply of water and necessary tools and plants with all leads and lifts all complete as per specifications and direction of E/I.	70.30	Per M ³
5.1.39	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C by sheep foot roller driven by tractor to achieve minimum 95 % of dry density including sprinkling the required quantity of water, making arrangement for supply and carriage of water with all leads and lifts, finishing the surfaces as per plan and drawing including hire charge of compaction, machine and other tools and plants etc. for lined canal all complete as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)	#VALUE!	Per M ³
5.1.40	Close timbering in trenches including strutting, shoring and packing cavities(whenever required)depth not exceeding 1.5 M, complete as per specifications and direction of E/I (measurement to be taken of the face area timbered).	107.90	Per M ²
5.1.41	Close timbering in trenches including strutting, shoring and packing cavities(whenever required)depth not exceeding 1.5 M, but up to 3.0 M complete as per specifications and direction of E/I. (measurement to be taken of the face area timbered).	112.70	Per M ²
5.1.42.1	Fine dressing of the canals banks or embankment and turfing with 75 mm thick grass sod obtained within a lead of 150 mtr including the cost of watering the grass surface till it acquires greenness as per specifications and direction of E/I.	2320.70	Per % M ²
5.1.42.2	Extra for each lead of 150 mtr over initial lead of 150 mtr including the cost of watering the grass surface till it acquires greenness as per specifications and direction of E/I.	495.10	Per % M ²
5.1.43	Jungle clearance in borrow area, building premises; flanks, slope of existing road and canal etc,embankment by removing the jungle , bushes from top including weeding out shrubs including roots and leveling complete job as per specifications and direction of E/I.	2.70	Per M ²

87

5.1.44	Earth work by tractor (Rajashani) with bucket (Doli) with spreader (Tractor leveler or Tractor Dozer) in canal or flood embankment or dhar all types of work like filling and making of canal banks or embankment of earth free from logs, roots or any other gradients, desilting of canal bed and dhar in proper profile with dressing and finishing including new construction, repair or restoration in ordinary soil including cutting, loading, carriage from pit to banks or embankments, unloading, spreading, clod-breaking and laying in layers and construction & removal of dhalas properly with lead of meter (lead will be considered as perpendicular distance from C.G. of Pit to C.G. of banks or embankment) and with all lifts all complete as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)(Lead should be taken C.G to C.G perpendicular to the bank Maximum Lead Upto - 150 mtr. Note:- Track Path may not be taken as lead)		
5.1.44.1	For C.G to C.G Lead 15 M	93.50	Per M ³
5.1.44.2	For C.G To C.G Lead 30 M	103.60	Per M ³
5.44.3.	For C.G to C.G Lead 55 M	116.50	Per M ³
5.44.4	For C.G to C.G Lead 80 M	126.80	Per M ³
5.44.5	For C.G to C.G Lead 100 M	133.30	Per M ³
	NOTE :- Add Royalty of Earth Rs 33.00 Where needed without overhead charge & C.P		
5.1.45	Deleted		
5.1.46	Earth work by Mechanical means with help of Excavator, Tipper and Spreader in canal or flood embankment or dhar all types of work like filling and making of canal banks or embankment of earth free from logs, roots or any other gradients, desilting of canal bed and dhar in proper profile with dressing and finishing including new construction, repair or restoration in ordinary soil including cutting, loading, carriage from pit to banks or embankments, unloading, spreading, clod-breaking and laying in layers properly with lead of meter (lead will be considered as track path i.e. half of distance travelled in one cycle i.e. half of haulage path from pit to bank or embankment. Pit will be beyond 150 meter from centre of bank i.e. perpendicular distance from centre of bank to nearest boundary of pit will be more than 150 meter) and with all lifts all complete job as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)		
5.1.46.1	Beyond 150M but upto 1/2 K.M	144.00	Per M ³
5.1.46.2	Beyond 1/2 K.M but upto 1 K.M	175.10	Per M ³
5.1.46.3	Beyond 1.00 K.M but upto 1.50 K.M	211.80	Per M ³
5.1.46.4	Beyond 1.50 K.M but upto 2.00K.M	248.40	Per M ³
5.1.46.5	Beyond 2.0 K.M but upto 2.50 K.M	285.00	Per M ³
5.1.46.6	Beyond 2.50 K.M but upto 3.00 K.M	321.70	Per M ³
	NOTE :- Add Royalty of Earth Rs 33.00 Where needed without overhead charge & C.P		
5.1.47	Earth work by excavator and spreader or tractor- leveler in lower level canal or flood embankment or dhar (Like, Minor, Sub -minor, Jamindari bundh, Pynes etc where tipper is not needed) all types of work like filling and making of canal banks or embankment of earth free from logs, roots or any other gradients, desilting of canal bed and dhar in proper profile with dressing and finishing including new construction, repair or restoration in ordinary soil including cutting, loading, carriage from pit to banks or embankments, unloading, spreading, clod-breaking and laying in layers properly with lead below 15 meter and with. all lifts all complete job as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth) NOTE :- Add Royalty of Earth Rs 33.00 Where needed without overhead charge & C.P	62.60	Per M ³

R

y (Amr)

B

B

R
Jey

CHAPTER ---V

CANAL EMBANKMENT AND STRUCTURE

5.1 EARTH WORK

S.No.	Description	Quantity	Unit	Rate	Amount	Ref
5.1.1	Preparation of seat of embankment or canals by 75 mm ploughing and removing the grass roots etc. and as per specifications and direction of E/I.					
	Unit :- Per Sqm.					
	Taking Out put:- 92.94 Sqm					
	Unskilled mazdoor for leveling and ploughing	0.50	nos	287.00	143.50	{SI-1}
	Unskilled mazdoor for removing grass roots and leveling	0.75	nos	287.00	215.25	{SI-1}
					358.75	
	Add Overhead charge & C.P @ 15%				53.81	
					412.56	
					4.44	
	Rate per Sqm			say,Rs	4.40	Per M ²
5.1.2	Preparation of borrow areas of embankment or canals by removing the grass and the jungle, bushes from the top including weeding out shrubs including roots & levelling all complete as per specifications and direction of E/I.					
	Unit :- Per Sqm.					
	Taking Out put:-92.94 Sqm					
	Unskilled mazdoor for leveling and ploughing	0.75	nos	287.00	215.25	{SI-1}
	Add Overhead charge & C.P @ 15%				32.29	
					247.54	
				Rs	2.66	
	Rate per Sqm			say,Rs.	2.70	Per M ²
5.1.3	Jungle clearance and weeding out shrubs including small tree up to 0.50M girth and removal as per specifications and direction of E/I.					
	Unit :- Per Sqm					
	Taking Out put:- 92.94 Sqm					
	Unskilled mazdoor for cutting shrubs and trees	1.50	nos	287.00	430.50	{SI-1}
	Unskilled mazdoor for collecting and removing shrubs, weeds and	0.75	nos	287.00	215.25	{SI-1}
					645.75	
	Add Overhead charge & C.P @ 15%				96.86	
					742.61	
					7.99	
	Rate pe sqm			say, Rs	8.00	Per M ²
5.1.4	Cutting of trees along with branches and their removal away from the work site and stacking the same, and as per specifications and direction of E/I. (Measurement of girth at a height of one metre above the ground level)					
	Unit :- Each					
	(a) Girth above 0.50 metre but up to 0.75 metre					
	Carpenter Gr II	0.25	nos	345.00	86.25	{S I -17}
	Unskilled mazdoor	0.50	nos	287.00	143.50	{SI-1}
					229.75	
	Add Overhead charge & C.P@15%				34.46	
					264.21	
	Rate for each			say,Rs	264.20	Each
	(b) Girth above 0.75 metre but up to 1.50 metre					
	Carpenter Gr II	0.50	nos	345.00	172.50	{S I -17}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
					459.50	
	Add Overhead charge & C.P@15%				68.93	
					528.43	
	Rate for each			say,Rs	528.40	
	(c) Girth above 1.5 metre but up to 2.50 metre					
	Carpenter Gr II	0.75	nos	345.00	258.75	{S I -17}
	Unskilled mazdoor	2	nos	287.00	574.00	{SI-1}
					832.75	
	Add Overhead charge & C.P@15%				124.91	
					957.66	
	Rate for each			say,Rs	957.70	Each

(d) Girth above 2.50 metre but up to 4.00 metre						
Carpenter Gr II	1	nos	345.00	345.00		{SI-17}
Unskilled mazdoor	3.50	nos	287.00	1004.50		{SI-1}
				1349.50		
Add Overhead charge & C.P@15%				202.43		
				1551.93		
Rate for each			say,Rs	1551.90		each
(e) Girth above 4.00 metre						
Carpenter Gr II	1.50	nos	345.00	517.50		{SI-17}
Unskilled mazdoor	5	nos	287.00	1435.00		{SI-1}
				1952.50		
Add Overhead charge & C.P@15%				292.88		
				2245.38		
Rate for each			say,Rs	2245.40		Each
5.1.5	Up rooting of stumps and their removal ,away from the work site and as per specifications and direction of E/I.					
	Unit :- Each					
(a) Girth above 0.50 metre but up to 0.75 metre						
Unskilled mazdoor	0.50	nos	287.00	143.50		{SI-1}
				143.50		
Add Overhead charge & C.P@15%				21.53		
				165.03		
			say,Rs	165.00		each
(b) Girth above 0.75 metre but up to 1.50 metre						
Unskilled mazdoor	0.50	nos	287.00	143.50		{SI-1}
				143.50		
Add Overhead charge & C.P@15%				21.53		
				165.03		
			say,Rs	165.00		Each
(c) Girth above 1.5 metre but upto 2.50 metre						
Unskilled mazdoor	0.67	nos	287.00	191.33		{SI-1}
				191.33		
Add Overhead charge & C.P@15%				28.70		
				220.03		
			say,Rs	220.00		Each
(d) Girth above 2.50 metre but up to 4.00 metre						
Unskilled mazdoor	1	nos	287.00	287.00		{SI-1}
				287.00		
Add Overhead charge & C.P @15%				43.05		
				330.05		
			say, Rs	330.10		each
(e) Girth above 4.00 metre						
Unskilled mazdoor	1.25	nos	287.00	358.75		{SI-1}
				358.75		
Add Overhead charge & C.P*15%				53.81		
				412.56		
Rate for each			say,Rs	412.50		Each
5.1.6	Earth work in excavation of canals and dhars carrying minimum full supply discharge above 28 cumecs (1000 cusecs) in ordinary soil (vide classification of soil item A) and making the banks with excavated earth in proper profile, clod breaking and laying earth in 225 mm layers with an initial lead of 30 M and lift of 1.5 M all complete and as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put =28.32 Cum					
Unskilled mazdoor for cutting	5	nos	287.00	1435.00		{SI-1}
Unskilled mazdoor for carrying	6	nos	287.00	1722.00		{SI-1}
Unskilled mazdoor for clod breaking	0.75	nos	287.00	215.25		{SI-1}
Mate	0.25	nos	311.00	77.75		S II-2
				3450.00		
Add Overhead charge & C.P @15%				517.50		
				3967.50		
						140.10
						140.10
Rate per cum			say,Rs	140.10		Per M ³
NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P						

2

90

Chini

12

2

Chini

5.1.7	Earth work in excavation of canals and dhars carrying minimum full supply discharge between 28 cumecs (1000 cusecs) and 8.5 cumecs (300 cusecs) in ordinary soil (vide classification of soil item A) and making the banks with excavated earth in proper profile , clod breaking and laying earth in 225 mm layers and rough dressing with an initial lead of 15M and lift of 1.5 M all complete and as per specifications and direction of E/I.					
	AS per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :- Per Cum					
	Taking Out put =28.32 Cum					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	{SI-1}
	Unskilled mazdoor for clod breaking	0.5	nos	287.00	143.50	{SI-1}
					2752.33	
	Add Overhead charge & C.P @15%				412.85	
					3165.18	
						111.76
						111.76
	Rate per cum			say,Rs	111.80	Per M ³
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.8	Earth work in excavation of canals and dhars carrying minimum full supply discharge between 8.5 cumecs (300 cusecs) and 0.14 cumecs (5 cusecs) in ordinary soil (vide classification of soil item A) and making the banks with excavated earth in proper profile and clod breaking and laying earth in 225 mm layers and rough dressing with an initial lead of 10 M and lift of 1.5 M all complete . and as per specifications and direction of E/I.					
	As per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :- Per Cum					
	Taking Out out = 28.32 Cum					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	{SI-1}
	Add Overhead charge & C.P@15%				391.32	
					3000.15	
						105.94
						105.94
	Rate per cum			say,Rs	105.90	Per M ³
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.9	Earth work in filling for the maintenance of canals having minimum full supply discharge up to 28 cumecs (1000 cusecs) and flood embankment in ordinary soil (vide classification of soil item A) including clod breaking having earth in 225 mm layers and rough dressing of soil with all leads and lift all complete as per specifications and direction of E/I.					
	As per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :- Per Cum					
	Taking Out put =28.32 Cum					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	{SI-1}
	Add Overhead charge & C.P @15%				391.32	
					3000.15	
						105.94
						105.94
	Rate per cum			say,Rs	105.90	Per M ³
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.10	Extra for earth work in hard soil (vide classification of soil item B) all complete as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put =28.32 Cum					
	Unskilled mazdoor for cutting	2	nos	287.00	574.00	{SI-1}
					574.00	
	Add Overhead charge & C.P @15%				86.10	
					660.10	
						23.31
	Rate per cum			say,Rs	23.30	Per M ³
5.1.11	Extra for earth work in marshy, slushy and daldal soil (vide classification of soil item F) all complete as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put=28.32 Cum	28.32	Cum			
	Unskilled mazdoor for cutting	1.5	nos	287.00	430.50	{SI-1}
	Unskilled mazdoor for carrying	1.5	nos	287.00	430.50	{SI-1}
					861.00	

91 y — (Chini) [Signature] [Signature] [Signature]

	Add Overhead charge & C.P @15%				129.15	
					990.15	
						34.96
	Rate Per Cum		say,Rs		35.00	Per M ³
5.1.12.1	Earth work in excavation in soft rock or ordinary rock (vide classification of soil item C)with initial lead of 10 M and lift of 1.5 M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete as per specifications and direction of E/I.(Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit :- per Cum					
	Taking Out put =10 cum					
	Materials					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
					1686.16	
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories	L.S			15.00	
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	6.50	nos	287.00	1865.50	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
					2981.45	
					4682.61	
	Add Overhead charge & C.P@15%				702.39	
					5385.00	
						538.50
	Rate per Cum		say,Rs		538.50	
5.1.12.2	Earth work in excavation in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C) with initial lead of 10 M and lift of 1.5M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete and as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put =10 Cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	8.50	nos	287.00	2439.50	{SI-1}
	Mason Gr I	0.50	nos	388.00	194.00	{S II-3}
					3464.00	
	Add Overhead charge & C.P @15%				519.60	
					3983.60	
						398.36
	Rate Per Cum	Say	Rs		398.40	Per M ³
5.1.13.1	Earth work in excavation in soft rock or ordinary rock (vide classification of soil item C)with initial lead of 300 M and lift of 1.5 M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete and as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit :- Per Cum					
	Taking Out put= 10 Cum					
	Materials					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
					1686.16	
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	7.00	nos	287.00	2009.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
					3124.95	
	Tools and Plants					

R

92.7

(Amir)

Q

Q

Q

	Cost of hire charge of compressor, drilling equipment and other accessories	L.S			15.00	
					4826.11	
	Add Overhead charge & C.P @15%				723.92	
					5550.02	
						555.00
	Rate per Cum	Say	Rs	555.00	Per M ³	
5.1.13.2	Earth work in excavation in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C)with initial lead of 30M and lift of 1.5M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete and as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put =10 Cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	9.00	nos	287.00	2583.00	{SI-1}
	Mason Gr I	0.50	nos	388.00	194.00	{S II-3}
					3607.50	
	Add Overhead charge & C.P@15%				541.13	
					4148.63	
						414.86
	Rate per Cum	Say	Rs	414.90	Per M ³	
5.1.14	Earth work in excavation in hard rock (vide classification of soil item D) where blasting is needed with initial lead of 10 M and lift of 1.5M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete and as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put =10Cum					
	Materials					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
					1686.16	
	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all work	10.00	nos	287.00	2870.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.67	nos	477.00	318.00	{S I -54}
					6487.04	
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories	L.S			15.00	
	Total				8188.20	
	Add Overhead charge & C.P@15%				1228.23	
					9416.43	
						941.64
	Rate per Cum	Say	Rs	941.60	Per M ³	
5.1.15	Earth work in excavation in hard rock (vide classification of soil item D) where blasting is needed with initial lead of 30 M and lift of 1.5M including dressing , making the sides in proper profile and dressing the bed in proper grade as well as fine dressing of side and slopes etc. all completeand as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put =10 Cum					
	Blasting material					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
					1686.16	
	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all work	10.50	nos	287.00	3013.50	{SI-1}

R 93 7- (Signature) (Signature) (Signature) (Signature) (Signature)

	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.67	nos	477.00	318.00	{S I -54}
					6630.54	
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories	L.S			15.00	
	Total				8331.70	
	Add Overhead charge & C.P @15%				1249.75	
					9581.45	
						958.15
	Rate per Cum	Say	Rs	958.10	Per M ³	
5.1.16	Earth work in excavation of water course in ordinary soil with all lead and lift including clod breaking ,rough dressing all complete and as per specifications and direction of E/I.					
	As per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :- Per Cum					
	Taking Out put =28.32 Cum					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	{SI-1}
	Add Overhead charge & C.P @15%				391.32	
					3000.15	
						105.94
						105.94
	Rate per Cum	Say	Rs	105.90	Per M ³	
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.17	Earth work in maintenance of canals having discharge less than 28 cumecs (1000 cusecs) in ordinary soil (vide classification of soil item A) including clod breaking and rough dressing of soil with all leads and lift all complete and as per specifications and direction of E/I.					
	As per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :- Per Cum					
	Taking Out put = 28.32 Cum					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	{SI-1}
	Add Overhead charge & C.P @15%				391.32	
					3000.15	
						105.94
						105.94
	Rate per Cum	Say	Rs	105.90	Per M ³	
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.18	Earth work in bed clearance or desilting of canals carrying full supply discharge of 28 cumecs (1000 cusecs) or more in dead courses of river etc, in ordinary soil and removing the excavated earth in proper profile in spoils etc.with an initial lead of 30 M and lift of 1.5 M all complete as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =28.32 Cum					
	Unskilled mazdoor for cutting	5	nos	287.00	1435.00	{SI-1}
	Unskilled mazdoor for carrying	4	nos	287.00	1148.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	S II-2
	Total				2660.75	
	Add Overhead charge & C.P @15%				399.11	
					3059.86	
						108.05
						108.05
	Rate per Cum	Say	Rs	108.00	Per M ³	
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.19	Earth work in bed clearance or desilting of canals having full supply discharge between of 28 cumecs (1000 cusecs) and 8.5cumecs (300 Cusecs) including rough dressing .with all lead and lift all complete and as per specifications and direction of E/I.					
	As per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :- Per Cum					
	Taking Out put=28.32 Cum					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	{SI-1}

R

94 7- (2) m

Q

S

Qly

	Add Overhead charge & C.P @15%				391.32	
					3000.15	
						105.94
						105.94
	Rate per Cum	Say	Rs	105.90	Per M ³	
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.20	Earth work in bed clearance or desilting of canals having full supply discharge between 8.5 cumecs (300 cusecs) and 0.14cumecs (5 Cusecs) and renovation of pynes etc. in ordinary soil and disposal of excavated earth etc.including rough dressing .with all lead and lift all complete and as per specifications and direction of E/I.					
	As per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :-Per Cum					
	Taking Out put=28.32 Cum					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	{SI-1}
	Add Overhead charge & C.P@15%				391.32	
					3000.15	
						105.94
						105.94
	Rate per Cum	Say	Rs	105.90	Per M ³	
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.21	Earth work in lip cutting in side slopes and bed of canal in ordinary soil with initial lead of 30 M and lift of 1.5 M including the cost of formation of sub grade of canal lining,profiling, leveling, controlling of slopes and fine dressing, disposal of excavated earth and nominal dewatering if any all complete and as per approved design , specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=28.32 Cum					
	Unskilled mazdoor for cutting	4	nos	287.00	1148.00	{SI-1}
	Unskilled mazdoor for carrying	4	nos	287.00	1148.00	{SI-1}
	Unskilled mazdoor for controlling slope and fine dressing	2	nos	287.00	574.00	{SI-1}
	Skilled mazdoor	0.25	nos	364.00	91.00	{SII-70}
	Mate	1	nos	311.00	311.00	S II-2
					3272.00	
	Add Overhead charge & C.P@15%				490.80	
					3762.80	
						132.87
	Rate per Cum	Say	Rs	132.90	Per M ³	
5.1.22	Extra for wet earth all complete as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =28.32 Cum					
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
	Add Overhead charge & C.P@15%				43.05	
					330.05	
						11.65
	Rate per Cum	Say	Rs	11.70	Per M ³	
5.1.23	Earth work in excavation of filling of E.R.P.set channels, tube well channels (lined or unlined) in ordinary soil with all lead and lift including clod breaking, dressing of sides of banks etc. all complete and as per specifications and direction of E/I.					
	As per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :-Per Cum					
	Taking Out put=28.32 Cum					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	{SI-1}
	Add Overhead charge & C.P @15%				391.32	
					3000.15	

R
y
(Signature)
B
a
R

95

						105.94
						105.94
	Rate per Cum	Say	Rs	105.90	Per M ³	
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.24	Earth work in filling in flood embankment ,canal banks (canals discharge above 28 cumecs)as well as special repairs of embankment and canal banks in ordinary soil in proper profile (vide classification of soil item A) obtained from borrow area or any other source free from logs, roots or any other ingredients etc. with initial lead of 30 M and initial lift of 1.5M including breaking the clods to maximum 60 mm.cube ,placing the earth in layers not exceeding 225 mm, thick all complete and as per specifications and direction of E/I.(mode of measurement-sectional measurement of compacted earth)					
	Unit :-Per Cum					
	Taking Out put =28.32 Cum					
	Unskilled mazdoor for cutting	9	nos	287.00	2583.00	{SI-1}
	Skilled mazdoor	1	nos	364.00	364.00	{SII-70}
	Mate	0.25	nos	311.00	77.75	SII-2
					3024.75	
	Add Overhead charge & C.P@15%				453.71	
					3478.46	
						122.83
						122.83
	Rate per Cum	Say	Rs	122.80	Per M ³	
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.25	Earth work in filling in canal banks (canals discharge up to 28 cumecs) as well as special repairs of canal banks in ordinary soil in proper profile (vide classification of soil item A) obtained from borrow area or any other source, free from logs, roots or any other ingredients etc. with initial lead of 30M and initial lift of 1.5 M including breaking the clods to maximum 60 mm.cube ,placing the earth in layers not exceeding 225mm, thick all complete and as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)					
	As per labour deptt .Norms (Vide T.E.C no 63 dt 7.10.94)					
	Unit :- Per Cum					
	Taking Out put =28.32 Cum					
	Labour					
	Unskilled mazdoor for cutting, carrying	9.09	nos	287.00	2608.83	(SI-1)
	Add extra wag of 1/2 no unskilled labour per 28.32 M ³	0.5	nos	287.00	143.50	
					2752.33	
	Add Overhead charge & C.P@15%				412.85	
					3165.18	
						111.76
						111.76
	Rate per Cum	Say	Rs	111.80	Per M ³	
	NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.26	Deleted					

R

y

Q

Q

R

Aditya

5.1.27	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained to a distance up to 50 M and average lift of 1.5 M including leveling , ramming the foundation trenches, removing the roots of shrubs etc. all complete and as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put =28.32 Cum					
	Labour					
	Unskilled mazdoor for cutting and carrying etc.	11	nos	287.00	3157.00	{SI-1}
	Head mason	0.25	nos	388.00	97.00	{S II -3}
					3254.00	114.90
	Add Overhead charge & C.P@15%				488.10	
					3742.10	
						132.14
	Rate per Cum	Say	Rs	132.10	Per M ³	
5.1.28	Earth work in excavation of foundation trenches in soft rock or ordinary rock (vide classification of soil item C)with initial lead of 300 M and lift of 1.5 M including dressing , making the sides in profile and dressing the bed in proper grade etc. all complete including and as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit :-Per Cum					
	Taking Out put=10.00 Cum					
	Blasting material					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
					1686.16	(A)
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	7.00	nos	287.00	2009.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
					3124.95	(B)
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and				15.00	(C)
	Total				4826.11	(A+B+C)
	Add Overhead charge & C.P@15%				723.92	
					5550.02	
						555.00
	Rate per Cum	Say	Rs	555.00	Per M ³	
5.1.29	Earth work in excavation of foundation trenches in proper section in hard rock (vide classification of soil item D) (non- blasting zone) with chisel and hammer with disposal of excavated rock to a distance up to 30 M and lifts of 1.5 M in proper stack including leveling, dressing of foundation trenches all complete and as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =10 Cum					
	Labour					
	Hammer man	2.25	nos	302.00	679.50	{S II-17}
	Skilled mazdoor for all work	2.25	nos	364.00	819.00	{SII-70}
	Unskilled mazdoor	5.5	nos	287.00	1578.50	{SI-1}
	Blacksmith	1	nos	345.00	345.00	{S II-10}
	Mate	1	nos	311.00	311.00	S II-2
					3733.00	
	Add Overhead charge & C.P@15%				559.95	

97

Amit Kumar Sachin

				4292.95	
					429.30
	Rate per Cum	Say	Rs	429.30	Per M ³
5.1.30	Earth work in excavation of foundation trenches in hard rock (vide classification of soil item D) in proper section by blasting disposal of excavated rock in proper stack at places beyond working site with initial lead of 30 M and lift of 1.5M, including leveling, dressing of foundation trenches all complete and as per specifications and direction of E/I.				
	Unit :-Per Cum				
	Taking Out put =10 Cum				
	Blasting material				
	Special Gelatin	2.00	Kg	806.85	1613.70 M-104
	Detonator	10	nos	5.75	57.46 M-094
	Fuse coil	1	nos	15.00	15.00 (0326)
					1686.16
	Labour				
	Hammer man	10.50	nos	302.00	3171.00 (S II-17)
	Unskilled mazdoor for all work	10.50	nos	287.00	3013.50 (SI-1)
	Mason Gr I	0.33	nos	388.00	128.04 (S II-3)
	Blaster	0.67	nos	477.00	318.00 (S I -54)
					6630.54
	Tools and Plants				
	Cost of hire charge of compressor, drilling equipment and				15.00
					8331.70
	Add Overhead charge & C.P@15%				1249.75
					9581.45
	Rate per Cum	Say	Rs	958.10	Per M ³
5.1.31	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable profile within a lead of 30 M and lift of 1.5 M, all complete job and as per specifications and direction of E/I.				
	Unit :-Per Cum				
	Taking Out put=28.32 Cum				
	Labour				
	Unskilled mazdoor for cutting .	4.5	nos	287.00	1291.50 (SI-1)
	Unskilled mazdoor for carrying .	4	nos	287.00	1148.00 (SI-1)
	Head mason	0.125	nos	388.00	48.50 (S II -3)
					2488.00
	Add Overhead charge & C.P@15%				373.20
					2861.20
	Rate per Cum	Say	Rs	101.00	Per M ³
5.1.32	Earth work in filling in foundation trenches and back filling of structures in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with semi - pervious or suitable earth obtained after cutting of borrow pits within a lead of 30M and lift of 1.5 M complete job and as per specifications and direction of E/I.				
	Unit :-Per Cum				
	Taking Out put:= 28.32 Cum				
	Labour				
	Unskilled mazdoor for cutting .	5.5	nos	287.00	1578.50 (SI-1)
	Unskilled mazdoor for carrying .	4	nos	287.00	1148.00 (SI-1)
	Head mason	0.125	nos	388.00	48.50 (S II -3)
					2775.00
	Add Overhead charge & C.P@15%				416.25

98



				3191.25	112.69
	Rate per cum	Say	Rs	112.70	Per M ³
5.1.33.1	Extra for earth work for ordinary or hard soil (vide classification of soil item-A and B) in each additional lead up to 25 M beyond the initial lead of 30 M as per specifications and direction of E/I.				
	Unit :-Per Cum				
	Taking Out put=28.32 Cum				
	Unskilled mazdoor	1	nos	287.00	287.00 (SI-1)
	Add Overhead charge & C.P@15%				43.05
					330.05
	Rate per Cum	Say	Rs	11.70	Per M ³
5.1.33.2	Extra for earth work for ordinary or hard soil (vide classification of soil item-C and D) in each additional lead up to 25 M beyond the initial lead of 30 M and as per specifications and direction of E/I.				
	Unit :-Per Cum				
	Taking Out put=28.32 Cum				
	Unskilled mazdoor	1.5	nos	287.00	430.50 (SI-1)
	Add Overhead charge & C.P@15%				64.58
					495.08
	Rate per Cum	Say	Rs	17.50	Per M ³
5.1.34.1	Extra for earth work for ordinary or hard soil (vide classification of soil item-A and B) for each subsequent lift up to 1 M over the initial lift of 1.5 M as per specification and direction of E/I.				
	Unit :-Per Cum				
	Taking Out put = 28.32 Cum				
	Unskilled mazdoor for cutting	1	nos	287.00	287.00 (SI-1)
	Add Overhead charge & C.P@15%				43.05
					330.05
	Rate per Cum	Say	Rs	11.70	Per M ³
5.1.34.2	Extra for earth work for ordinary soft or hard rock (vide classification of soil item-C and D) for each subsequent lift up to 1 M over the initial lift of 1.5 M as per specification and direction of E/I.				
	Unit :-Per Cum				
	Taking Out put=28.32 Cum				
	Unskilled mazdoor for cutting	1.5	nos	287.00	430.50 (SI-1)
	Add Overhead charge & C.P@15%				64.58
					495.08
	Rate per Cum	Say	Rs	17.50	Per M ³
NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P					
5.1.35	Deleted				
5.1.36	Trimming and fine dressing the side slope of canal (for preparation of soil for lining of precast P.C.C. slab) to proper section and profile and disposal of soil at a suitable place complete job as per specifications and direction of E/I.				
	Unit :-Per Sqm				
	Taking Out put=100Sqm				
	Labour				
	Mason Gr II	0.25	nos	345.00	86.25 (S II- 4)
	Unskilled mazdoor for cutting slope	3	nos	287.00	861.00 (SI-1)
	Unskilled mazdoor for carrying the spoils	2	nos	287.00	574.00 (SI-1)
	Unskilled mazdoor for making the seat of lining to proper profile	1.5	nos	287.00	430.50 (SI-1)
	Mate	0.25	nos	311.00	77.75 S II-2
					2029.50
	Add Overhead charge & C.P@15%				304.43
					2333.93
	Rate per sqm	Say	Rs	23.30	Per M ²

99

(Signature)

(Signature)

5.1.37	Providing coarse clean local sand in filling in foundation trenches including ramming, watering, royalty, all complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Labour					
	Unskilled mazdoor for cutting	1	nos	287.00	287.00	{SI-1}
	Local Sand	2.832	Cum	141.85	401.72	{ M 006}
					688.72	
	Add Overhead charge & C.P@15%				103.31	
					792.03	
						279.67
	Rate per sqm	Say	Rs	279.70	Per M ³	
5.1.38	Watering and consolidation of earth laid in 150 mm to 225 mm layers by manual labour with C.I hammer to achieve minimum 85 % of dry density including cost and carriage of water and necessary tools and plants with all leads and lifts all complete as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =28.32 Cum					
	Cost of water	L.S			15.00	
	Labour					
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Bhisti for carriage of water and sprinkling	3	nos	285.00	855.00	S II-13
					1731.00	
	Add Overhead charge & C.P@15%				259.65	
					1990.65	
						70.29
	Rate per cum	Say	Rs	70.30	Per M ³	
5.1.39	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C by sheep foot roller driven by tractor to achieve minimum 95 % of dry density including sprinkling the required quantity of water making arrangement for supply and carriage of water with all leads and lifts, finishing the surfaces plan and drawing including hire charge of compaction, machine and other tools and plants etc. for lined canal all complete as per specifications and direction of E/I. (mode of measurement- sectional measurement of compacted earth)					
	Unit :- Per Cum					
	Taking Out put =28.32 Cum					
	Cost of water	LS			15.00	
	Bhisti for carriage of water and sprinkling	3	nos	285.00	855.00	S II-13
	Hire charge of seep foot roller assuming 1450 cum to be rolled in 8 hr vide item no 3.16	0.16	hr	#VALUE!	#VALUE!	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
						#VALUE!
	Rate per cum	Say	Rs	#VALUE!	Per M ³	
5.1.40	Close timbering in trenches including strutting, shoring and packing cavities (wherever required) depth not exceeding 1.5 M, complete as per specifications and direction of E/I. (measurement to be taken of the face area timbered).					
	Unit :-Per Sqm					
	Taking Out put =90 Sqm					
	Assuming 30M long 1.5 M deep Area= 2 x 30 x 1.5 = 90 sqm.					
	Poling Boards					
	Local wood planks 90 x 0.038= 3.42 cum 100 mm x100 mm	3.42	cum	26000.00	88920.00	
	Local wood planks 4 x30x 0.1 x0.1 = 1.2 cum	1.2	Cum	26000.00	31200.00	
	Balli struts					
	Sal ballah 120 mm dia 1.5 m long =2 x17x1.5=51 M	51	M	53.99	2753.49	{ M SL no-23}
					122873.49	

100

Handwritten signature

Carriage					
Cost of carriage of material including loading, unloading and stacking @ 1 % of total of cost materials					1228.73
Total					124102.22
Deduct credit for materials 75 % of the cost of material					92155.12
					31947.11
This can be used four times , therefore cost per use= a/4					7986.78
Labour					
Carpenter Gr II	0.50	nos	345.00	172.50	{S I -17}
Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
Total A+B				459.50	B
Add Overhead charge & C.P@15%				8446.28	
				1266.94	
				9713.22	
					107.92
Rate per sqm		Say	Rs	107.90	Per Sqm
5.1.41	Close timbering in trenches including strutting, shoring and packing cavities(whenever required) depth not exceeding 1.5 M, but up to 3.0 M complete as per specifications and direction of E/I. (measurement to be taken of the face area timbered).				
Unit :-Per Sqm					
Taking Out put=90 Sqm					
Assuming 30 mtr long 1.5 mtr deep					
Area= 2 x 30 x 1.5 = 90 sqm.					
Poling Boards					
Local wood planks 90 x 0.038=	3.42	cum	26000.00	88920.00	
100 mm x100 mm					
Local wood planks 4 x30x 0.1 x0.1 =	1.2	Cum	26000.00	31200.00	
Balli struts					
Sal ballah 120 mm dia 1.5 m long 2 x17x1.5=	51	mtr	53.99	2753.49	{ M SL no-23}
				122873.49	
Carriage					
Cost of carriage of material including loading, unloading and stacking @ 1 % of total of cost materials					1228.73
Total					124102.22
Deduct credit for materials75 % of the cost of material					92155.12
					31947.11
This can be used four times ,therefore cost per use a/4					7986.78
Labour					
Carpenter Gr II	0.75	nos	345.00	258.75	{S I -17}
Unskilled mazdoor	2	nos	287.00	574.00	{SI-1}
Total A+B				832.75	B
Add Overhead charge & C.P@15%				8819.53	
				1322.93	
				10142.46	
					112.69
Rate per sqm		Say	Rs	112.70	Per Sqm
5.1.42.1	Fine dressing of the canals banks or embankment and turfing with 75 mm thick grass sode obtained within a lead of 150 M including the cost of watering the grass surface till it acquires greenness as per specifications and direction of E/I.				
Unit :-Per Sqm					
Taking Out put =100Sqm					
Cost of watering till the growth					15
Labour					
Unskilled mazdoor for cutting	1.5	nos	287.00	430.50	{SI-1}
Unskilled mazdoor for carrying	1.5	nose	287.00	430.50	{SI-1}
Unskilled mazdoor for dressing, placing turf and ramming	1	nos	287.00	287.00	{SI-1}
Bhisti for carriage of water and sprinkling	3	nos	285.00	855.00	S II-13
				2003.00	
				2018.00	
Add Overhead charge & C.P@15%				302.70	
				2320.70	
					2320.70
Rate per 100 sqm		Say	Rs	2320.70	Per % M ²

101

Handwritten signature/initials

5.1.42.2	Extra for each lead of 150 M over initial lead of 150 M including the cost of watering the grass surface till it acquires greenness as per specifications and direction of E/I.					
	Unit :-Per Sqm					
	Taking Out put=100 Sqm					
	Unskilled mazdoor for carrying	1.50	nos	287.00	430.50	{SI-1}
	Add Overhead charge & C.P@15%				430.50	
					64.58	
					495.08	
	Rate per 100 sqm	Say	Rs	495.10	Per % M ²	495.08
5.1.43	Jungle clearance in borrow area, building premises; flanks, slope of existing road and canal etc,embankment by removing the jungle , bushes from top including weeding out shrubs including roots and leveling complete job as per specifications and direction of E/I.					
	Unit :-Per Sqm					
	Taking Out put =92.94 Sqm					
	Unskilled mazdoor for carrying	0.75	nos	287.00	215.25	{SI-1}
	Add Overhead charge & C.P@15%				215.25	
					32.29	
					247.54	
	Rate per sqm	Say	Rs	2.70	Per M ²	2.66

R

4 — (B) —

① R
Wly

5.1.44.	Earth work by tractor (Rajasthani) with bucket (Doli) with spreader (Tractor leveler or Tractor Dozer) in canal or flood embankment or dhar all types of work like filling and making of canal banks or embankment of earth free from logs, roots or any other gradients, desilting of canal bed and dhar in proper profile with dressing and finishing including new construction, repair or restoration in ordinary soil including cutting, loading, carriage from pit to banks or embankments, unloading, spreading, clod-breaking and laying in layers and construction & removal of dhalas properly with lead of meter (lead will be considered as perpendicular distance from C.G. of Pit to C.G. of banks or embankment) and with all lifts all complete as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)(Lead should be taken C.G to C.G.perpendicular to the bank Maximum Lead Up to -150 mtr. Note:- Track Path may not be taken as lead)																	Rate Per M ³		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	For C.G to C.G Lead in K.M (L)	Speed (km/hr) (V)	Time for loading, Unloading etc (hr) (t)=1 min.	Spacing of Dhalas (km) (S)	Capacity Per Trip Cum (e)	Haulage Path (Distance travelled in one cycle) = 2(L+S)	Time of run per trip = 2(L+S)/ V	Time per cycle (hr) = 2(L+S) / V + t	No of trips , N = 8V/ (2L+2S+Vt)	Output per day with 80% efficiency = 0.80XNxe	Use Rate of Tractor with Leveler Per Day (Tr)	Cost per Cubic Metre = Tr/0.8 Ne	Proportional Cost of Dhala (10% only)	Cost of Dhala Per cubic metre	Add for cutting (Use rate of tractor / Capacity of cutting 324 cum per day) = Tr/324	Add for spreading cost = (Use rate of D-80 Dozer Per hr / Capacity of D-80 Dozer per hr 300 cum)	Add for finishing and dressing =one mazdoor/100M ³	Total cost (12+14+15+16+17)	Add Overhead charge & C.P 15%	
5.1.44.1	For C.G to C.G Lead 15 M (L=0.015 K.M)	5.000	0.0167	0.03	0.60	0.09	0.018	0.035	230.55	110.66	4585.60	41.44	0.10	4.14	14.15	18.77	2.87	81.37	12.21	93.50
5.1.44.2	For C.G to C.G Lead 30 M (L=0.030 K.M)	5.670	0.0167	0.04	0.60	0.14	0.025	0.041	193.28	92.77	4585.60	49.43	0.10	4.94	14.15	18.77	2.87	90.16	13.52	103.60
5.1.44.3	For C.G to C.G Lead 55 M (L=0.055 K.M)	6.330	0.0167	0.05	0.60	0.21	0.033	0.050	160.40	76.99	4585.60	59.56	0.10	5.96	14.15	18.77	2.87	101.30	15.20	116.50
5.1.44.4	For C.G to C.G Lead 80 M (L=0.080 K.M)	7.000	0.0167	0.06	0.60	0.28	0.040	0.057	141.09	67.72	4585.60	67.71	0.10	6.77	14.15	18.77	2.87	110.27	16.54	126.80
5.1.44.5	For C.G to C.G Lead 100 M (L=0.100 K.M)	7.670	0.0167	0.07	0.60	0.34	0.044	0.061	131.09	62.92	4585.60	72.88	0.10	7.29	14.15	18.77	2.87	115.96	17.39	133.30
5.1.45	NOTE :- Add Royalty of Earth Rs 33.00 Where needed without overhead charge & C.P Deleted																			

103

(Handwritten signatures and initials)

5.1.46 Earth work by Mechanical means with help of Excavator, Tipper and Spreader in canal or flood embankment or dhar all types of work like filling and making of canal banks or embankment of earth free from logs, roots or any other gradients, desilting of canal bed and dhar in proper profile with dressing and finishing including new construction, repair or restoration in ordinary soil including cutting, loading, carriage from pit to banks or embankments, unloading, spreading, clod-breaking and laying in layers properly with lead of metre (lead will be considered as track path i.e. half of distance travelled in one cycle i.e. half of haulage path from pit to bank or embankment. Pit will be beyond 150 meter from centre of bank i.e. perpendicular distance from centre of bank to nearest boundary of pit will be more than 150 meter) and with all lifts all complete job as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Lead in K.M (L)	Cost of cutting & Loading by Excavator one M3 capacity= Use rate of Excavator / Capacity of Excavator (60M ³)	Average Speed on Kucha track Km / hr = (V)	Average haulage path (Distance) in one cycle (D) in Km	Haulage Time in minute (Time taken in one cycle of run) = 60DV	Loading Time one minute Per M ³ For 5.5 M ³	Unloading & Turning Time in minute	Total Time Per trip in minute Col (5+6+7) = (T)	No. of Trip per hour taken as 50 minute N = 50/T	Output per hour with 80 % efficiency Q = 0.8 X N X 5.5	Use Rate per hour of Tipper 5.5 M ³ capacity = (Tr)	Carriage Cost per M ³ = Tr / Q	Add for spreading cost = (Use rate of D-80 Dozer Per hr / Capacity of D-80 Dozer per hr 300 cum) = 3000/300	Add 5 % for haul road maintenance, 5 % for processing and 2 % for extra labour for finishing = 12 % of column (2+12+13)	Total Cost per M3 col (2+12+13+14)	Add Overhead charge & C.P 15%	Rate Per M ³
5.1.46.1	Beyond 150m but upto 1/2 K.M	10.00	0.65	3.90	5.50	3.30	12.70	3.937	17.323	1043.00	60.21	18.77	13.42	125.21	18.78	144.00
5.1.46.2	Beyond 1/2 K.M but upto 1.00 K.M	10.00	1.50	9.00	5.50	3.30	17.80	2.809	12.360	1043.00	84.39	18.77	16.32	152.29	22.84	175.10
5.1.46.3	Beyond 1.00 K.M but upto 1.50 K.M	10.00	2.50	15.00	5.50	3.30	23.80	2.101	9.244	1043.00	112.83	18.77	19.73	184.15	27.62	211.80
5.1.46.4	Beyond 1.50 K.M but upto 2.00 K.M	10.00	3.50	21.00	5.50	3.30	29.80	1.678	7.383	1043.00	141.28	18.77	23.14	216.01	32.40	248.40
5.1.46.5	Beyond 2.00 K.M but upto 2.50 K.M	10.00	4.50	27.00	5.50	3.30	35.80	1.397	6.145	1043.00	169.72	18.77	26.56	247.87	37.18	285.00
5.1.46.6	Beyond 2.50 K.M but upto 3.00 K.M	10.00	5.50	33.00	5.50	3.30	41.80	1.196	5.263	1043.00	198.17	18.77	29.97	279.73	41.96	321.70

NOTE :- Add Royalty of Earth Rs 33.00 Where needed without overhead charge & C.P

Handwritten signature and initials.

5.1.47	Earth work by excavator and spreader or tractor-leveler in lower level canal or flood embankment or dhar (Like Minor, Sub -minor, Jamindari bundh, Pynes etc where tipper is not needed) all types of work like filling and making of canal banks or embankment of earth free from logs, roots or any other gradients, desilting of canal bed and dhar in proper profile with dressing and finishing including new construction, repair or restoration in ordinary soil including cutting, loading, carriage from pit to banks or embankments, unloading, spreading, clod-breaking and laying in layers properly with lead below 15 metre and with all lifts all complete jobas per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)				
	Unit:-Per Cum				
	(A) Cost of cutting, loading , unloading & placing by excavator 1 M ³				
	Use rate of Excavator(Rupees per hour)		1969.20		
	Output of Excavator =60 Cum per hour				
	Cost			32.82	
	(B) Cost of spreading by D-80 Dozer				
	Use rate of D-80 Dozer(Rupees per hour)		5629.90		
	Output of D-80 Dozer =300 Cum per Hour				
	Cost			18.77	
	(C) For dressing & finishing one labour for 100 M ³				
	Unskilled labour	0.01	no	287.00	2.87 (SI-1)
	Total				54.46
	Add Overhead charge & C.P@15%				8.17
					62.62
					62.62
	Rate per cum	Say	Rs	62.60	Per M ³

NOTE:- Add royalty of Earth Rs 33.00 where needed without overhead charge & C.P

(Handwritten signatures and initials)

5.2 CANAL LINING

Sr.No	Item	Rate	Unit
5.2.1	Providing compacted 75 mm thick sand filter of required F.M as per design on slopes and in bed of canal with local sand including cost of water, ramming, leveling and dressing, etc. all complete as per specification and direction of E/I	108.50	Per M ³
5.2.2	Providing filter of stone chips 20 mm and down well graded as per design for lined canal, rains including hand packing, etc . all complete as per specification and direction of E/I	1144.10	Per M ³
5.2.3	Providing intake wells with P.C.C M 150 with nominal mix of (1:2:4) using stone chips 20 mm and down and sand of F.M. not less than 2 including cost of form work, making space for under drainage pipes, fixing bolts, curing and placing in position, all complete including as per specification and direction of E/I	1376.90	Each
5.2.4	Providing single brick tile 300 mm x 150 mm x 50 mm lining in canal bed laid on 10 mm thick cement mortar in (1:5) base coarse and 5 mm vertical joints all round filled with the mortar of the same mix and top finished with 20 mm thick cement plaster in (1:3) washed, screened sand having F.M not less than 2 . including royalty etc, all complete as per specification and direction of E/I	612.40	Per M ²
5.2.5	Providing double brick tile 300 mm x 150 mm x 50 mm lining on canal side slopes with top layer of tile and laid on 5 mm thick green cement mortar (1:3) over hardened surface of 15 mm thick cement plaster (1:3) on top of bottom layer of brick tiles, laid on 10 mm thick cement mortar in (1:5) as base coarse over sand filter 5 mm vertical joints all round of top layer of brick tiles filled with cement mortar (1:3) and that of bottom layers with C.M. (1:5) with washed and screened sand F.M. not less than 2 including cost of scaffolding staging, curing royalty etc. all complete as per specification and direction of E/I	1141.20	Per M ²
5.2.6	Supplying and laying jhama khoa(metal) filter of 20 to 25 mm size in under drainage of canal lining including royalty etc. all complete as per specification and direction of E/I	1857.30	Per M ³
5.2.7	Supplying and laying stone metal graded filter of size 90 mm to 45 mm size in slope and bed of canal below lining including royalty , all complete as per specification and direction of E/I (where depth of cutting is more than 6M)	1130.50	Per M ³
5.2.8	Supplying and laying sand filter free from clay and other organic materials (F.M 2.5 to 3.0) in slope and bed of the canal, below lining including the cost of watering, compaction, including royalty etc. all complete as per specification and direction of E/I (where depth of cutting is more than 6 M)	1049.50	Per M ²
5.2.9	Providing junction lining over one layer of brick tiles, laid on 10 mm thick cement mortar (1:5) joints filled with mortar of the same mix by laying cement concrete M150 with nominal mix of (1:2:4) with well graded stone metal 20 mm and down washed and screened sand having F.M not less than 2 including curing royalty etc. all complete as per specification and direction of E/I	948.10	Per M ²
5.2.10	Providing 10 mm thick vertical joints at suitable intervals, filled with bituminous materials of approved quality. including royalty etc. all complete as per specification and direction of E/I		
5.2.10.1	For canal side slope per 30.50 M	107.50	Per M
5.2.10.2	For canal bed for 30.50M	70.30	Per M
5.2.11	Supplying and laying 150 mm dia R.C.C NP2 perforated pipe in under drainage of canal lining as per specification and direction of E/I	268.20	Per M

a 106

y — (21m)

a 12
Wly

5.2.12	Supplying and laying 150 mm dia open jointed 1220 mm long P.C.C (1:1:2) pipes in under drainage of canal lining including the cost of curing as per specification and direction of E/I	#VALUE!	Per M
5.2.13	Supplying and laying 150 mm dia open jointed 610 mm long earthen ware pipe in under drainage of canal lining including the cost of curing as per specification and direction of E/I	#VALUE!	Per M
5.2.14	Providing 150 mm dia vertical non return valve complete with holding down bolts, nuts, base plate etc.all complete as per specification and direction of E/I	#VALUE!	Each
5.2.15	Providing 50 mm dia non return pocket valve complete with holding down bolts, nuts, base plate etc.all complete as per specification and direction of E/I	#VALUE!	Each
5.2.16	Providing safety valve in lined section of canal with M.S rod embedded in cement concrete (1:3:6) all complete as per specification and direction of E/I	#VALUE!	Each
5.2.17	Providing safety ladder in lined section of canal with M.S rod embedded in cement concrete (1:3:6) in accordance with I.S.S 3812-1966 including royalty etc. all complete as per specification and direction of E/I	#VALUE!	Each
5.2.18	Laying of 600 mm x 525 mm x 55 mm, 600 mm x 450 mm x 55 mm, 600 mm x 425 mm x 55 mm size precast P.C.C. slab in side slopes and berm of canal with groove of the slab and lug slab set in C.M. (1 : 3) and flush pointing (1 : 2) including royalty but excluding the cost of precast slabs including royalty etc. all complete as per specification and direction of E/I	377.40	Per M ²
5.2.19	Providing 100 mm thick P.C.C lining in M-100 with nominal mix of (1:3:6) with well graded stone chips (20 mm & down and coarse sand of approved quality and of requisite F.M. in side and bottom curved portion of the canal in panels with construction joints including cost of form work and its removal, curing including royalty etc. complete job as per specification and direction of E/I	6703.40	Per M ³
5.2.20	Providing 30 mm internal dia burnt clay pipe for providing holes in concrete section of slab, cross and longitudinal sleepers including sand packing in holes in lining work of canals . all complete job as per specification and direction of E/I	#VALUE!	Each
5.2.21	Providing 100/75mm thick P.C.C lining in M-150 with nominal mix of (1:2:4) with well graded stone chips (20mm & down) and coarse sand of approved quality and requirement 5M in side and bottom common portion of the canal in panels with construction joints including cost of form work and its removal,curing,all complete job as per specification & direction of E/I.	7213.00	Per M ³
5.2.22	Providing and laying P.C.C M-150 with nominal mix of (1:2:4) with well graded stone chips (20mm & down) and coarse sand of approved quality and requisite F.M in lug slab,cross and longitudinal sleeper for lining canal including cost of form work and its removal,curing, all complete job as per specification & direction of E/I.	7213.00	Per M ³
5.2.23	Providing and laying LDPE film of 250 micron or kg/sqm in the bed of canal and side slope as per specification and direction of E/I	563.80	Per M ²

5.2 CANAL LINING

Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
5.2.1	Providing compacted 75 mm thick sand filter of required F.M as per design on slopes and in bed of canal with local sand including cost of water, ramming, leveling and dressing etc. all complete as per specification and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	(Assuming 9.3 sqm area with 75 mm thickness sand layer)					
	Material					
	Cost of local sand as per design & specification	0.70	cum	141.85	99.30	(M-006)
	Labour					
	Skilled labour	0.167	nos	364.00	60.79	{SII-70}
	Unskilled mazdoor	1.5	nos	287.00	430.50	{SI-1}
	Unskilled mazdoor for watering and ramming	1	nos	287.00	287.00	{SI-1}
	Total				877.58	
	Add Overhead charge & C.P @15%				131.64	
					1009.22	
						108.52
	Rate per sqm		Rs	108.50	Per M ²	
5.2.2	Providing filter of stone chips 20 mm and down well graded as per design for lined canal, rains including hand packing etc . all complete as per specification and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put =2.832 Cum					
	Material					
	Stone chips (M-040+M-045)/2	2.832	cum	640.18	1812.98	
	Labour					
	Unskilled mazdoor for screening and grading filter	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for laying and hand packing	1.5	nos	287.00	430.50	{SI-1}
	Total				2817.48	
	Add Overhead charge & C.P@15%				422.62	
					3240.10	
						1144.10
	Rate per cum		Rs	1144.10	Per M ³	
5.2.3	Providing intake wells with P.C.C M 150 with nominal mix of (1:2:4) using stone chips 20 mm and down and sand of F.M. not less than 2.00 including cost of form work, making space for under drainage pipes, fixing bolts, curing and placing in position all complete as per specification and direction of E/I					
	Unit :-Each					
	Volume of one intake well					
	$\frac{1}{4} \times (0.650)^2 \times 0.075 = 0.025$					
	$\frac{1}{4} \{ (0.65)^2 - (0.5)^2 \} \times 0.42 = 0.057$					
	Total = 0.082cum					
	P.C.C (1:2:4) vide item 5.3.4(without C.P.etc)	0.082	cum	4036.52	330.99	
	Detail of side shuttering= 227x0.65x0.495+227x0.50x0.42=1.67 sqm Shuttering vide item 5.3.18(without C.P etc)					
		1.67	sqm	440.02	734.83	
	Bolts 20 mm dia 25 cm long	4	nos	32.88	131.52	M SL No. 265
					1197.34	
	Add Overhead charge & C.P@15%				179.60	
					1376.94	
						1376.94
	Rate		Say Rs	1376.90	Each	
5.2.4	Providing single brick tile 300 mm x 150 mm x 50 mm lining in canal bed laid on 10 mm thick cement mortar in (1 : 5) base coarse and 5 mm vertical joints all round filled with the mortar of the same mix and top finished with 20 mm thick cement plaster in (1 : 3) washed screened sand having F.M not less than 2, including royalty etc. all complete as per specification and direction of E/I					

108

		Unit :-Per Sqm				
		Taking Out put =9.30 Sqm				
Material						
i.	Brick tiles 1 st class including 5 % wastage	198	nos	6.261	1239.68	{M-11 C-I}
ii.	Volume of (1:5) mortar					
	(a). Base course 10 mm thick 10/1000x9.3=0.0930					
	(b) Vertical longitudinal joints 5 mm thick 21 x 5/1000x50/1000x3.05=0.016					
	(c). Vertical transverse joints 5 mm thick 11 x5/1000x50/1000x3.05=0.008					
	Total= 0.117					
	Add 20% extra for undulation of sub grade and wastage of mortar etc.= 0.023					
	Total 0.140 cum					
	Cement	0.028	cum	7811.80	218.73	M-1 P
	Sand	0.140	cum	175.80	24.61	M-004
	Labour					
	Mason Gr I	1.5	nos	388.00	582.00	{S II-3}
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
iii.	Volume of (1:3) mortar					
	20/1000x3.05x3.05=0.186					
	Add 5% wastage =0.009					
	Total= 0.195 say 0.2 cum					
	Cement	0.07	cum	7811.80	546.83	M-1 P
	Sand	0.21	cum	175.80	36.92	M-004
	Labour					
	Mason Gr I	1.5	nos	388.00	582.00	{S II-3}
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Total				4952.76	
	Add Overhead charge & C.P @15%				742.91	
					5695.68	
						612.44
	Rate per sqm	Say Rs		612.40	Per M ²	
5.2.5	Providing double brick tile 300 mm x 150 mm x 50 mm lining on canal side slopes with top layer of tile and laid on 5 mm thick green cement mortar (1:3) over hardened surface of 15 mm thick cement plaster (1 : 3) on top of the bottom layer of brick tiles, laid on 10 mm thick cement mortar in (1: 5) as base coarse over sand filter 5 mm vertical joints all round of top layer of brick tiles filled with cement mortar (1:3) and that of the bottom layers with C.M. (1:5) with washed and screened sand F.M. not less than 2 including royalty etc. all complete as per specification and direction of E/I					
		Unit :-Per Sqm				
		Taking Out put= 9.3 Sqm				
		(Assuming 9.3 sqm =3.05mx3.05m)				
A. Bottom layer of tile lining						
i	Brick tiles	198	nos	6.261	1239.68	{M-11 C-I}
ii.	Volume of (1:5) mortar with 20 % extra for foundation of sub grade and wastage of cement mortar vide item no 5.2.4=0.14 cum					
	Cement	0.028	cum	7811.80	218.73	M-1 P
	Sand	0.140	cum	175.80	24.61	M-004
	Mason Gr I	0.5	nos	388.00	194.00	{S II-3}
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
iii.	Add 25 % For working in slope				263.75	
B. Top layer of lining volume of (1:3) mortar with 10 % wastage 1 st class brick tiles						
	a. 15 mm thick cement plaster = 15/1000x9.3=0.14					
	5 mm thick C.P= 5/1000x9.3=0.047					
	(b) Vertical longitudinal joints 5 mm thick 21 x 5/1000x50/1000x3.05=0.016					
	(c). Vertical transverse joints 5 mm thick 11 x5/1000x50/1000x3.05=0.008					
	Total (a+b+c)=0.14+0.047+0.016+0.008)=0.211					
	Add 10 % wastage =0.021					

109

Handwritten signatures and initials at the bottom right of the page.

	Total = 0.232 cum					
	Brick tiles	198	nos	6.261	1239.68	{M-11 C-I}
	Cement	0.077	cum	7811.80	601.51	M-1 P
	Sand	0.232	cum	175.80	40.79	M-004
	Mason Gr I	1.5	nos	388.00	582.00	{S II-3}
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Add 25 % on labour for working in slope				360.75	
	C. Labour for laying tiles including mortar jointing					
	Mason Gr I	2	nos	388.00	776.00	{S II-3}
	Unskilled mazdoor	4	nos	287.00	1148.00	{SI-1}
	Add 25 % on labour for working in slope				481.00	
	D. Cost of scaffolding					
	Add 10 % of cost of cement, sand and bricks tiles				336.50	
	Total				9228.99	
	Add Overhead charge & C.P@15%				1384.35	
					10613.34	
						1141.22
	Rate per sqm	Say Rs		1141.20	Per M ²	
5.2.6	Supplying and laying jhama metal filter of 20 to 25 mm size in under drainage of canal lining including royally etc.all complete as per specification and direction of E/I					
	Unit :-Per Cum					
	Taking Out put= 2.832 Cum					
	Material					
	Jhama metal	2.832	cum	1463.00	4143.22	M 11-F I
	Unskilled mazdoor	1.5	nos	287.00	430.50	{SI-1}
					4573.72	
	Add Overhead charge & C.P@15%				686.06	
					5259.77	
						1857.26
	Rate per cum		Rs	1857.30	Per M ³	
5.2.7	Supplying and laying stone metal graded filter of size 90 mm to 45 mm size in slope and bed of canal below lining including royalty etc. all complete as per specification and direction of E/I (where depth of cutting is more than 6 M)					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Material					
	Stone metal	2.832	cum	448.91	1271.31	M-039
	Labour					
	Mate	0.25	nos	311.00	77.75	S II-2
	Unskilled mazdoor for carrying metal	3.5	nos	287.00	1004.50	{SI-1}
	Unskilled mazdoor for spreading	1.5	nos	287.00	430.50	{SI-1}
	Total				2784.06	
	Add Overhead charge & C.P@15%				417.61	
					3201.67	
						1130.53
	Rate per cum		Rs	1130.50	Per M ³	
5.2.8	Supplying and laying sand filter free from clay and other organic materials (F.M 2.5 to 3.0) in slope and bed of the canal, below lining including the cost of watering, compaction,including royalty etc. all complete as per specification and direction of E/I (where depth of cutting is more than 6M)					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Material					
	Sand	2.832	cum	175.80	497.87	M-004
	Labour					
	Mate	0.25	nos	311.00	77.75	S II-2
	Unskilled mazdoor for carrying and placing	3.5	nos	287.00	1004.50	{SI-1}
	Unskilled mazdoor for spreading	1.5	nos	287.00	430.50	{SI-1}
	Unskilled mazdoor for loading and ramming	2	nos	287.00	574.00	{SI-1}
	Total				2584.62	
	Add Overhead charge & C.P@15%				387.69	
					2972.31	
						1049.54

110 a

y - (Signature) 3/2
 (Signature)

	Rate per cum		Rs	1049.50	Per M ³	
5.2.9	Providing junction lining over one layer of brick tiles, laid on 10 mm thick cement mortar (1:5) joints filled with mortar of the same mix by laying cement concrete M150 with nominal mix of (1:2:4) with well graded stone metal 20 mm and down washed and screened sand having F.M not less than 2.00 including curing royalty etc.all complete as per specification and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	A. Bottom layer of tile lining					
	Brick tiles	198	nos	6.261	1239.68	{M-11 C-I}
	B. Volume of (1:5) mortar with 20 % extra for foundation of sub grade and wastage of cement mortar vide item no 5.2.4=0.14 cum					
	i.Cement	0.028	cum	7811.80	218.73	
	ii.Sand	0.140	cum	175.80	24.61	
	iii. Labour for laying tiles including mortar jointing					
	Mason Gr I	1.5	nos	388.00	582.00	{S II-3}
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	iv.Labour charge for 10 mm thick base course					
	Mason Gr I	1.5	nos	388.00	582.00	{S II-3}
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	C. Quantity of (1:2:4) concrete in 9.3 sqm of junction lining= (20 mm +70 mm)x 0.30/(2x1000)=0.42 cum					
	Material					
	Stone chips (M-040+M-045)/2	0.38	cum	640.18	243.27	
	Cement	0.095	cum	7811.80	742.12	M-1 P
	Sand	0.190	cum	175.80	33.40	M-004
	Labour					
	Mason Gr I	0.25	nos	388.00	97.00	{S II-3}
	Mason Gr II	1.75	nos	345.00	603.75	{S II-4}
	Unskilled mazdoor	5.5	nos	287.00	1578.50	{SI-1}
	Total				7667.06	
	Add Overhead charge & C.P@15%				1150.06	
					8817.12	
						948.08
	Rate per sqm	Say Rs		948.10	Per M ²	
5.2.10	Providing 10 mm thick vertical joints at suitable intervals, filled with bituminous materials of approved quality including royalty etc. all complete as per specification and direction of E/I					
	Unit :- Per Metre					
	Taking Out put =30.50M					
5.2.10.1	For canal side slope per 30.50M					
	Volume of bitumen 30.5 x0.010x0.130=0.04 cum@1440 kg per cum=0.04x1440=57.6 kg					
	Bitumen (Grade VG 30 (60/70) Packed)	57.6	kg	34.145	1966.752	M-4 b-III
	Semi Skilled labour	2	nos	299.00	598.00	S II -69
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
					2851.75	
	Add Overhead charge & C.P@15%				427.76	
					3279.51	
						107.53
	Rate per Metre		Rs	107.50	Per M	
5.2.10.2	For canal bed per 30.50M					
	Volume of bitumen= 30.5 x10x80/(1000x1000)=0.0244 cum@1440 kg per cum=0.0244x1440=35.13 kg					
	Bitumen (Grade VG 30 (60/70) Packed)	35.13	kg	34.15	1199.51	M-4 b-III
	Semi Skilled labour	1.5	nos	299.00	448.50	S II -69
	Unskilled mazdoor	0.75	nos	287.00	215.25	{SI-1}
					1863.26	
	Add Overhead charge & C.P@15%				279.49	
					2142.75	
						70.25
	Rate per Metre		Rs	70.30	Per M	

111 R

7- (3) M

Qing

5.2.11	Supplying and laying 150 mm dia R.C.C NP ₂ perforated pipe in under drainage of canal lining as per specification and direction of E/I					
	Unit :-Per Metre					
	Taking Out put=1 M					
	Cost of pipe	1	M	212.00	212.00	
	Cost of laying @ 10% of above				21.20	
					233.20	
	Add Overhead charge & C.P@15%				34.98	
					268.18	
						268.18
	Rate per Metre	Say Rs		268.20	Per M	
5.2.12	Supplying and laying 150 mm dia open jointed 1220 mm long P.C.C (1:1:2) pipes in under drainage of canal lining including the cost of curing, royalty etc. all complete as per specification and direction of E/I					
	Unit :-Per Metre					
	Taking Out put=1.22 M					
	Taking pipe length as 1.22 m					
	Cost of 150 mm dia P.C.C.pipe	1.22	M	INPUT	#VALUE!	
	Cost of laying @ 10% of above				#VALUE!	
	Add Overhead charge & C.P @15%				#VALUE!	
					#VALUE!	
					#VALUE!	#VALUE!
	Rate per Metre	Say Rs		#VALUE!	Per M	
5.2.13	Supplying and laying 150 mm dia open jointed 610 mm long earthen ware pipe in under drainage of canal lining including the cost of curing, royalty etc. all complete as per specification and direction of E/I					
	Unit :-Per Metre					
	Taking Out put =0.61M					
	Taking pipe length as 0.61 m					
	Cost of 150 mm dia P.C.C.pipe	0.61	M	INPUT	#VALUE!	
	Cost of laying @ 10% of above				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	#VALUE!
	Rate per Metre	Say Rs		#VALUE!	Per M	
5.2.14	Providing 150 mm dia vertical non return valve complete with holding down bolts, nuts, base plate etc.all complete as per specification and direction of E/I					
	Unit :-Each					
	Cost of pressure release valves	1	nos	input	#VALUE!	
	Cost of laying @ 10% of above				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	#VALUE!
	Rate	Say Rs		#VALUE!	Each	
5.2.15	Providing 50 mm dia non return pocket valve complete with holding down bolts, nuts, base plate etc.all complete as per specification and direction of E/I					
	Unit :-Each					
	Cost of pocket valves	1	nos	input	#VALUE!	
	Cost of laying @ 10% of above				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	#VALUE!
	Rate	Say Rs		#VALUE!	Each	
5.2.16	Providing safety valve in lined section of canal with M.S rod embedded in cement concrete (1:3:6) all complete as per specification and direction of E/I (Vide I.S.I 3872-1966)					

112 h

y- (A) 12
 Only

	Unit :-Each					
	Volume of concrete	0.74	cum			
	M.S. rods 10 mm dia	25	kg			
	25 mm dia 10.5 m @ 3.87 kg / mtr=40.63 kg	40.63	kg			
	Cost of concrete (1:3:6) mix vide item no 5.3.3 (Modify the rates for the quality of aggregate)	0.74	cum	3377.44	2499.31	
	Providing M.S bars Vide Item no 5.3.22					
	10 mm dia	25	kg	INPUT	#VALUE!	
	25 mm dia	40.63	kg	INPUT	#VALUE!	
	Cost of safety valve	1	nos	INPUT	#VALUE!	
					#VALUE!	
	Add Overhead charge & C.P (Safety valve only)@15%				#VALUE!	
					#VALUE!	
	Rate	Say Rs		#VALUE!	Each	#VALUE!
5.2.17	Providing safety ladder in lined section of canal with M.S rod embedded in cement concrete (1:3:6) in accordance with I.S.S 3812-1966 including royalty all complete as per specification and direction of E/I. (Vide I.S.I 3872-1966)					
	Unit :-Each					
	Volume of concrete	0.74	cum			
	M.S. rods 10 mm dia	25	kg			
	25 mm dia 10.5 m @ 3.87 kg / m=40.63 kg	40.63	kg			
	Cost of concrete (1:3:6) mix vide item no 5.3.3 (Modify the rates for the quality of aggregate)	0.74	cum	3377.44	2499.31	
	Providing M.S bars Vide item no 5.3.22					
	10 mm dia	25	kg	input	#VALUE!	
	25 mm dia	40.63	kg	input	#VALUE!	
	Cost of safety ladder	1	nos	input	#VALUE!	
					#VALUE!	
	Add Overhead charge & C.P (Safety ladder only)@15%				#VALUE!	
					#VALUE!	
	Rate	Say Rs		#VALUE!	Each	#VALUE!
5.2.18	Laying of 600 mm x 525 mm x 55 mm; 600 mm x 450 mm x 55 mm; 600 mm x 425 mm x 55 mm size precast P.C.C. slab in side slopes and berm of canal with groove of the slab and lug slab set in C.M. (1: 3) and flush pointing (1 : 2) but excluding the cost of precast slabs including royalty all complete as per specification and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Laying of precast slab					
	Mason Gr II	0.5	nos	345.00	172.50	{S II- 4}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
	Jointing pre cast slab					
	Cement	0.006	cum	7811.80	46.87	M-1 P
	Sand	0.018	cum	175.80	3.16	M-004
	Labour					
	Mason Gr II	3	nos	345.00	1035.00	{S II- 4}
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Bhisti	1.5	nos	285.00	427.50	S II-13
	Flush pointing of joints					
	Cement	0.003	cum	7811.80	23.44	M-1 P
	Sand	0.010	cum	175.80	1.76	M-004
	Labour					
	Mason Gr II	0.25	nos	345.00	86.25	{S II- 4}
	Unskilled mazdoor	0.25	nos	287.00	71.75	{SI-1}
	Bhisti	0.125	nos	285.00	35.63	S II-13
					3051.85	
	Add Overhead charge & C.P@15%				457.78	
					3509.63	
	Rate per sqm	Say Rs		377.40	Per M ²	377.38

113

5.2.19	Providing 100 mm thick P.C.C lining in M-100 with nominal mix of (1:3:6) with well graded stone chips (20 mm & down) and coarse sand of approved quality and of requisite F.M. in side and bottom curved portion of the canal in panels with construction joints including cost of form work and its removal, curing, royalty all complete job as per specification and direction of E/I					
	Unit :- Per Cum Taking Out put =2.832 Cum					
A.	Materials					
	Stone chips	2.66	M ³	697.55	1855.48	M 045
	Sand	1.33	M ³	175.80	233.81	M-004
	Cement	0.443	M ³	7811.80	3460.63	M-1 P
B.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) To be calculated taking 2 cum of concrete per hr) for 1.42 hr	1.42	hr	86.30	122.55	(P & M -009)
	(ii) Vibrator	1.42	hr	43.75	62.13	
C.	Shuttering					
	I. Form work for curved portion for 2.832 cum of concrete assuming 14 sqm Vide item no 5.3.18(without C.P.etc.)	14	sqm	440.02	6160.21	
D.	Labour					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	2	nos	345.00	690.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				16507.81	
	Add Overhead charge & C.P@15%				2476.17	
					18983.98	
						6703.38
	Rate per cum	Say Rs		6703.40	Per M ³	
5.2.20	Providing 30 mm internal dia burnt clay pipe for providing holes in concrete section of slab, cross and longitudinal sleepers including sand packing in holes in lining work of canals all complete job as per specification and direction of E/I					
	Unit :-Each Assuming 100 mm long hole=139 Nos. and 225 mm long holes=222 Nos.					
	Materials					
	i. Cost of burnt clay pipe of internal dia 31.75 mm . 1-1/4'External dia 38.00 mm1-1/2'					
	(a). 100 mm long	139	nos	input	#VALUE!	
	(b) 225 mm long	222	nos	input	#VALUE!	
	ii. Sand	0.07	cum	175.80	12.31	
	Labour					
	Head mason	1	nos	388.00	388.00	{S II -3}
	Mason Gr II	0.5	nos	345.00	172.50	{S II- 4}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
	Unskilled mazdoor for sand packing	1	nos	287.00	287.00	{SI-1}
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
						#VALUE!
	Rate	Say Rs		#VALUE!	Each	
5.2.21	Providing 100/75mm thick P.C.C lining in M-150 with nominal mix of (1:2:4) with well graded stone chips (20mm & down) and coarse sand of approved quality and requirement 5M in side and bottom common portion of the canal in panels with construction joints including cost of form work and its removal,curing, all complete job as per specification & direction of E/I.					
	Unit- Per Cum Taking output 2.832 cum					
A	Material					
	Stone chips (20mm & down)	2.548	M ³	697.55	1777.36	M 045

114

7- (P&M)

Wdy

	Sand	1.274	M ³	175.80	223.97	M-004
	cement	0.637	M ³	7811.80	4976.12	M-1 P
B	Hire charge of Machine					
	Concrete Mixer(taking 2cum per hr)	1.42	hr	86.30	122.55	P & M 009
	Vibrator	1.42	hr	43.75	62.13	
C.	Shuttering					
	Form work for curved portion for 2.832 cum of concrete assuming 14sqm vide item no -5.3.19	14	sqm	440.02	6160.21	
D.	Labour					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr-II	1.5	nos	345.00	517.50	{S II-4}
	Unskilled Mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				17762.82	
	Add Overhead charge & C.P@15%				2664.42	
					20427.25	
	Rate per Cum	Say Rs			7213.00	
5.2.22	Providing and laying P.C.C M-150 with nominal mix of (1:2:4) with well graded stone chips (20mm & down) and coarse sand of approved quality and requisite F.M in lug slab,cross and longitudinal sleeper for lining canal including cost of form work and its removal,curing, royalty etc. all complete jobas per specification & direction of E/I.					
	Unit- per cum					
	Out put = 2.832 cum					
	Material					
	Stone chips(20mm & down)	2.548	M ³	697.55	1777.36	M 045
	sand	1.274	M ³	175.80	223.97	M-004
	Cement	0.637	M ³	7811.80	4976.12	M-1 P
	Hire charge of Machine					
	Concrete Mixer(taking 2cum per hr)	1.42	hr	86.30	122.55	P & M 009
	Vibrator	1.42	hr	43.75	62.13	
	Shuttering					
	Form work for curved portion for 2.832 cum of concrete assuming 14sqm vide item no -5.3.19	14	sqm	440.02	6160.21	
	Labour					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr-II	1.5	nos	345.00	517.50	{S II-4}
	Unskilled Mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				17762.82	
	Add Overhead charge & C.P@15%				2664.42	
					20427.25	
	Rate per cum	Say Rs			7213.00	
5.2.23	Providing and laying LDPE film of 250 micron or kg/sqm in the bed of canal and side slope as per specification and direction of E/I					
	Unit- per Sqm					
	Taking output =10 Sqm					
	Materials					
	250 micron LDPE film @ 230 gm/sqm(including 5%v for overlap and wastage)	2.415	kg	141.42	341.53	
	Adhesive and cello Tape		LS		20.00	
	Labour					
	Mate	0.02	nos	311.00	6.22	S II-2 {SI-1}
	Unskilled labour	0.30	nos	287.00	86.10	
	skilled labour	0.1	nos	364.00	36.40	{SII-70}
					490.25	
	Add Overhead charge & C.P@15%				73.54	
					563.79	
	Rate pe sqm			say,Rs	563.80	

R

115

y - Char

12
Dhy

5.3. CONCRETE WORK

Sr.No.	Item	Rate	Unit
5.3.1	Providing and laying P.C.C. M-100 with nominal mix of (1:3:6) with approved quality of graded stone chips (20 mm and down)and coarse granular sand of requisite F.M in lug slab, cross and longitudinal sleepers for lining of canals including cost of form work and its removal, curing including royalty etc. all complete job as per specifications and direction of E/I.	7385.20	Per M ³
5.3.2	Providing and laying P.C.C.M-75 with nominal mix of (1:4:8) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing., royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates Gr III Taken)	3549.30	Per M ³
5.3.3	Providing and laying P.C.C. M-100 with nominal mix of (1:3:6) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing. royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates Gr IV Taken)	3884.10	Per M ³
5.3.4	Providing and laying P.C.C. or R.C.C M-150 with nominal mix of (1:2:4) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, . excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job including royalty as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates 20 mm To 10 mm Taken)	4642.00	Per M ³
5.3.5	Providing and laying P.C.C.or R.C.C M-200 with nominal mix of (1:1.5:3) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates 20 mm To 10 mm Taken)	5161.40	Per M ³
5.3.6	Providing and laying P.C.C. or R.C.C M-250 with nominal mix of (1:1.:2) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job including royalty as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	6380.70	Per M ³

R

J

Amit

B
R
D

5.3.7	Providing and laying P.C.C. M-75 with nominal mix of (1:4:8) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing. royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates Gr III Taken)	3549.30	Per M ³
5.3.8	Providing and laying P.C.C. M-100 with nominal mix of (1:3:6) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing. royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates Gr IV Taken)	3884.10	Per M ³
5.3.9	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1:2:4) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates 20 mm To 10 mm Taken)	4642.00	Per M ³
5.3.10	Providing and laying P.C.C. or R.C.C M-200 with nominal mix of (1:1.5:3) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates 20 mm To 10 mm Taken)	5161.40	Per M ³
5.3.11	Providing and laying P.C.C. or R.C.C M-250 with nominal mix of (1:1:2) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	6339.10	Per M ³
5.3.12	Providing and laying P.C.C. or R.C.C M-150 with nominal mix of (1:2:4) in deck slab with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	4677.30	Per M ³

5.3.13	Providing and laying P.C.C. or R.C.C M-200 with nominal mix of (1:1.5:3) in deck slab with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	5196.40	Per M ³
5.3.14	Providing and laying P.C.C. or R.C.C M-150 with nominal mix of (1:2:4) in wearing coat over deck slab with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 10 mm To 5 mm Taken)	4593.30	Per M ³
5.3.15	Providing and laying P.C.C. or R.C.C M-150 with nominal mix of (1:1.5:3) in wearing coat over deck slab with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 10 mm To 5 mm Taken)	5117.60	Per M ³
5.3.16	Providing and laying dry pitching with precast cement concrete block of size 600 mm x 600 mm x 300 mm in M-75 with nominal mix of (1:4:8) in floor and flank wall with approved quality of graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M washed and screened including necessary form work, tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates Gr III Taken)	5716.40	Per M ³
5.3.17	Providing and laying dry pitching with precast cement concrete blocks of size 600 mm x 600 mm x 300 mm in M-100 with nominal mix of (1:3:6) in floor and flank wall with approved quality of graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M washed and screened including necessary form work, tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates Gr III Taken)	6073.50	Per M ³
5.3.18	Providing shuttering including strutting,propping etc. and its removal after use in foundation as per specifications and direction of E/I.	506.00	Per M ²
5.3.19	Providing shuttering including strutting, propping etc. and its removal after use in various components of canal structure or embankment structure as per specifications and direction of E/I.	506.00	Per M ²
5.3.20	Providing centering including strutting, propping etc. and removing after use in deck slab as per specifications and direction of E/I.	694.10	Per M ²
5.3.21	Providing M.S reinforcement(Plain steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.		
	(a).Dia of bar 6 mm	56869.70	Per M.T
	(B).Dia of bar above 6 mm to 12 mm	56869.70	Per M.T
	(B).Dia of bar above 14 mm to 50 mm	56869.70	Per M.T

118

118

5.3.22	Providing M.S reinforcement (Tor steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.		
(a)	T.M.T.GRADE Fe-415- 8 mm	#VALUE!	Per M.T
(b)	T.M.T.GRADE Fe-415- 10 mm	#VALUE!	Per M.T
(c)	T.M.T.GRADE Fe-415- 12 mm	#VALUE!	Per M.T
(d)	T.M.T.GRADE Fe-415- 16 mm	#VALUE!	Per M.T
(e)	T.M.T.GRADE Fe-415- 20 mm	#VALUE!	Per M.T
(f)	T.M.T.GRADE Fe-415- 25 mm	#VALUE!	Per M.T
(g)	T.M.T.GRADE Fe-415- 28 mm	#VALUE!	Per M.T
(h)	T.M.T.GRADE Fe-415- 32 mm	#VALUE!	Per M.T
(i)	T.M.T.GRADE Fe-500- 8 mm	54877.30	Per M.T
(j)	T.M.T.GRADE Fe-500- 10 mm	53669.80	Per M.T
(k)	T.M.T.GRADE Fe-500- 12 mm	53066.10	Per M.T
(l)	T.M.T.GRADE Fe-500- 16 mm	53066.10	Per M.T
(m)	T.M.T.GRADE Fe-500- 20 mm	53066.10	Per M.T
(n)	T.M.T.GRADE Fe-500- 25 mm	53066.10	Per M.T
(o)	T.M.T.GRADE Fe-500- 28 mm	57395.00	Per M.T
(p)	T.M.T.GRADE Fe-500- 32 mm	53066.10	Per M.T
(q)	T.M.T.GRADE Fe-500- 36 mm	#VALUE!	Per M.T

R

B R

5.3. CONCRETE WORK						
Sr.No.	Description	Quantity	Unit	Rate	Amount	
5.3.1	Providing and laying P.C.C. M-100 with nominal mix of (1:3:6) with approved quality of graded stone chips (20 mm and down) and coarse granular sand of requisite F.M in lug slab, cross and longitudinal sleepers for lining of canals including cost of form work and its removal, curing, royalty etc. all complete and job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
A.	Materials					
	Stone chips (20 mm & down))	2.66	M ³	697.55	1855.48	M 045
	Sand	1.330	M ³	175.80	233.81	M-004
	Cement	0.443	M ³	7811.80	3460.63	M-1 P
	Total				5549.92	
B.	HIRE CHARGES OF MACHINE					
	(i) Concrete mixer	1.42	hr	86.30	122.55	18186.88
	(ii) Vibrator vide 3.22	1.42	hr	43.75	62.13	
					184.67	
C.	Shuttering					
	I. Form work for curved portion for 2.832 cum of concrete assuming 18.6sqm Vide item no 5.3.18	18.6	sqm	440.02	8184.28	
D.	Labour					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
					18186.88	
	Add Overhead charge & C.P@15%				2728.03	
					20914.91	
						7385.21
	Rate per Cum	Say Rs		7385.20	Per M ³	
5.3.2	Providing and laying P.C.C. M-75 with nominal mix of (1:4:8) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M ,washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
A.	MATERIALS					
	Coarse aggregates Gr III (Rate of approved quality of aggregate as per Design)	2.718	M ³	511.44	1390.09	M-036
	Sand	1.368	M ³	175.80	240.49	M-004
	Cement	0.34	M ³	7811.80	2656.01	M-1 P
	Total				4286.60	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
C.	HIRE CHARGES OF MACHINE					
	(i) Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hour=2.832/1.98	1.43	hr	86.30	123.409	(P & M -009)
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hour=2.832/1.98	1.43	hr	43.75	62.56	
	Total				8740.57	
	Add Overhead charge & C.P@15%				1311.09	

R 120

(Signature)

(Signature)

					10051.66	
						3549.31
	Rate per Cum	Say Rs		3549.30	Per M ³	
5.3.3	Providing and laying P.C.C. M-100 with nominal mix of (1:3:6) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates Gr IV (Rate of approved quality of aggregate as per Design)	2.66	M ³	532.52	1416.50	M-049
	Sand	1.33	M ³	175.80	233.81	M-004
	Cement	0.443	M ³	7811.80	3460.63	M-1 P
	Total				5110.94	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
C.	HIRE CHARGES OF MACHINE					
	(i) Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hour 2.832/1.98	1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hour 2.832/1.98	1.43	hr	43.75	62.56	
	Total				9564.92	
	Add Overhead charge & C.P@15%				1434.74	
					10999.65	
	Rate per Cum	Say Rs		3884.10	Per M ³	3884.06
5.3.4	Providing and laying P.C.C. M-150 with nominal mix of (1:2:4) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :- Per Cum					
	Taking Out put= 2.832 Cum					
A.	MATERIALS					
	Coarse aggregates (20 mm To 10 mm) (Taking Rate of approved quality of aggregate as per Design)	2.548	M ³	697.55	1777.36	M-045
	Sand	1.274	M ³	175.80	223.97	M-004
	Cement	0.637	M ³	7811.80	4976.12	M-1 P
	Total				6977.44	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
C.	HIRE CHARGES OF MACHINE					
	(i) Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hour 2.832/1.98	1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hour 2.832/1.98	1.43	hr	43.75	62.56	

R

121

g - (B.M.)

Q R
Q R

	Total				11431.41	
	Add Overhead charge & C.P@15%				1714.71	
					13146.13	
						4641.99
	Rate per cum	Say Rs		4642.00	Per M ³	
5.3.5	Providing and laying P.C.C. or R.C.C M-200 with nominal mix of (1:1.5:3) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Design)	2.436	M ³	697.55	1699.23	M-045
	Sand	1.218	M ³	175.80	214.12	M-004
	Cement	0.812	M ³	7811.80	6343.18	M-1 P
					8256.54	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II -4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
					4268.00	
C.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	
	Total				12710.51	
	Add Overhead charge & C.P@15%				1906.58	
					14617.09	
						5161.40
	Rate per cum	Say Rs		5161.40	Per M ³	
5.3.6	Providing and laying P.C.C. or R.C.C M-250 with nominal mix of (1:1.:2) in foundation of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc.excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Design)	2.40	M ³	697.55	1674.12	M-045
	Sand	1.20	M ³	175.80	210.96	M-004
	Cement	1.20	M ³	7811.80	9374.16	M-1 P
	Total				11259.24	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II -4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
C.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hr	86.30	123.409	{P & M -009}

R

122

Y (Signature)

(Signature)

	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hour=2.832/1.98	1.43	hr	43.75	62.56	
					15713.21	
					2356.98	
					18070.19	
						6380.72
	Rate per cum	Say Rs		6380.70	Per M ³	
5.3.7	Providing and laying P.C.C. M-75 with nominal mix of (1:4:8) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates Gr III (Rate of approved quality of aggregate as per Design)	2.718	M ³	511.44	1390.09	M-029
	Sand	1.368	M ³	175.80	240.49	M-004
	Cement	0.34	M ³	7811.80	2656.01	M-1 P
	Total				4286.60	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II -4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
C.	HIRE CHARGES OF MACHINE					
	(i) Concrete mixer (10 H.P) for 2.832 cum consists on the basis of mixer production capacity 1.98 m3 per hour. Used rate per hour=2.832/1.98	1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hour=2.832/1.98	1.43	hr	43.75	62.56	
	Total				8740.57	
	Add Overhead charge & C.P@15%				1311.09	
					10051.66	
						3549.31
	Rate per cum	Say Rs		3549.30	Per M ³	
5.3.8	Providing and laying P.C.C. M-100 with nominal mix of (1:3:6) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates Gr IV (Cost of coarse aggregate as per Design)	2.66	M ³	532.52	1416.50	M-034
	Sand	1.33	M ³	175.80	233.81	M-004
	Cement	0.443	M ³	7811.80	3460.63	M-1 P
	Total				5110.94	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II -4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
C.	HIRE CHARGES OF MACHINE					

R 123

✓ (Signature)

(Signature)

	(i) Concrete mixer (10 H.P.) for 2.832 cum consists on the basis of mixer production capacity 1.98 m3 per hour. Used rate per hour 2.832/1.98	1.43	hr	86.30	123.409	(P & M -009)
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basis of vibrator capacity 1.98 cum per hour. Used rate per hour 2.832/1.98	1.43	hr	43.75	62.56	
	Total				9564.92	
	Add Overhead charge & C.P@15%				1434.74	
					10999.65	
	Rate per cum	Say Rs		3884.10	Per M ³	3884.06
5.3.9	Providing and laying P.C.C. M-150 with nominal mix of (1:2.4) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A. MATERIALS						
	Coarse aggregates (20 mm to 10 mm) coarse aggregate as per Design	2.548	M ³	697.55	1777.36	M-045
	Sand	1.274	M ³	175.80	223.97	M-004
	Cement	0.637	M ³	7811.80	4976.12	M-1 P
	Total				6977.44	
B. LABOUR						
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
					4268.00	
C. HIRE CHARGES OF MACHINE						
	(i) Concrete mixer (10 H.P.) for 2.832 cum consists on the basis of mixer production capacity 1.98 m3 per hour. Used rate per hour 2.832/1.98	1.43	hr	86.30	123.409	(P & M -009)
	(ii) Vibrator 1no. to vibrate 2.832 cum on the basis of vibrator capacity 1.98 cum per hour. Used rate per hour 2.832/1.98	1.43	hr	43.75	62.56	
	Total				11431.41	
	Add Overhead charge & C.P@15%				1714.71	
					13146.13	
	Rate per cum	Say Rs		4642.00	Per M ³	4641.99
5.3.10	Providing and laying P.C.C. or R.C.C M-200 with nominal mix of (1:1.5:3) in superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A. MATERIALS						
	Coarse aggregates (20 mm to 10 mm) coarse aggregate as per Design	2.436	M ³	697.55	1699.23	M-045
	Sand	1.218	M ³	175.80	214.12	M-004
	Cement	0.812	M ³	7811.80	6343.18	M-1 P
	Total				8256.54	
B. LABOUR						
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}

R

124

✓ @

12
12

	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
C.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hr	86.30	123.409	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	
	Total				12710.51	
	Add Overhead charge & C.P@15%				1906.58	
					14617.09	
						5161.40
	Rate per cum	Say Rs		5161.40	Per M ³	
5.3.11	Providing and laying P.C.C. or R.C.C M-250 with nominal mix of (1:1:2) superstructure of various components of canal or embankment structures with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates (20 mm to 10 mm) coarse aggregate as per Design (Cost of	2.379	M ³	697.55	1659.47	M-045
	Sand	1.189	M ³	175.80	209.03	M-004
	Cement	1.189	M ³	7811.80	9288.23	M-1 P
	Total				11156.73	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4268.00	
C.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	
	Total				15610.70	
	Add Overhead charge & C.P@15%				2341.60	
					17952.30	
						6339.09
	Rate per cum	Say Rs		6339.10	Per M ³	
5.3.12	Providing and laying P.C.C. or R.C.C M-150 with nominal mix of (1:2:4) in deck slab with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M, washed and screened including necessary tools and plants, vibrating, curing, royalty etc.excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates (20 mm to 10 mm) coarse aggregate as per Design (Cost of	2.549	M ³	697.55	1778.05495	M-045
	Sand	1.274	M ³	175.80	223.97	M-004
	Cement	0.637	M ³	7811.80	4976.12	M-1 P
	Total				6978.14	

125

20/12

20/12

B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1.25	nos	345.00	431.25	{S II -4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4354.25	
C.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	
	Total				11518.36	
	Add Overhead charge & C.P@15%				1727.75	
					13246.12	
	Rate per cum	Say Rs		4677.30	Per M ³	4677.30
5.3.13	Providing and laying P.C.C. or R.C.C M-200 with nominal mix of (1:1.5:3) in deck slab with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc.excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete jobas per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates (20 mm to 10 mm) (Cost of coarse aggregate as per Design)	2.436	M ³	697.55	1699.23	M-045
	Sand	1.218	M ³	175.80	214.12	M-004
	Cement	0.812	M ³	7811.80	6343.18	M-1 P
	Total				8256.54	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1.25	nos	345.00	431.25	{S II -4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4354.25	
C.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	
	Total				12796.76	
	Add Overhead charge & C.P@15%				1919.51	
					14716.27	
	Rate per cum	Say Rs		5196.40	Per M ³	5196.42
5.3.14	Providing and laying P.C.C. or R.C.C M-150 with nominal mix of (1:2:4) in wearing coat over deck slab with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
A.	MATERIALS					
	Coarse aggregates (10 mm to 5 mm) (Cost of coarse aggregate as per Design)	2.548	M ³	582.80	1484.97	M-025
	Sand	1.274	M ³	175.80	223.97	M-004

126

	Cement	0.637	M ³	7811.80	4976.12	M-1 P
					6685.06	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1.5	nos	345.00	517.50	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
					4440.50	
C.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	
	Total				11311.53	
	Add Overhead charge & C.P@15%				1696.73	
					13008.26	
						4593.31
	Rate per cum	Say Rs		4593.30	Per M ³	
5.3.15	Providing and laying P.C.C. or R.C.C M-200 with nominal mix of (1:1.5:3) in wearing coat over deck slab with approved quality of graded coarse aggregate of required grade (as per design) and approved quality sand of requisite F.M washed and screened including necessary tools and plants, vibrating, curing, royalty etc. excluding cost of form work as well reinforcement, its cutting, bending, binding and placing complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
A.	MATERIALS					
	Coarse aggregates (10 mm to 5 mm) (Cost of coarse aggregate as per Design)	2.435	M ³	582.80	1419.12	M-025
	Sand	1.217	M ³	175.80	213.95	M-004
	Cement	0.812	M ³	7811.80	6343.18	M-1 P
	Total				7976.25	
B.	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1.5	nos	345.00	517.50	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4440.50	
C.	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hr	86.30	123.409	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	
	Total				12602.72	
	Add Overhead charge & C.P@15%				1890.41	
					14493.13	
						5117.63
	Rate per cum	Say Rs		5117.60	Per M ³	
5.3.16	Providing and laying dry pitching with precast cement concrete blocks of size 600 mm x 600 mm x 300 mm in M-75 with nominal mix of (1:4:8) in floor and flank wall with approved quality of graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M washed and screened including necessary form work, tools and plants, vibrating, curing as well as royalty complete job as per specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
A.	MATERIALS					

R

127

g — (20/11/20)

R
Why

	Coarse aggregates Gr III coarse aggregate as per Design)	(Cost of	2.720	M ³	511.44	1391.12	
	Sand		1.360	M ³	175.80	239.09	M-004
	Cement		0.34	M ³	7811.80	2656.01	M-1 P
	Total					4286.22	A
B.	LABOUR						
	Head mason		0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II		1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor		12	nos	287.00	3444.00	{SI-1}
	Bhisti		1	nos	285.00	285.00	S II-13
	Unskilled mazdoor for placing blocks in position		4	nos	287.00	1148.00	{SI-1}
	Total					5416.00	B
C	HIRE CHARGES OF MACHINE						
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98		1.43	hr	86.30	123.409	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98		1.43	hr	43.75	62.56	
	Total					185.97	C
D	SHUTTERING CHARGES						
	Shuttering 25 blocks 25 mm thick mango planks with 10 % wastage 20.45 sqm 20.45X25/1000 Add 1 % for cost of nails and spikes		0.51125	M ³	26000.00	13292.50	{1198}
	LABOUR						
	Carpenter Gr II		3	Rs	345.00	1035.00	{S I -17}
	Unskilled mazdoor		8	Rs	287.00	2296.00	{SI-1}
	Assuming 4 uses to calculate					16756.43	a
	Cost of shuttering for 2.832 cum = a/4					4189.11	D
	TOTAL(A+B+C+D)					14077.29	
	Add Overhead charge & C.P@15%					2111.59	
						16188.89	
							5716.42
	Rate per cum	Say Rs			5716.40	Per M ³	
5.3.17	Providing and laying dry pitching with precast cement concrete blocks of size 600 mm x 600 mm x 300 mm in M-100 with nominal mix of (1:3:6) in floor and flank wall with approved quality of graded coarse aggregate of required grade(as per design) and approved quality of sand of requisite F.M washed and screened including necessary form work, tools and plants, vibrating, curing as well as royalty and all complete as per specifications and direction of E/I.						
	Unit :-Per Cum						
	Taking Out put =2.832 Cum						
A	MATERIALS						
	Coarse aggregates Gr IV coarse aggregate as per Design)	(Cost of	2.66	M ³	532.52	1416.50	M-034
	Sand		1.33	M ³	175.80	233.81	M-004
	Cement		0.45	M ³	7811.80	3515.31	M-1 P
	Total					5165.63	A
B	LABOUR						
	Head mason		0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II		1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor		12	nos	287.00	3444.00	{SI-1}
	Bhisti		1	nos	285.00	285.00	S II-13
	Unskilled mazdoor for placing blocks in position		4	nos	287.00	1148.00	{SI-1}
	Total					5416.00	B
C	HIRE CHARGES OF MACHINE						
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98		1.43	hr	86.30	123.41	{P & M -009}
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98		1.43	hr	43.75	62.56	
	Total					185.97	C
D	SHUTTERING CHARGES						
	Shuttering 25 blocks 25 mm thick mango planks						

a

128

1/2 (Am)

Qly

	with 10 % wastage 20.45 sqm 20.45X25/1000 0.51M3 @Rs11075.0	0.51	PerM ³	26000.00	13292.500	{1198}
	Add 1 % for cost of nails and spikes				132.93	
	LABOUR					
	Carpenter Gr II	3	Rs	345.00	1035.00	{S I -17}
	Unskilled mazdoor	8	Rs	287.00	2296.00	{SI-1}
	Assuming 4 uses to calculate				16756.43	a
	Cost of shuttering for 2.832 cum = a/4				4189.11	D
	TOTAL=A+B+C+D				14956.70	
	Add Overhead charge & C.P@15%				2243.51	
					17200.21	
	Rate per cum	Say Rs		6073.50	Per M ³	6073.52
5.3.18	Providing shuttering including strutting, propping etc. and its removal after use in foundation as per specifications and direction of E/I.					
	Unit :-Per Sqm					
	Taking Out put=9.30 Sqm					
A	MATERIALS					
	Local wood planks 38 mm thick =9.3 x 38 / 1000	0.353	cum			
	Add 5 % wastage	0.017	cum			
	Cost of 0.37 cum local wood planks	0.37	cum	26000.00	9620.00	{1198}
	Add cost for strutting and propping @ 10 % of above				962.00	
	Total cost of wood				10582.00	
	Assuming 4 uses to calculate	4	use			
	Cost of shuttering for 2.832 cum total cost/4				2645.50	
	Add 1 % for cost of nails and spikes on total cost of wood				105.82	
					2751.32	A
B	LABOUR					
	Carpenter Gr II	1.5	nos	345.00	517.50	{S I -17}
	Unskilled mazdoor	2.5	nos	287.00	717.50	{SI-1}
					1235.00	B
C	Carriage of materials					
	Cost of the carriage of materials from Godown and back to godown after use including loading unloading and stacking @ 1 % of Total cost of wooden materials				105.82	C
	TOTAL cost per 9.3 sqm =A+B+C				4092.14	
	Add Overhead charge & C.P@15%				613.82	
					4705.96	
	Rate pe sqm	Say Rs		506.00	Per M ²	506.02
5.3.19	Providing shuttering including strutting, propping etc. and its removal after use in various components of canal structure or embankment structure as per specifications and direction of E/I.					
	Unit :-Per Sqm					
	Taking Out put=9.30 Sqm					
A	MATERIALS					
	Local wood planks 38 mm thick 9.3 x 38 / 1000 =0.353 cum	0.353	cum			
	Add 5 % wastage	0.017	cum			
	Cost of 0.37 cum local wood planks	0.37	cum	26000.00	9620.00	{1198}
	Add cost for strutting and propping @ 10 % of above				962.00	
	Total cost of wood				10582.00	
	Assuming 4 uses to calculate	4	use			
	Cost of shuttering for 2.832 cum total cost/4				2645.50	
	Add 1 % for cost of nails and spikes on total cost of wood				105.82	
					2751.32	A
B	LABOUR					
	Carpenter Gr II	1.5	nos	345.00	517.50	{S I -17}
	Unskilled mazdoor	2.5	nos	287.00	717.50	{SI-1}
					1235.00	B
C	Carriage of materials					
	Cost of the carriage of materials from Godown and back to godown after use including loading unloading and stacking @ 1 % of Total cost of wooden materials				105.82	C
	TOTAL cost per 9.3 sqm =A+B+C				4092.14	
	Add Overhead charge & C.P@15%				613.82	
					4705.96	

R

129

Y

Q

	Rate per sqm	Say Rs	506.00	Per M ²	506.02
5.3.20	Providing centering including strutting,propping etc. and removing after use in deck slab as per specifications and direction of E/I.				
	Unit :-Per Sqm				
	Taking Out put =22.326 Sqm				
	(Assuming size in slab 7.32 x 3.05 =22.326 sqm)				
A.	MATERIALS				
	a. 40 mm thick local wood planks 22.326 x40 / 1000				
	=0.893				
	Add 5 % for wastages				
	=0.045				
	=0.938	0.94	cum	26000.00	
	Assuming 4 uses to calculate				
	Cost of planks per use =0.89 x rate of local wood /4				6110.00
	b. Assuming av. Height of slab from G.L=3.66 M				
	150 mm sal bullah required =78 nos				
	Length of sal bullah =78 x3.66 =285.48 Mtr	285.48	M	67.02	M SL No.-223
	(Assuming sal bullah to be used 10 times for centerins				
	=285.48 x Rate per Mtr / 10				1913.29
	c. Salwood scantling required (75 mm x 63 mm size) =0.311 cum	0.311	cum	60000.00	{1199}
	(Assuming 10 uses)				
	Cost per use =0.311 x Rate per Mtr/10				1866.00
					9889.29
	Add 1 % for cost of nails and spikes				98.89
					9988.18
					(A)
B.	LABOUR				
	Carpenter Gr II	4	nos	345.00	1380.00 (S I -17)
	Unskilled mazdoor	7	nos	287.00	2009.00 (SI-1)
C.	Carrage of materials				3389.00 (B)
	Cost of the carriage of materials from Godown and back to godown after use including loading unloading and stacking @ 1 % of Total cost of wooden materials (A)				98.89 (C)
	TOTAL cost per 22.326 sqm =A+B+C				13476.07
	Add Overhead charge & C.P@15%				2021.41
					15497.48
					694.15
	Rate per sqm	Say Rs	694.10	Per M ²	
5.3.21	Providing M.S reinforcement(Plain steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.				
	Unit :-Per M.T				
	Assumng 1.00M.T				
	(a).Dia of bar 6mm				
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	39650.00	41632.50
(B).	i. Annealed wire	14	Kg	60.03	840.42 M 072
	ii Black smith Gr II	9	nos	345.00	3105.00 S II-10
	iii. Head black smith	1	nos	388.00	388.00 S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00 S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00
					7819.42 B
	Totalof A+B				49451.92
	Add Overhead charge & C.P@15%				7417.79
					56869.71
					56869.70
	Rate per MT	Say Rs	56869.70	Per M.T	
	(b)Dia. of bar above 6 mm to 12 mm				
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	39650.00	41632.50 A (M-126)
(B).	i. Annealed wire	14	Kg	60.03	840.42 M 072
	ii Black smith Gr II	9	nos	345.00	3105.00 S II-10
	iii. Head black smith	1	nos	388.00	388.00 S II-9

R

130

y - (S)M

Q R
Q R

	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					7819.42	B
	Total of A+B				49451.92	
	Add Overhead charge & C.P@15%				7417.79	
					56869.71	
	Rate per MT	Say Rs		56869.70	Per M.T	56869.70
	(c)Dia of bar above 14 mm to 50 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	39650.00	41632.50	A (M-126)
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					7819.42	B
	Total of A+B				49451.92	
	Add Overhead charge & C.P@15%				7417.79	
					56869.71	
	Rate per MT	Say Rs		56869.70	Per M.T	56869.71
5.3.22	Providing M.S reinforcement (Tor steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.					
	Unit :-Per M.T					
	Assuming 1.00 M.T					
(a).	T.M.T Fe-415 8 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	#VALUE!	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
	Rate per MT	Say Rs		#VALUE!	Per M.T	#VALUE!
(b).	T.M.T Fe-415 10 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	input	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
	Rate per MT	Say Rs		#VALUE!	Per M.T	#VALUE!
(c).	T.M.T Fe-415 12 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	#VALUE!	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	

R

131

y —

		Say Rs		#VALUE!	Per M.T	#VALUE!
(d).	T.M.T Fe -415 16 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	#VALUE!	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
		Say Rs		#VALUE!	Per M.T	#VALUE!
(e).	T.M.T Fe -415- 20 mm					
(A).	Providing M.S reinforcement Plain (including 5% wastage)	1.05	M.T	#VALUE!	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
		Say Rs		#VALUE!	Per M.T	#VALUE!
(f).	T.M.T Fe -415- 25 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	#VALUE!	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
		Say Rs		#VALUE!	Per M.T	#VALUE!
(g).	T.M.T Fe -415 28 mm					
(A).	Providing M.S reinforcement Plain(including 5% wastage)	1.05	M.T	#VALUE!	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
		Say Rs		#VALUE!	Per M.T	#VALUE!
(h).	T.M.T Fe -415 32 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	#VALUE!	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
		Say Rs		#VALUE!	Per M.T	#VALUE!
(i).	T.M.T Fe -500 8 mm					

Q

132

M - [Signature]

[Signature]

(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	38000.00	39900.00	M-10A
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					47719.42	
	Add Overhead charge & C.P@15%				7157.91	
					54877.33	
		Say Rs		54877.30	Per M.T	54877.33
(j).	T.M.T Fe -500 10 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	37000.00	38850.00	M-10A
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					46669.42	
	Add Overhead charge & C.P@15%				7000.41	
					53669.83	
		Say Rs		53669.80	Per M.T	53669.83
(k).	T.M.T Fe -500 12 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	36500.00	38325.00	M-10A
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					46144.42	
	Add Overhead charge & C.P@15%				6921.66	
					53066.08	
		Say Rs		53066.10	Per M.T	53066.08
(l).	T.M.T Fe -500 16 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	36500.00	38325.00	M-10A
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					46144.42	
	Add Overhead charge & C.P@15%				6921.66	
					53066.08	
		Say Rs		53066.10	Per M.T	53066.08
(m).	T.M.T Fe -500 20 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	36500.00	38325.00	M-10A
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
					46144.42	
	Add Overhead charge & C.P@15%				6921.66	
					53066.08	
		Say Rs		53066.10	Per M.T	53066.08
(n).	T.M.T Fe -500 25 mm					

R

133

✓

(20/11)

Q

12
Amit

(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	36500.00	38325.00	M-10A
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				46144.42	
					6921.66	
					53066.08	
		Say Rs		53066.10	Per M.T	53066.08
(o).	T.M.T Fe -500- 28 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	40085.00	42089.25	M-10A
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				49908.67	
					7486.30	
					57394.97	
		Say Rs		57395.00	Per M.T	57394.97
(p).	T.M.T Fe -500 32 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	36500.00	38325.00	M-10A
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				46144.42	
					6921.66	
					53066.08	
		Say Rs		53066.10	Per M.T	53066.08
(q).	T.M.T Fe -500 36 mm					
(A).	Providing M.S reinforcement Plain (including 5 % wastage)	1.05	M.T	Input	#VALUE!	
(B).	i. Annealed wire	14	Kg	60.03	840.42	M 072
	ii Black smith Gr II	9	nos	345.00	3105.00	S II-10
	iii. Head black smith	1	nos	388.00	388.00	S II-9
	iv. Skilled mazdoor	8	nos	364.00	2912.00	S I-71
	v Unskilled mazdoor	2	nos	287.00	574.00	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
	Rate per MT	Say Rs		#VALUE!	Per M.T	#VALUE!

a

y

am

cyly

5.4 MASONRY WORK

Sr.No.	Item	Rate	Unit
5.4.1	Brick work in designation 100 A Brick with cement motar (1 : 3) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4940.30	Per M ³
5.4.2	Brick work in designation 100 A Brick with cement motar (1 : 4) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4787.40	Per M ³
5.4.3	Brick work in designation 100 A Brick with cement motar (1 : 5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4662.70	Per M ³
5.4.4	Brick work in designation 100 A Brick with cement motar (1 : 6) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4572.00	Per M ³
5.4.5	Brick work in designation 100 A Brick with cement motar (1:3) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	5056.90	Per M ³
5.4.6	Brick work in designation 100 A Brick with cement motar (1 : 4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job including Royalty as per specification and direction of E / I.	4904.00	Per M ³
5.4.7	Brick work in designation 100 A Brick with cement motar (1 : 5) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4779.20	Per M ³
5.4.8	Brick work in designation 100 A Brick with cement motar (1 : 6) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4688.50	Per M ³
5.4.9	Providing rough dressed random rubble stone masonry in cement mortar (1:3) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E/I.	2517.30	Per M ³
5.4.10	Providing rough dressed random rubble stone masonry in cement mortar (1:4) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	2300.30	Per M ³

a

y

G.M.

R
W.S.

135

5.4.11	Providing rough dressed random rubble stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	2165.00	Per M ³
5.4.12	Providing rough dressed random rubble/coarse stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. .complete job as per specification and direction of E / I.	2663.00	Per M ³
5.4.13	Providing rough dressed random rubble/coarse stone masonry in cement mortar (1 : 4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal, wherever required , all complete job including royalty as per specification and direction of E / I.	2445.90	Per M ³
5.4.14	Providing rough dressed random rubble/course stone masonry in cement mortar (1:5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal including royalty etc. wherever required all complete job as per specification and direction of E / I.	2310.60	Per M ³
5.4.15	Providing rough dressed coarse rubble stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	2663.00	Per M ³
5.4.16	Providing rough dressed coarse rubble stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2445.90	Per M ³
5.4.17	Providing rough dressed coarse stone masonry in cement mortar (1:5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2310.60	Per M ³



5.4 MASONRY WORK

Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
5.4.1	Brick work in designation 100 A Brick with cement mortar (1 : 3) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Bricks	1150	nos	6.26	7200.15	M-11
	Sand	0.84	cum	175.80	147.67	M-004
	Cement	0.28	cum	7811.80	2187.30	M-1 P
	Total				9535.13	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	5	nos	287.00	1435.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				2631.00	
					12166.13	
	Add Overhead charge & C.P@15%				1824.92	
					13991.04	
						4940.34
	Rate per cum	Say Rs		4940.30	Per M ³	
5.4.2	Brick work in designation 100 A Brick with cement mortar (1 : 4) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc.complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put=2.832 Cum					
	Materials					
	Bricks	1150	nos	6.26	7200.15	M-11
	Sand	0.92	cum	175.80	161.74	M-004
	Cement	0.23	cum	7811.80	1796.71	M-1 P
	Total				9158.60	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	5	nos	287.00	1435.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				2631.00	
					11789.60	
	Add Overhead charge & C.P@15%				1768.44	
					13558.04	
						4787.44
	Rate per cum	Say Rs		4787.40	Per M ³	
5.4.3	Brick work in designation 100 A Brick with cement mortar (1 : 5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put= 2.832 Cum					
	Materials					
	Bricks	1150	nos	6.26	7200.15	M-11
	Sand	0.95	cum	175.80	167.01	M-004
	Cement	0.19	cum	7811.80	1484.24	M-1 P
	Total				8851.40	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	5	nos	287.00	1435.00	{SI-1}

137 ✓ *(Signature)* *(Signature)*

	Bhisti	1	nos	285.00	285.00	S II-13
	Toal				2631.00	
					11482.40	
	Add Overhead charge & C.P@15%				1722.36	
					13204.76	
	Rate per cum	Say Rs		4662.70	Per M ³	4662.70
5.4.4	Brick work in designation 100 A Brick with cement mortar (1 : 6) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc.complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Bricks	1150	nos	6.261	7200.15	M-11
	Sand	0.968	cum	175.80	170.17	M-004
	Cement	0.161	cum	7811.80	1257.70	M-1 P
					8628.02	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	5	nos	287.00	1435.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
					2631.00	
					11259.02	
	Add Overhead charge & C.P@15%				1688.85	
					12947.88	
	Rate per cum	Say Rs		4572.00	Per M ³	4571.99
5.4.5	Brick work in designation 100 A Brick with cement mortar (1 : 3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. all complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Bricks	1150	nos	6.261	7200.15	M-11
	Sand	0.84	cum	175.80	147.67	M-004
	Cement	0.28	cum	7811.80	2187.30	M-1 P
					9535.13	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	6	nos	287.00	1722.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
					2918.00	
					12453.13	
	Add Overhead charge & C.P@15%				1867.97	
					14321.09	
	Rate per cum	Say Rs		5056.90	Per M ³	5056.88
5.4.6	Brick work in designation 100 A Brick with cement mortar (1 : 4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Bricks	1150	nos	6.261	7200.15	M-11
	Sand	0.92	cum	175.80	161.74	M-004
	Cement	0.23	cum	7811.80	1796.71	M-1 P
					9158.60	


138

(Signature)

(Signature)

	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	6	nos	287.00	1722.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
					2918.00	
					12076.60	
	Add Overhead charge & C.P@15%				1811.49	
					13888.09	
						4903.99
	Rate per cum	Say Rs		4904.00	Per M ³	
5.4.7	Brick work in designation 100 A Brick with cement mortar (1 : 5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Bricks	1150	nos	6.261	7200.15	M-11
	Sand	0.95	cum	175.80	167.01	M-004
	Cement	0.19	cum	7811.80	1484.24	M-1 P
					8851.40	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	6	nos	287.00	1722.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
					2918.00	
					11769.40	
	Add Overhead charge & C.P@15%				1765.41	
					13534.81	
						4779.24
	Rate per cum	Say Rs		4779.20	Per M ³	
5.4.8	Brick work in designation 100 A Brick with cement mortar (1 : 6) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. all complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Bricks	1150	nos	6.261	7200.15	M-11
	Sand	0.968	cum	175.80	170.17	M-004
	Cement	0.161	cum	7811.80	1257.70	M-1 P
					8628.02	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	6	nos	287.00	1722.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
					2918.00	
					11546.02	
	Add Overhead charge & C.P@15%				1731.90	
					13277.93	
						4688.53
	Rate per cum	Say Rs		4688.50	Per M ³	
5.4.9	Providing rough dressed random rubble stone masonry in cement mortar (1:3) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					

139



		Unit :-Per Cum					
		Taking Out put =2.832 Cum					
Materials							
Stone boulder	2.832	cum	340.55	964.44	M-148		
Sand	1.050	cum	175.80	184.59	M-004		
Cement	0.350	cum	7811.80	2734.13	M-1 P		
				3883.16			
Labour							
Head mason	0.125	nos	388.00	48.50	{S II -3}		
Mason Gr II	2	nos	345.00	690.00	{S II- 4}		
Unskilled mazdoor	5	nos	287.00	1435.00	{SI-1}		
Bhisti	0.5	nos	285.00	142.50	S II-13		
				2316.00			
				6199.16			
Add Overhead charge & C.P@15%				929.87			
				7129.03			
						2517.31	
Rate per cum		Say Rs	2517.30	Per M ³			
5.4.10	Providing rough dressed random rubble stone masonry in cement mortar (1:4) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc.complete job as per specification and direction of E / I.						
		Unit :-Per Cum					
		Taking Out put =2.832 Cum					
Materials							
Stone boulder	2.832	cum	340.55	964.44	M-148		
Sand	1.120	cum	175.80	196.90	M-004		
Cement	0.280	cum	7811.80	2187.30	M-1 P		
				3348.64			
Labour							
Head mason	0.125	nos	388.00	48.50	{S II -3}		
Mason Gr II	2	nos	345.00	690.00	{S II- 4}		
Unskilled mazdoor	5	nos	287.00	1435.00	{SI-1}		
Bhisti	0.5	nos	285.00	142.50	S II-13		
				2316.00			
				5664.64			
Add Overhead charge & C.P@15%				849.70			
				6514.33			
						2300.26	
Rate per cum		Say Rs	2300.30	Per M ³			
5.4.11	Providing rough dressed random rubble stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc.complete job as per specification and direction of E / I.						
		Unit :-Per Cum					
		Taking Out put =2.832 Cum					
Materials							
Stone boulder	2.832	cum	340.55	964.44	M-148		
Sand	1.180	cum	175.80	207.44	M-004		
Cement	0.236	cum	7811.80	1843.58	M-1 P		
				3015.47			
Labour							
Head mason	0.125	nos	388.00	48.50	{S II -3}		
Mason Gr II	2	nos	345.00	690.00	{S II- 4}		
Unskilled mazdoor	5	nos	287.00	1435.00	{SI-1}		
Bhisti	0.5	nos	285.00	142.50	S II-13		
				2316.00			
				5331.47			
Add Overhead charge & C.P@15%				799.72			
				6131.19			
						2164.97	
Rate per cum		Say Rs	2165.00	Per M ³			

R 140

g

(Signature)

(Signature) R

5.4.12	Providing rough dressed random rubble/coarse stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Stone boulder	2.832	cum	340.55	964.44	M-148
	Sand	1.050	cum	175.80	184.59	M-004
	Cement	0.350	cum	7811.80	2734.13	M-1 P
					3883.16	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2	nos	345.00	690.00	{S II- 4}
	Unskilled mazdoor	6.25	nos	287.00	1793.75	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
					2674.75	
					6557.91	
	Add Overhead charge & C.P@15%				983.69	
					7541.59	
						2662.99
	Rate per cum	Say Rs		2663.00	Per M ³	
5.4.13	Providing rough dressed random rubble/coarse stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc.complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Stone boulder	2.832	cum	340.55	964.44	M-148
	Sand	1.120	cum	175.80	196.90	M-004
	Cement	0.280	cum	7811.80	2187.30	M-1 P
					3348.64	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2	nos	345.00	690.00	{S II- 4}
	Unskilled mazdoor	6.25	nos	287.00	1793.75	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
					2674.75	
					6023.39	
	Add Overhead charge & C.P@15%				903.51	
					6926.90	
						2445.94
	Rate per cum	Say Rs		2445.90	Per M ³	
5.4.14	Providing rough dressed random rubble /coarse stone masonry in cement mortar (1:5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Stone boulder	2.832	cum	340.55	964.4376	M-148
	Sand	1.18	cum	175.8	207.444	M-004
	Cement	0.236	cum	7811.8	1843.5848	M-1 P
					3015.4664	
	Labour					

141



	Head mason	0.125	nos	388	48.5	{S II -3}
	Mason Gr II	2	nos	345	690	{S II- 4}
	Unskilled mazdoor	6.25	nos	287	1793.75	{SI-1}
	Bhisti	0.5	nos	285	142.5	S II-13
					2674.75	
					5690.2164	
	Add Overhead charge & C.P@15%				853.53246	
					6543.74886	
						2310.645784
	Rate per cum	Say Rs		2310.60	Per M ³	
5.4.15	Providing rough dressed coarse rubble stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Stone boulder	2.832	cum	340.55	964.44	M-148
	Sand	1.050	cum	175.80	184.59	M-004
	Cement	0.350	cum	7811.80	2734.13	M-1 P
					3883.16	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2	nos	345.00	690.00	{S II- 4}
	Unskilled mazdoor	6.25	nos	287.00	1793.75	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
					2674.75	
					6557.91	
	Add Overhead charge & C.P@15%				983.69	
					7541.59	
						2662.99
	Rate per cum	Say Rs		2663.00	Per M ³	
5.4.16	Providing rough dressed coarse rubble stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					
	Stone boulder	2.832	cum	340.55	964.44	M-148
	Sand	1.120	cum	175.80	196.90	M-004
	Cement	0.280	cum	7811.80	2187.30	M-1 P
					3348.64	
	Labour					
	Head mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	2	nos	345.00	690.00	{S II- 4}
	Unskilled mazdoor	6.25	nos	287.00	1793.75	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
					2674.75	
					6023.39	
	Add Overhead charge & C.P@15%				903.51	
					6926.90	
						2445.94
	Rate per cum	Say Rs		2445.90	Per M ³	
5.4.17	Providing rough dressed coarse stone masonry in cement mortar (1:5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Materials					

R

142

y - (Signature)

(Signature) R

Stone boulder	2.832	cum	340.55	964.44	M-148
Sand	1.180	cum	175.80	207.44	M-004
Cement	0.236	cum	7811.80	1843.58	M-1 P
				3015.47	
Labour					
Head mason	0.125	nos	388.00	48.50	{S II -3}
Mason Gr II	2	nos	345.00	690.00	{S II- 4}
Unskilled mazdoor	6.25	nos	287.00	1793.75	{SI-1}
Bhisti	0.5	nos	285.00	142.50	S II-13
				2674.75	
				5690.22	
Add Overhead charge & C.P@15%				853.53	
				6543.75	
					2310.65
Rate per cum	Say Rs		2310.60	Per M ³	

a
(B)mm
a
a

ye
Udy

5.5. PLASTER WORK

Sr.No.	Item	Rate	Unit
5.5.1	Providing 12 mm thick cement plaster (1: 3) with approved quality sand of requisite F.M, washed and screened including curing, scaffolding wherever required, and its removal, royalty etc. all complete job as per specification and direction of E / I.	157.90	Per M ²
5.5.2	Providing 12 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.	149.30	Per M ²
5.5.3	Providing 12 mm thick cement plaster (1:5) with approved quality sand of requisite F.M,washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.	143.60	Per M ²
5.5.4	Providing 25 mm thick cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.	257.90	Per M ²
5.5.5	Providing 25 mm thick cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal, royalty etc. complete job as per specification and direction of E / I.	241.90	Per M ²
5.5.6	Providing 25 mm thick cement plaster (1:5) with approved quality sand of requisite F.M,washed and screened including curing, scaffolding wherever and its removal , royalty etc. complete job as per specification and direction of E / I.	228.80	Per M ²
5.5.7	Providing 12 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal , royalty etc.complete job as per specification and direction of E / I.	168.20	Per M ²
5.5.8	Providing 25 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.	278.70	Per M ²
5.5.9	Providing 25 mm thick water proof cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal , royalty etc. complete job as per specification and direction of E / I.	262.70	Per M ²
5.5.10	Providing 1.5 mm thick cement punning including curing complete job as per specification and direction of E / I.	46.70	Per M ²
5.5.11	Providing cement ruled pointing (1:3) with approved quality sand of requisite F.M, washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal., royalty etc. complete job as per specification and direction of E / I.	149.30	Per M ²
5.5.12	Providing cement flush pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.	110.20	Per M ²

R

144

P.M.

y

B 12

Dey

5.5.13	Providing cement truck pointing (1:3) on Brick work with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.	162.50	Per M ²
5.5.14	Providing cement truck pointing (1:3) on stone masonry with approved quality sand of requisite F.M , washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal., royalty etc. complete job as per specification and direction of E / I.	210.50	Per M ²

R

(3/10/20)

y

3/10/20

Only

5.5. PLASTER WORK

Sl.No.	Description	Quantity	Unit	Rate	Amount	
5.5.1	Providing 12 mm thick cement plaster (1:3) with approved quality of sand of requisite F.M, washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.043	cum	7811.80	335.91	M-1 P
	Sand	0.129	cum	175.80	22.68	M-004
	Total				358.59	
	Labour					
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	1.5	nos	287.00	430.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				918.00	
					1276.59	
	Add Overhead charge & C.P@15%,				191.49	
					1468.07	
						157.86
	Rate per sqm	Say Rs		157.90	Per M ²	
5.5.2	Providing 12 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.034	cum	7811.80	265.60	M-1 P
	Sand	0.136	cum	175.80	23.91	M-004
	Total				289.51	
	Labour					
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	1.5	nos	287.00	430.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				918.00	
					1207.51	
	Add Overhead charge & C.P@15%				181.13	
					1388.64	
						149.32
	Rate per sqm	Say Rs		149.30	Per M ²	
5.5.3	Providing 12 mm thick cement plaster (1: 5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.028	cum	7811.80	218.73	M-1 P
	Sand	0.140	cum	175.80	24.61	M-004
	Total				243.34	
	Labour					
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	1.5	nos	287.00	430.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				918.00	
					1161.34	
	Add Overhead charge & C.P@15%				174.20	
					1335.54	
						143.61

Q 146

Handwritten signatures and initials.

5.5.4	Rate per sqm Providing 25 mm thick cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.	Say Rs		143.60	Per M ²	
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.085	cum	7811.80	664.00	M-1 P
	Sand	0.250	cum	175.80	43.95	M-004
	Total				707.95	
	Labour					
	Mason Gr II	1.5	nos	345.00	517.50	{S II- 4}
	Unskilled mazdoor	2.5	nos	287.00	717.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				1377.50	
					2085.45	
	Add Overhead charge & C.P@15%				312.82	
					2398.27	
						257.88
	Rate per sqm	Say Rs		257.90	Per M ²	
5.5.5	Providing 25 mm thick cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.068	cum	7811.80	531.20	M-1 P
	Sand	0.272	cum	175.80	47.82	M-004
	Total				579.02	
	Labour					
	Mason Gr II	1.5	nos	345.00	517.50	{S II- 4}
	Unskilled mazdoor	2.5	nos	287.00	717.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				1377.50	
					1956.52	
	Add Overhead charge & C.P@15%				293.48	
					2250.00	
						241.94
	Rate per sqm	Say Rs		241.90	Per M ²	
5.5.6	Providing 25 mm thick cement plaster (1:5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.056	cum	7811.80	437.46	M-1 P
	Sand	0.200	cum	175.80	35.16	M-004
	Total				472.62	
	Labour					
	Mason Gr II	1.5	nos	345.00	517.50	{S II- 4}
	Unskilled mazdoor	2.5	nos	287.00	717.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				1377.50	
					1850.12	
	Add Overhead charge & C.P@15%				277.52	
					2127.64	
						228.78
	Rate per sqm	Say Rs		228.80	Per M ²	

R

147

— (Signature)

(Signature)

5.5.7	Providing 12 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M., washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.043	cum	7811.80	335.91	M-1 P
	Sand	0.129	cum	175.80	22.68	M-004
	Cost of water proofing compound (Cico)	2.4	Kg	35.00	84.00	{1213}
	Total				442.59	
	Labour					
	Mason Gr II	1	nos	345.00	345	{S II- 4}
	Unskilled mazdoor	1.5	nos	287.00	430.5	{SI-1}
	Bhisti	0.5	nos	285.00	142.5	S II-13
	Total				918	
					1360.59	
	Add Overhead charge & C.P@15%				204.09	
					1564.67	
						168.24
	Rate per sqm	Say Rs		168.20	Per M ²	
5.5.8	Providing 25 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.085	cum	7811.80	664.00	M-1 P
	Sand	0.250	cum	175.80	43.95	M-004
	Cost of water proofing compound (Cico)	4.8	Kg	35.00	168.00	{1213}
	Total				875.95	
	Labour					
	Mason Gr II	1.5	nos	345.00	517.50	{S II- 4}
	Unskilled mazdoor	2.5	nos	287.00	717.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	total				1377.50	
					2253.45	
	Add Overhead charge & C.P@15%				338.02	
					2591.47	
						278.65
	Rate per sqm	Say Rs		278.70	Per M ²	
5.5.9	Providing 25 mm thick water proof cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.068	cum	7811.80	531.20	M-1 P
	Sand	0.272	cum	175.80	47.82	M-004
	Cost of water proofing compound (Cico)	4.8	Kg	35.00	168.00	{1213}
	Total				747.02	
	Labour					
	Mason Gr II	1.5	nos	345.00	517.50	{S II- 4}
	Unskilled mazdoor	2.5	nos	287.00	717.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				1377.50	
					2124.52	
	Add Overhead charge & C.P@15%				318.68	
					2443.20	

R

148

y (P2)M

Q
Aly R

5.5.13	Providing cement truck pointing (1:3) on Brick work with approved quality sand of requisite F.M washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.021	cum	7811.80	164.05	M-1 P
	Sand	0.063	cum	175.80	11.08	M-004
	Total				175.12	
	Labour					
	Head Mason	0.125	nos	388.00	48.50	{S II -3}
	Mason Gr II	1.5	nos	345.00	517.50	{S II- 4}
	Unskilled mazdoor	1.5	nos	287.00	430.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				1139.00	
					1314.12	
	Add Overhead charge & C.P@15%				197.12	
					1511.24	
						162.50
	Rate per sqm	Say Rs		162.50	Per M ²	
5.5.14	Providing cement truck pointing (1:3) on stone masonry with approved quality sand of requisite F.M, washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Cement	0.032	cum	7811.80	249.98	M-1 P
	Sand	0.096	cum	175.80	16.88	M-004
	Total				266.85	
	Labour					
	Mason Gr II	2.5	nos	345.00	862.50	{S II- 4}
	Unskilled mazdoor	1.5	nos	287.00	430.50	{SI-1}
	Bhisti	0.5	nos	285.00	142.50	S II-13
	Total				1435.50	
					1702.35	
	Add Overhead charge & C.P@15%				255.35	
					1957.71	
						210.51
	Rate per sqm	Say Rs		210.50	Per M ²	

a

x

2
Dey

5.6 HUME PIPE LAYING

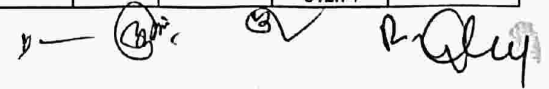
Sr.No.	Item	Rate	Unit
5.6.1	Labour for laying, fitting and fixing NP ₂ pipe with collars in line level and grade as well providing approved jointing materials and joints properly filled to make them water proof all complete as per specification and direction of E / I.		
5.6.1.1	150 mm dia NP ₂ H.P	166.10	Per M
5.6.1.2	225 mm dia NP ₂ H.P	257.20	Per M
5.6.1.3	300 mm dia NP ₂ H.P	303.70	Per M
5.6.1.4	450 mm dia NP ₂ H.P	472.30	Per M
5.6.1.5	600 mm dia NP ₂ H.P	584.90	Per M
5.6.1.6	700 mm or 800 mm dia NP ₂ H.P	639.40	Per M
5.6.1.7	900 mm dia or 1000 mm dia NP ₂ H.P	771.10	Per M
5.6.1.8	1200 mm dia NP ₂ H.P	1014.60	Per M
5.6.2	Labour for laying, fitting and fixing NP ₂ pipe with collars in line level and grade as well providing approved jointing materials and joints properly filled to make them water proof all complete as per specification and direction of E / I. (Hume pipe available within a lead of 40 M)		
5.6.2.1	450 mm dia NP ₃ H.P	476.90	Per M
5.6.2.2	600 mm dia NP ₃ H.P	496.90	Per M
5.6.2.3	700 mm or 800 mm dia NP ₃ H.P	815.40	Per M
5.6.2.4	900 mm dia or 100 mm dia NP ₃ H.P	1182.30	Per M
5.6.2.5	1200 mm dia NP ₃ H.P	1416.90	Per M

5.6 HUME PIPE LAYING

Sl.No.	Description	quantity	Unit	Rate	Amount	Ref.
5.6.1	Labour for laying, fitting and fixing NP ₂ pipe with collars in line level and grade as well providing approved jointing materials and joints properly filled to make them water proof all complete as per specification and direction of E / I.					
5.6.1.1	150 mm dia NP ₂ H.P					
	Unit :-Per M					
	Taking Out put =8.0M					
	(Assuming 4 pipes of 2 M length and three collars)					
	Materials					
	Cement	0.011	cum	7811.80	85.93	M-1 P
	Sand	0.011	cum	175.80	1.93	M-004
	Jute	1.5	Kg	20.44	30.66	M SI No.-257
	Total				118.52	
	Labour					
	Head Mason	0.5	nos	388.00	194.00	{S II -3}
	Unskilled mazdoor	2.25	nos	287.00	645.75	{SI-1}
	Fitter Gr I	0.5	nos	395.00	197.50	S I-8
	Total				1037.25	
	Add Overhead charge & C.P@15%				1155.77	
					173.37	
					1329.14	
	Rate per M	Say	Rs	166.10	Per M	166.14
5.6.1.2	225 mm dia NP ₂ H.P					
	Unit :-Per M					
	Taking Out put =8.0M					
	(Assuming 4 pipes of 2 M length and three collars)					
	Materials					
	Cement	0.014	cum	7811.80	109.37	M-1 P
	Sand	0.014	cum	175.80	2.46	M-004
	Jute	2	Kg	20.44	40.88	M SI No.-257
	Total				152.71	
	Labour					
	Head Mason	0.75	nos	388.00	291.00	{S II -3}
	Unskilled mazdoor	4	nos	287.00	1148.00	{SI-1}
	Fitter Gr I	0.5	nos	395.00	197.50	S I-8
	Total				1636.50	
	Add Overhead charge & C.P@15%				1789.21	
					268.38	
					2057.59	
	Rate per M	Say	Rs	257.20	Per M	257.20
5.6.1.3	300 mm dia NP ₂ H.P					
	Unit :-Per M					
	Taking Out put =10.0M					
	(Assuming 4 pipes of 2.5 mtr length and three collars)					
	Materials					
	Cement	0.023	cum	7811.80	179.67	M-1 P
	Sand	0.023	cum	175.80	4.04	M-004
	Jute	2.5	Kg	20.44	51.10	M SI No.-257
	Total				234.81	
	Labour					
	Head Mason	1	nos	388.00	388.00	{S II -3}
	Unskilled mazdoor	6	nos	287.00	1722.00	{SI-1}
	Fitter Gr I	0.75	nos	395.00	296.25	S I-8
	Total				2406.25	
	Add Overhead charge & C.P@15%				2641.06	
					396.16	
					3037.22	
	Rate per M	Say	Rs	303.70	Per M	303.72

@ 152 y (P20) R. Udy

5.6.1.4	450 mm dia NP ₂ H.P					
		Unit :-Per M				
		Taking Out put =7.5 M				
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.028	cum	7811.80	218.73	M-1 P
	Sand	0.028	cum	175.80	4.92	M-004
	Jute	3.25	Kg	20.44	66.43	M SI No.-257
	Total				290.08	
	Labour					
	Head Mason	1.25	nos	388.00	485.00	{S II -3}
	Unskilled mazdoor	7	nos	287.00	2009.00	{SI-1}
	Filter Gr I	0.75	nos	395.00	296.25	S I-8
	Total				2790.25	
					3080.33	
	Add Overhead charge & C.P@15%				462.05	
					3542.38	
						472.32
	Rate per M	Say	Rs	472.30	Per M	
5.6.1.5	600 mm dia NP ₂ H.P					
		Unit :-Per M				
		Taking Out put =7.5 M				
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.034	cum	7811.80	265.60	M-1 P
	Sand	0.034	cum	175.80	5.98	M-004
	Jute	4	Kg	20.44	81.76	M SI No.-257
	Total				353.34	
	Labour					
	Head Mason	1.5	nos	388.00	582.00	{S II -3}
	Unskilled mazdoor	9	nos	287.00	2583.00	{SI-1}
	Filter Gr I	0.75	nos	395.00	296.25	S I-8
					3461.25	
					3814.59	
	Add Overhead charge & C.P@15%				572.19	
					4386.78	
						584.90
	Rate per M	Say	Rs	584.90	Per M	
5.6.1.6	700 mm or 800 mm dia NP ₂ H.P					
		Unit :-Per M				
		Taking Out put =7.5 M				
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.040	cum	7811.80	312.47	M-1 P
	Sand	0.040	cum	175.80	7.03	M-004
	Jute	5	Kg	20.44	102.20	M SI No.-257
	Total				421.70	
	Labour					
	Head Mason	1.5	nos	388.00	582.00	{S II -3}
	Unskilled mazdoor	10	nos	287.00	2870.00	{SI-1}
	Filter Gr I	0.75	nos	395.00	296.25	S I-8
					3748.25	
					4169.95	
	Add Overhead charge & C.P@15%				625.49	
					4795.45	
						639.39
	Rate per M	Say	Rs	639.40	Per M	
5.6.1.7	900 mm dia or 1000 mm dia NP ₂ H.P					
		Unit :-Per M				
		Taking Out put =7.5 M				
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.045	cum	7811.80	351.53	M-1 P
	Sand	0.045	cum	175.80	7.91	M-004
	Jute	7.5	Kg	20.44	153.30	M SI No.-257
	Total				512.74	

153 

	Labour					
	Head Mason	2	nos	388.00	776.00	{S II -3}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Filter Gr I	0.75	nos	395.00	296.25	S I-8
	Total				4516.25	
	Add Overhead charge & C.P@15%				5028.99	
					754.35	
					5783.34	
	Rate per M	Say	Rs	771.10	Per M	771.11
5.6.1.8	1200 mm dia NP₂ H.P					
	Unit :-Per M					
	Taking Out put =7.5 M					
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.057	cum	7811.80	445.27	M-1 P
	Sand	0.057	cum	175.80	10.02	M-004
	Jute	10	Kg	20.44	204.40	M SI No.-257
					659.69	
	Labour					
	Head Mason	2.5	nos	388.00	970.00	{S II -3}
	Unskilled mazdoor	16	nos	287.00	4592.00	{SI-1}
	Filter Gr I	1	nos	395.00	395.00	S I-8
					5957.00	
	Add Overhead charge & C.P@15%				6616.69	
					992.50	
					7609.20	
	Rate per M	Say	Rs	1014.60	Per M	1014.56
5.6.2	Labour for laying, fitting and fixing NP ₃ pipe with collars in line level and grade as well providing approved jointing materials and joints properly filled to make them water proof all complete as per specification and direction of E / I. (Hume pipe available within a lead of 40 mtr)					
5.6.2.1	450 mm dia NP₃ H.P					
	Unit :-Per M					
	Taking Out put =7.5 M					
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.028	cum	7811.80	218.73	M-1 P
	Sand	0.028	cum	175.80	4.92	M-004
	Jute	3.25	Kg	20.44	66.43	M SI No.-257
					290.08	
	Labour					
	Head Mason	1.250	nos	388.00	485.00	{S II -3}
	Unskilled mazdoor	7	nos	287.00	2009.00	{SI-1}
	Filter Gr I	0.825	nos	395.00	325.88	S I-8
					2819.88	
	Add Overhead charge & C.P@15%				3109.96	
					466.49	
					3576.45	
	Rate per M	Say	Rs	476.90	Per M	476.86
5.6.2.2	600 mm dia NP₃ H.P					
	Unit :-Per M					
	Taking Out put =7.5 M					
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.034	cum	7811.80	265.60	M-1 P
	Sand	0.034	cum	175.80	5.98	M-004
	Jute	4	Kg	20.44	81.76	M SI No.-257
	Total				353.34	
	Labour					
	Head Mason	1.50	nos	388.00	582.00	{S II -3}
	Unskilled mazdoor	7	nos	287.00	2009.00	{SI-1}

R 154

M (Signature)

R (Signature)

	Filter Gr I	0.750	nos	395.00	296.25	S I-8
	Total				2887.25	
					3240.59	
	Add Overhead charge & C.P@15%				486.09	
					3726.68	
						496.89
	Rate per M	Say	Rs	496.90	Per M	
5.6.2.3	700 mm or 800 mm dia NP ₃ H.P					
	Unit :-Per M					
	Taking Out put=7.5 M					
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.040	cum	7811.80	312.47	M-1 P
	Sand	0.040	cum	175.80	7.03	M-004
	Jute	5	Kg	20.44	102.20	M SI No.-257
	Total				421.70	
	Labour					
	Head Mason	1.5	nos	388.00	582.00	{S II -3}
	Unskilled mazdoor	14	nos	287.00	4018.00	{SI-1}
	Filter Gr I	0.75	nos	395.00	296.25	S I-8
	Total				4896.25	
					5317.95	
	Add Overhead charge & C.P@15%				797.69	
					6115.65	
						815.42
	Rate per M	Say	Rs	815.40	Per M	
5.6.2.4	900 mm dia or 1000 mm dia NP ₃ H.P					
	Unit :-Per M					
	Taking Out put=7.5 M					
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.045	cum	7811.80	351.53	M-1 P
	Sand	0.045	cum	175.80	7.91	M-004
	Jute	7.5	Kg	20.44	153.30	M SI No.-257
	Total				512.74	
	Labour					
	Head Mason	2	nos	388.00	776.00	{S II -3}
	Unskilled mazdoor	21	nos	287.00	6027.00	{SI-1}
	Filter Gr I	1	nos	395.00	395.00	S I-8
	Total				7198.00	
					7710.74	
	Add Overhead charge & C.P@15%				1156.61	
					8867.35	
						1182.31
	Rate per M	Say	Rs	1182.30	Per M	
5.6.2.5	1200 mm dia NP ₂ H.P					
	Unit :-Per M					
	Taking Out put=7.5 M					
	(Assuming 3 pipes of 2.5 mtr length and 2 collars)					
	Materials					
	Cement	0.057	cum	7811.80	445.27	M-1 P
	Sand	0.057	cum	175.80	10.02	M-004
	Jute	12	Kg	20.44	245.28	M SI No.-257
	Total				700.57	
	Labour					
	Head Mason	2.5	nos	388.00	970.00	{S II -3}
	Unskilled mazdoor	25	nos	287.00	7175.00	{SI-1}
	Filter Gr I	1	nos	395.00	395.00	S I-8
	Total				8540.00	
					9240.57	
	Add Overhead charge & C.P@15%				1386.09	
					10626.66	
						1416.89
	Rate per M	Say	Rs	1416.90	Per M	

155

155

155

155

5.7 PITCHING AND PILING

Sr.No.	Item	Rate	Unit
5.7.1	Labour for making 150 mm to 200 mm dia Sal ballah piles including cutting to size and dressing, making shoes for driving etc.all complete as per specification and direction of E / I.	19.80	Per pile
5.7.2	Providing two coats of coal tar painting over 150 mm to 200 mm dia Sal ballah piles and labour for driving it below ground level upto 5 meter including cost of all tools and plants required for the job all complete as per specification and direction of E / I.	216.70	Per M
5.7.3	Labour for fitting and fixing 100 mm to 150 mm dia sal ballah cross pieces 1350 mm length in position with 16 mm dia bolts, nuts and washers at each joints including the cost of bolts nuts and washers all complete job as per specification and direction of E / I.	81.70	Per M
5.7.4	Labour for fitting and fixing 150 mm dia sal ballah in position as back stay with 16 mm dia bolts, nuts and washers at each joints including the cost of bolts nuts and washers complete job as per specification and direction of E / I.	38.10	Per M
5.7.5	Labour for fitting and fixing 100 mm to 150 mm dia sal ballah walling pieces with 16 mm dia bolts, nuts and washers at each joints including the cost of bolts nuts and washers complete job as per specification and direction of E / I.	52.10	Per M
5.7.6	Labour for fitting and fixing 150 mm to 200 mm dia sal ballah piles with two nos 16 mm dia 225 mm long nuts and washers including the cost of bolts nuts and washers complete job as per specification and direction of E / I.	103.70	Per M
5.7.7	Labour for cutting 62 mm to 75 mm dia sal bamboo piles to size and making shoes and driving etc. complete job as per specification and direction of E / I.	30.30	Per M
5.7.8	Labour for fitting and fixing split bamboo woven chachari in position with 20 swg G.I. wire or 75 mm to 100 mm long nails alternatively including cost of G.I. wire or nails complete job as per specification and direction of E / I.	79.90	Per M ²
5.7.9	Labour for fitting and fixing 62mm to 75 mm dia bamboo runners in position at every vertical pile with 150 mm long nails or 38 swg G.I. wire including cost of G.I. wire or nails complete job as per specification and direction o E / I.	5.40	Per M
5.7.10	Providing two coats of coal tar painting over 150 mm to 200 mm dia Sal ballah piles and labour for driving it below ground level in running water upto complete job as per specification and direction of E / I.	466.90	Per M
5.7.11	Labour for fitting and fixing 75 mm dia sal ballah runners on sal ballah verticals including cost of nails or spikes for fixing the same complete job as per specification and direction of E / I.	22.20	Per M
5.7.12	Labour for fitting and fixing 75 mm but upto 150 mm dia sal ballah runners on sal ballah verticals including cost of nails or spikes for fixing the same complete job as per specification and direction of E / I.	32.60	Per M
5.7.13	Labour for laying fine filter (Sand) or coarse dry graded filter either of jhama khoa or stone metal or stone chips under brick pitching or boulder pitching in slope and apron including light ramming etc.all complete job as per specification and direction of E / I.	349.60	Per M ³
5.7.13(b)	Labour for laying River bed Material (70 % 40 mm to 20 mm size and 30 % Less than 20 mm and Sand) including light ramming etc.all complete job as per specification and direction of E / I.	247.50	Per M ³
5.7.14	Providing brick flat soling with designation 100A bricks joints filled with coarse sand of approved quality including royalty etc. all complete as per approved design, specifications and direction of E/I	291.60	Per M ²
5.7.15	Providing brick on edge soling with designation 100A bricks joints filled with coarse sand of approved quality including royalty etc. all complete as per approved design, specifications and direction of E/I	463.10	Per M ²

156

5.7.16	Providing pitching work with designation 100A bricks in panel and in herring bond pattern one brick on edge over a brick flat soling joints filled with local sand free from clay contents including royalty etc. all complete as per approved design, specifications and direction of E/I	754.70	Per M ²
5.7.17	Providing pitching work with designation 100A bricks in panel two brick on edge over a brick flat soling joints filled with local sand free from clay contents including royalty etc. all complete as per approved design, specifications and direction of E/I	1261.20	Per M ²
5.7.18.1	Labour charge for pitching work on apron slope of bank with stone boulder duly packed (Uncreated complete job) materials within 150 m lead with all lifts, including royalty etc. all complete as per approved design, specifications and direction of E/I	838.10	Per M ³
5.7.18.2	Labour charge for pitching work on apron slope of bank with stone boulder duly packed (Uncreated complete job) materials within 50 m lead with all lifts, including royalty etc. all complete as per approved design, specifications and direction of E/I	372.00	Per M ³
5.7.19	Labour charge for stone boulder (uncreated) laying in launching apron and slope (materials within 150 m lead all lifts), all complete as per approved design, specifications and direction of E/I	826.40	Per M ³
5.7.20	Labour charge for pitching with jhama bricks closely packed over apron and including preparation of base, making proper slope and grade etc. all complete (materials within 150 m lead with all lifts) as per approved design, specifications and direction of E/I	769.30	Per M ³
5.7.21.1	Labour charge for pitching above water on apron and slope of bank with boulder in crates of specified size (material within 150 mtr lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I	1016.50	Per M ³
5.7.21.2*	Labour charge for pitching above water in apron and slope of bank with boulder in crates of specified size (material within 50 M lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I	492.00	Per M ³
5.7.22	Labour charge for pitching under water in apron and slope of bank with boulder in crates of specified size (material within 150 M lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I	1170.30	Per M ³
5.7.23	Labour charge for pitching under water in apron and slope with rubble having 600 mm to 300 mm size with all leads and lifts including royalty etc. all complete as per approved design, specifications and direction of E/I	1149.00	Per M ³
5.7.24.1	Labour charge for pitching above water in apron and slope of bank with bricks packed in crates of specified size (material within 150 mtr lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I	979.20	Per M ³
5.7.24.2	Labour charge for pitching above water in apron and slope of bank with bricks packed in crates of specified size (material within 50 mtr lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I	454.80	Per M ³
5.7.24.3	Extra for each lead of 30 M over the initial lead of 50 M (Boulder or Brick) as per approved design, specifications and direction of E/I	147.80	Per M ³
5.7.25	Labour charge for pitching under water in apron and slope of bank with bricks packed in crates of specified size (material within 150 mtr lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I	1228.60	Per M ³

R

✓





157

5.7.26	Providing brick block in designation 100 A bricks of size 600 x 600 x 300 mm for pitching in cement mortar (1:3) with approved quality of sand of requisite F.M. over 150 mm dry khoa rammed to make the inter spaces closer, keeping the thickness intact including royalty etc. complete job as per approved design, specifications and direction of E/I	2171.40	Per M ²
5.7.27	Providing brick block in designation 100 A bricks of size 600 x 600 x 300 mm duly pointed in cement mortar (1:3) with coarse sand of approved quality for staggered pitching over 150 mm dry khoa filter rammed to make the inter spaces closer, keeping the thickness intact. The inter spaces of blocks to be filled with coarse sand of approved quality including royalty etc. complete job as per approved design, specifications and direction of E/I	2221.20	Per M ²
5.7.28	Providing brick block in designation 100 A bricks of size 600 x 600 x 200 mm duly pointed in cement mortar (1:4) with coarse sand of approved quality for staggered pitching over 100 mm dry khoa filter rammed to make the inter spaces closer, keeping the thickness intact. The inter spaces of blocks to be filled with coarse sand of approved quality including royalty etc. complete job as per approved design, specifications and direction of E/I	1456.00	Per M ²
5.7.29.1	Supplying fitting and packing jhawa bush wood Kans grass or local wood brush in bundle of 600 mm dia tied with coir string as per specification including loading, unloading, stacking and carriage upto 1 K.M. lead etc.all complete job as per approved design, specifications and direction of E/I	#VALUE!	Per M ³
5.7.29.2	Extra for carriage of jhankhi for subsequent K.M. beyond initial 1st K.M.by bullock cart.	#VALUE!	Per K.M/ M ³
5.7.30	Supplying palm leaves and fixing in position all complete job as per approved design, specifications and direction of E/I	#VALUE!	Per % nos
5.7.31	Labour charge for making crates including cutting Taranga wire roll of suitable size from G.I. wire in 8 nos.including cutting the wire and tying the joints with binding wire and making square mesh of 100 mm to 150 mm double knotted with 6 to 10 S.W.G. wire as per approved design, specifications and direction of E/I	32.00	Per M ²
5.7.32.A	(a).Labour charge for making crates box of size 3m x 1.5m x 0.6m including cutting of G.I wire or B.A wire, weaving of wire to make it Taranga wire having 150 mm square mesh with double knotte with 8 & 10 S.W.G. wire as per approved design, specifications and direction of E/I	178.40	Each
5.7.32.B	(a)Labour charge for making crates box size 3m x 1.5m x 0.6m including cutting of G.I wire or B.A.wire, weaving of wire to make it Taranga wire having 100 mm square mesh with double knotte with 8 &10 S.W.G. wire as per approved design, specifications and direction of E/I	305.30	Each
5.7.32.C	(a).Labour charge for making crates box of size 3m x 1.5m x 0.75m including cutting of G.I wire or B.A wire, weaving of wire to make it Taranga wire having 150 mm square mesh with double knotte with 8 & 10 S.W.G. wire as per approved design, specifications and direction of E/I	196.20	Each
5.7.32.D	(a)Labour charge for making crates box size 3m x 1.5m x 0.75m including cutting of G.I wire or B.A.wire, weaving of wire to make it Taranga wire having 100 mm square mesh with double knotte with 8 &10 S.W.G. wire as per approved design, specifications and direction of E/I	334.30	Each
5.7.33	(a)Labour charge for fitting and fixing empty coal tar drum sheets at piles in position with G.I. nails including cutting the coal tar drum and making it plain as per approved design, specifications and direction of E/I	126.70	Per M ²
5.7.34	Supplying G.I wire crates of size 3 M x 1.5 M x 0.75 M and 100 mm square mesh made out of G.I wire 8 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	2864.30	Each
5.7.35.1	Supplying wire mesh crates of size 3 M x 1.5 M x 0.75 M and 100 mm square mesh made out of G.I wire 10 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	2488.20	Each

158

5.7.35.2	Supplying wire mesh crates of size 3 M x 1.5 M x 0.60 M and 100 mm square mesh made out of G.I wire 10 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	2249.00	Each
5.7.36.1	Supplying wire mesh crates of size 3M x 1.5 M x 0.75 M and 150 mm square mesh made out of G.I wire 10 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	1699.90	Each
5.7.36.2	Supplying wire mesh crates of size 3 M x 1.5 M x 0.60 M and 150 mm square mesh made out of G.I wire 10 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	1552.40	Each
5.7.37.1	Supplying wire mesh crates of size 3M x 1.5 M x 0.75 M and 100 mm square mesh made out of B.A.wire 10 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	2290.10	Each
5.7.37.2	Supplying wire mesh crates of size 3M x 1.5 M x 0.60 M and 100 mm square mesh made out of Black annealed wire 10 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	2070.20	Each
5.7.38.1	Supplying wire mesh crates of size 3 M x 1.5 M x 0.75 M and 150 mm square mesh made out of B.A.wire 10 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	1561.50	Each
5.7.38.2	Supplying wire mesh crates of size 3 M x 1.5 M x 0.60 M and 150 mm square mesh made out of Black annealed wire 10 S.W.G. double knotte at each joints in box type etc. all complete as per approved design, specifications and direction of E/I	1426.00	Each
5.7.39.1	Carriage of boulder and metals by boat including, loading, unloading and stacking with lead of 1 K.M.all complete as per approved design, specifications and direction of E/I	972.00	Per M ³
5.7.39.2	Extra for carriage of boulder and metals by boat including, loading, unloading and stacking beyond 1 K.M. but upto 4 K.M.all complete as per approved design, specifications and direction of E/I	44.60	Per K.M /M ³
5.7.39.3	Carriage of Filled E.C Bags by boat including loading, unloading and stacking with lead of 1/2 K.M.all complete as per approved design, specifications and direction of E/I	1295.90	Per % nos
5.7.40.1	Labour for filling empty cement bags with local sand, stitching the bags and placing including supply of sutli etc. all complete as per approved design, specifications and direction of E/I	1661.70	Per % nos
A.	Labour for filling empty cement bags with local sand, stitching the bags and stacking including supply of sutli etc. all complete as per, specifications and direction of E/I	671.50	Per % nos
B.	Labour for placing sand filled E.C . Bags all complete as per specifications and direction of E/I	990.20	Per % nos
5.7.40.2	Labour for filling empty cement bags with local sand, stitching the bags and placing in Nylon crate of size (1 m x 1 m x 1 m) with a lead of 150 M including supply of sutli etc.in dry portion all complete as per approved design, specifications and direction of E/I	415.40	Each
5.7.40.3	Labour for filling empty cement bags with local sand, stitching the bags and placing in Nylon crate of size (1 m x 1 m x 1 m) with a lead of 150 M including supply of sutli etc.and placing the filled crates in water portion within a lead 30 M , all complete as per approved design, specifications and direction of E/I	679.60	Each
5.7.41	Labour charge for taking out disturbed boulder from boulder pitching or riprap or rock toe etc. and cleaning the surface and stacking the same within a lead of 100 meter as per approved design, specifications and direction of E/I	349.60	Per M ³
5.7.42	Labour charge for loading boulder and dumping etc. with all lead and lifts as per specifications and direction of E/I	349.60	Per M ³

159

5.7.43	Labour rate for fitting and fixing sal bullah runner in vertical ballah in river bed or canal bed including cost of nails complete job as per specifications and direction of E/I	34.80	Per M
5.7.44	Earth work in cutting and making slope in all kinds of soil with all leads and lifts as per specifications and direction of E/I	83.20	Per M
5.7.45.1	Providing and Laying of a Geotextile filter between pitching and embankment slopes on which pitching is laid to prevent escape of the embankment materials through the voids of the stone pitching/cement concrete block as well as to allow free movement of water without creating any uplift head on the pitching as per specifications and direction of E/I	115.90	Per M
5.7.45.2	Laying of a Geotextile filter between pitching and embankment slopes on which pitching is laid to prevent escape of the embankment materials through the voids of the stone pitching/cement concrete block as well as to allow free movement of water without creating any uplift head on the pitching as per specifications and direction of E/I	14.80	Per M
5.7.46(a)	Supplying and Placing bamboo roll each roll of 4 nos uncleaned full bamboo 75 mm dia 6 m to 8 m long at site binding properly each other in bunch with Annealed wire wire 20 to 25 SWG at least at three places along its length, 3 nos loads filled with boulder Spall in empty cement bags and tying it with B.A .Wire 8 to 10 SWG launching in river and placing in position and tying the bamboo roll at one end at least 15 M away from river bank to bamboo post ,including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I	1022.40	Each
5.7.46(b)	Supplying and Placing bamboo roll each roll of 4 nos uncleaned full bamboo 75 mm dia 6 m to 8 m long at site binding properly each other in bunch with Annealed wire 20 to 25 SWG at least at three places along its length, 3 nos loads filled with (brick 100B) in empty cement bags and tying it with B.A .Wire 8 to 10 SWG launching in river and placing in position and tying the bamboo roll at one end at least 15 M away from river bank to bamboo post , including Piling of bamboo post & royalty etc. and carriage of all materials at site all complete job as per specifications and direction of E/I	1204.50	Each
5.7.46©	Supplying and Placing bamboo roll each roll of 4 nos uncleaned full bamboo 75 mm dia 6 m to 8 m long at site binding properly each other in bunch with Annealed wire 20 to 25 SWG at least at three places along its length, 3 nos loads filled with Local sand in empty cement bags and tying it with G.I .Wire 8 to 10 SWG launching in river and placing in position and tying the bamboo roll at one end at least 15 M away from river bank to bamboo post , including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I	1013.90	Each
5.7.47(a)	Supplying making and Placing in position Tree branches and Jhankhi covering over all space of about of 2.832 M ³ providing 3 nos of loads by filling Boulder spall in E.C bags, tying with 20 to 25 SWG Annealed wire to the tree spur and anchoring the same with B.A .Wire 8 to 10 SWG to the bamboo post at least 15 M away from the river bank, including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I	#VALUE!	Each
5.7.47(b)	Supplying making and Placing in position Tree branches and Jhankhi covering over all space of about of 2.832 M ³ providing 3 nos of loads by filling Bricks (100 B) in E.C bags, tying with 20 to 25 SWG Annealed wire to the tree spur and anchoring the same with B.A .Wire 8 to 10 SWG to the bamboo post at least 15 M away from the river bank, including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I	#VALUE!	Each

R

160

(Handwritten signature)

(Handwritten signature)

5.7.47 (c)	Supplying making and Placing in position Tree branches and Jhankhi covering over all space of about of 2.832 M ³ providing 3 nos of loads by filling Local Sand in E.C bags, tying with 20 to 25 SWG Annealed wire to the tree spur and anchoring the same with B.A .Wire 8 to 10 SWG to the bamboo post at least 15 M away from the river bank, including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I	#VALUE!	Each
5.7.48	Providing , laying and filling Geo bags of size 1mx0.7m (Type A 300 GSM nonwoven) weight of bag 420 gm,volume of filled bag 0.07 cum, weight of filled Geo bag 126 kg with local sand including stiching in four lines by approved nylon thred with stiching machine and generator, stacking and placing in gabion of size 1.8mx1.8mx0.5m (18nos. Geo bags per gabion) after loading,unloading and carriage with the help of trolley within 150m lead all complete as per specification and direction of E/I	4885.00	Each
5.7.49	Supply of New bag and N.C with labour for filling New E.C bag with local sand (volume of filled bag 1.2 cft and weight 50kg),stiching on two lines by approved nylon thread with stiching machine & generator,Stacking the bags and placing in Nylon crate of size (1mx1mx1m) with a lead of 150m including supply of nylon threads etc , placing the filled crates in water portion within a lead of 30m,all complete as per approved design,specification and direction of E/I.	1030.70	Each
5.7.50	Providing,laying & filling Geo bags of size 1mX0.7m (Type A 300GSM nonwoven) Weight 420gm,volume of filled bag 0.07 cum,weight of filledf Geo bag 126kg with local sand including stiching in four lines by approved Nylon thread with stiching machine and generator,stacking and placing after loading,unloading and carriage with the help of Trolly within 150m lead and boat,including cess all complete as per specification and direction of E/I(where boat is used)	189.00	Each
5.7.51	Providing,laying & filling Geo bags of size 1mX0.7m (Type A 300GSM nonwoven) Weight 420gm,volume of filled bag 0.07 cum,weight of filledf Geo bag 126kg with local sand including stiching in four lines by approved Nylon thread with stiching machine and generator,stacking and placing in Nylon Crate of size 1.0mx1.0mx1.0m(6 nos. geo bag per N.C) after loading,unloading and carriage with the help of Trolly within 150m lead all complete as per specification and direction of E/I(where boat is used)	991.80	Each
5.7.52	Supply of New bag and N.C with labour for filling New E.C bag with local sand (volume of filled bag 1.2 cft and weight 50kg),stiching on two lines by approved nylon thread with stiching machine & generator,Stacking the bags and placing in Nylon crate of size (1mx1mx1m) with a lead of 150m including supply of nylon threads etc , placing the filled crates in dry portion within a lead of 30m,all complete as per approved design,specification and direction of E/I.	766.40	Each
5.7.53	Supply of New bag with labour for filling New E.C bag with local sand (volume of filled bag 1.2 cft and weight 50kg),stiching on two lines by approved nylon thread with stiching machine & generator,Stacking the bags and placing with a lead of 150m including supply of nylon threads etc , all complete as per approved design,specification and direction of E/I.	28.80	Each
5.7.54	Providing,laying & filling Geo bags of size 1mX0.7m (Type A 300GSM nonwoven) Weight 420gm,volume of filled bag 0.07 cum,weight of filledf Geo bag 126kg with local sand including stiching in four lines by approved Nylon thread with stiching machine and generator,stacking and placing after loading,unloading and carriage with the help of Trolly within 150m lead all complete as per specification and direction of E/I.	157.70	Each

5.7 PITCHING AND PILING

Sl.no	Description	Quantity	Unit	Rate	Amount	
5.7.1	Labour for making 150 mm to 200 mm dia Sal ballah piles including cutting to size and dressing, making shoes for driving etc.all complete as per specification and direction of E/I.					
	Unit :-Per Pile					
	Taking Out put =10 Piles					
	Labour					
	Carpenter Gr II	0.5	nos	345.00	172.50	{SI-17}
					172.50	
	Add Overhead charge & C.P@15%				25.88	
					198.38	
						19.84
	Rate per pile			19.80	Per pile	
5.7.2	Providing two coats of coal tar painting over 150 mm to 200 mm dia Sal ballah piles and labour for driving it below ground level up to 5 metre including cost of all tools and plants required for the job all complete as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =30.5 M					
	Materials					
	Coal tar	9	Kg	30.00	270.00	BCD -324
	Labour					
	Unskilled mazdoor	18	nos	287.00	5166.00	{SI-1}
	Mate	1	nos	311.00	311.00	S II-2
					5747.00	
	Add Overhead charge & C.P@15%				862.05	
					6609.05	
						216.69
	Rate per M			216.70	Per M	
5.7.3	Labour for fitting and fixing 100 mm to 150 mm dia sal ballah cross pieces 1350 mm length in position with 16 mm dia bolts, nuts and washers at each joints including the cost of bolts nuts and washers complete job as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =13.7 M					
	(Assuming 10 nos. of piles)					
	Total nos. of joints 2x10 =20 nos					
	Length of one cross pipe = 1.37 mtr					
	Hence total length 10 x 1.37 metre =13.7 mtr					
	Materials					
	Nuts and bolts 16 mm dia 375 mm long with washer etc.	20	nos	32.88	657.60	M SL No.265
	Labour					
	Carpenter Gr II	0.5	nos	345.00	172.50	{SI-17}
	Unskilled mazdoor	0.5	nos	287.00	143.50	{SI-1}
					973.6	
	Add Overhead charge & C.P@15%				146.04	
					1119.64	
						81.73
	Rate per M			81.70	Per M	
5.7.4	Labour for fitting and fixing 150 mm dia sal ballah in position as back stay with 16 mm dia bolts, nuts and washers at each joints including the cost of bolts nuts and washers complete job as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =48.80 M					
	(Assuming 10 nos. of back stay each of 4.88 mt)					
	Total nos. of joints 3x10 =30 nos					
	Length of back stay including 2 % wastage =49.8 m					
	Materials					
	Nuts and bolts 16 mm dia 375 mm long with washer etc.	30	nos	32.88	986.4	M SL No.265
	Labour					

162 yr (Signature) (Signature) (Signature)

	Carpenter Gr II	1	nos	345.00	345.00	{S I -17}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
					1618.4	
	Add Overhead charge & C.P@15%				242.76	
					1861.16	
						38.14
	Rate per M			38.10	Per M	
5.7.5	Labour for fitting and fixing 100 mm to 150 mm dia sal ballah walling pieces with 16 mm dia bolts, nuts and washers at each joints including the cost of bolts nuts and washers complete job as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =6.10 M					
	(Assuming 6.10 m long walling pieces)					
	Total nos. of joints with vertical pile at 1.22 m = 6 nos.					
	Materials					
	Nuts and bolts 16 mm dia 375 mm long with washer etc.	6	nos	32.88	197.28	M SL No.265
	Labour					
	Carpenter Gr II	0.125	nos	345.00	43.13	{S I -17}
	Unskilled mazdoor	0.125	nos	287.00	35.875	{SI-1}
					276.28	
	Add Overhead charge & C.P@15%				41.44	
					317.72	
						52.09
	Rate per M			52.10	Per M	
5.7.6	Labour for fitting and fixing 150 mm to 200 mm dia sal ballah piles with two nos 16 mm dia 225 mm long nuts and washers including the cost of bolts nuts and washers complete job as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =10 Joints					
	(Assuming 10 joints)					
	Materials					
	Nuts and bolts 16 mm dia 225 mm long with washer etc.	20	nos	32.88	657.60	M SL No.265
	Labour					
	Carpenter Gr II	0.5	nos	345.00	172.50	{S I -17}
	Unskilled mazdoor	0.25	nos	287.00	71.75	{SI-1}
					901.85	
	Add Overhead charge & C.P@15%				135.28	
					1037.13	
						103.71
	Rate per M			103.70	Per M	
5.7.7	Labour for cutting 62 mm to 75 mm dia bamboo piles to size and making shoes and driving etc. complete job as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =30.50M					
	(Assuming 20 nos. pile sunk 1.525 mtr deep)					
	Total depth sunk 30.50 meter					
	Labour					
	Carpenter Gr II	0.25	nos	345.00	86.25	{S I -17}
	Unskilled mazdoor for pilling	2.5	nos	287.00	717.50	{SI-1}
					803.75	
	Add Overhead charge & C.P@15%				120.56	
					924.31	
						30.31
	Rate per M			30.30	Per M	
5.7.8	Labour for fitting and fixing split bamboo woven chachari in position with 20 swg G.I. wire or 75 mm to 100 mm long nails alternatively including cost of G.I. wire or nails complete job as per specification and direction of E / I.					
	Unit :-Per Sqm					
	Taking Out put = 9.30 Sqm					
	(Assuming strip of 3.05x3.05 = 9.30 sqm)					
	Materials					

A

163

✓

①

②

R Qly

	75 mm to 100 mm long nails	0.25	Kg	58.00	14.50	{1219}
	Labour					
	Carpenter Gr II	1	nos	345.00	345.00	{S I -17}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
					646.5	
	Add Overhead charge & C.P@15%				96.98	
					743.48	
						79.94
	Rate per sqm			79.90	Per M ²	
5.7.9	Labour for fitting and fixing 62mm to 75 mm dia bamboo runners in position at every vertical pile with 150 mm long nails or 38 swg G.I. wire including cost of G.I. wire or nails complete job as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =30.50M					
	Materials					
	Cost of 150 mm long nails	0.5	Kg	58.00	29.00	{1219}
	Labour					
	Carpenter Gr II	0.125	nos	345.00	43.13	{S I -17}
	Unskilled mazdoor	0.25	nos	287.00	71.75	{SI-1}
	Total				114.88	
					143.88	
	Add Overhead charge & C.P@15%				21.58	
					165.46	
						5.42
	Rate per M			5.40	Per M	
5.7.10	Providing two coats of coal tar painting over 150 mm to 200 mm dia Sal ballah piles and labour for driving it below ground level in running water upto complete job as per specification and direction of E/I. (Assuming 30.5 meter of piles)					
	Unit :-Per M					
	Taking Out put=30.50 M					
	Materials					
	Coal tar	9	Kg	30.00	270.00	BCD -324
	Labour					
	Unskilled mazdoor	28	nos	287.00	8036.00	{SI-1}
	Mate	1	nos	311.00	311.00	S II-2
	Hire charge of Boat 40 Qt capacity	2	nos	1882.40	3764.80	P& M-066
					12381.80	
	Add Overhead charge & C.P@15%				1857.27	
					14239.07	
						466.85
	Rate per M			466.90	Per M	
5.7.11	Labour for fitting and fixing 75 mm dia sal ballah runners on sal ballah verticals including cost of nails or spikes for fixing the same complete job as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =30.50M					
	Materials					
	Cost of nails or spikes	2	Kg	58.00	116.00	{1219}
	Labour					
	Carpenter Gr II	0.75	nos	345.00	258.75	{S I -17}
	Unskilled mazdoor	0.75	nos	287.00	215.25	{SI-1}
					590	
	Add Overhead charge & C.P@15%				88.50	
					678.50	
						22.25
	Rate per M			22.20	Per M	
5.7.12	Labour for fitting and fixing 75 mm but upto 150 mm dia sal ballah runners on sal ballah verticals including cost of nails or spikes for fixing the same complete job as per specification and direction of E / I.					
	Unit :-Per M					
	Taking Out put =30.50M					

164

(Signature)

(Signature)

(Signature)

	Materials					
	Cost of nails or spikes	4	Kg	58.00	232.00	{1219}
	Labour					
	Carpenter Gr II	1	nos	345.00	345.00	{SI-17}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
					864.00	
	Add Overhead charge & C.P@15%				129.60	
					993.60	
						32.58
	Rate per M	Say Rs		32.60	Per M	
5.7.13	Labour for laying fine filter (Sand) or coarse dry graded filter either of jhama khoa or stone metal or stone chips under brick pitching or boulder pitching in slope and apron including light ramming etc.all complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put = 2.832 Cum					
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
					861.00	
	Add Overhead charge & C.P@15%				129.15	
					990.15	
						349.63
	Rate per cum	Say Rs		349.60	Per M ³	
5.7.13(b)	Labour for laying River bed Material (30 % sand and 70% Quarry spall) including light ramming etc.all complete job as per specification and direction of E / I.					
	Unit :-Per Cum					
	Taking Out put =1 Cum					
	Unskilled mazdoor	0.75	nos	287.00	215.25	{SI-1}
					215.25	
	Add Overhead charge & C.P@15%				32.29	
					247.54	
						247.54
	Rate per cum	Say Rs		247.50	Per M ³	
5.7.14	Providing brick flat soling with designation 100A bricks joints filled with coarse sand of approved quality including royalty etc. all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Bricks	300	per%0nos	6261.00	1878.30	M-11
	Local Sand	0.142	M ³	141.85	20.14	{ M 006}
	Total				1898.44	
	Labours					
	Mason Gr II	0.50	nos	345.00	172.50	{S II- 4}
	Unskilled mazdoor	1.00	nos	287.00	287.00	{SI-1}
	Total				459.50	
					2357.94	
	Add Overhead charge & C.P15%				353.69	
					2711.63	
						291.57
	Rate per sqm	Say Rs		291.60	Per M ²	
5.7.15	Providing brick on edge soling with designation 100A bricks joints filled with coarse sand of approved quality including royalty etc. all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put = 9.30 Sqm					
	Materials					
	Bricks	500	per%0nos	6261.00	3130.50	M-11
	Local Sand	0.283	M ³	141.85	40.14	{ M 006}
	Total				3170.64	
	Labours					
	Mason Gr II	0.625	nos	345.00	215.63	{S II- 4}
	Unskilled mazdoor	1.25	nos	287.00	358.75	{SI-1}
	Total				574.38	
					3745.02	

Q 165 ✓ (M) 3 ✓ (M) 2 ✓

	Add Overhead charge & C.P@15%				561.75	
					4306.77	
						463.09
	Rate per sqm	Say Rs		463.10	Per M ²	
5.7.16	Providing pitching work with designation 100A bricks in panel and in herring bond pattern one brick on edge over a brick flat soling joints filled with local sand free from clay contents including royalty etc. all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Bricks	800	per%0nos	6261.00	5008.80	M-11
	Local Sand	0.425	M ³	141.85	60.29	{ M 006}
	Total				5069.09	
	Labours					
	Mason Gr II	1.125	nos	345.00	388.13	{S II- 4}
	Unskilled mazdoor	2.25	nos	287.00	645.75	{SI-1}
	Total				1033.88	
					6102.96	
	Add Overhead charge & C.P@15%				915.44	
					7018.41	
						754.67
	Rate per sqm	Say Rs		754.70	Per M ²	
5.7.17	Providing pitching work with designation 100A Bricks in panel two brick on edge over a brick flat soling joints filled with local sand free from clay contents including royalty etc. all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Materials					
	Bricks	1300	per%0nos	6261.00	8139.30	M-11
	Local Sand	0.556	M ³	141.85	78.87	{ M 006}
	Total				8218.17	
	Labours					
	Mason Gr II	2.00	nos	345.00	690.00	{S II- 4}
	Unskilled mazdoor	4.50	nos	287.00	1291.50	{SI-1}
					1981.50	
					10199.67	
	Add Overhead charge & C.P@15%				1529.95	
					11729.62	
						1261.25
	Rate per sqm	Say Rs		1261.20	Per M ²	
5.7.18.1	Labour charge for pitching work on apron slope of bank with stone boulder duly packed (Uncreated complete job) materials within 150 m lead with all lifts, all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Unskilled mazdoor for carrying and laying boulder	6	nos	287.00	1722.00	{SI-1}
	Mason Gr II	0.50	nos	345.00	172.50	{S II- 4}
	Mate	0.25	nos	311.00	77.75	S II-2
	Stone dresser	0.25	nos	367.00	91.75	S II-12
					2064.00	
	Add Overhead charge & C.P@15%				309.60	
					2373.60	
						838.14
	Rate per cum	Say Rs		838.10	Per M ³	
5.7.18.2	Labour charge for pitching work on apron slope of bank with stone boulder duly packed (Uncreated complete job) materials within 50 m lead with all lifts, all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put = 2.832 Cum					
	Unskilled mazdoor for carrying and laying boulder	2	nos	287.00	574.00	{SI-1}

166

(Signature)

(Signature)

	Mason Gr II	0.50	nos	345.00	172.50	{S II- 4}
	Mate	0.25	nos	311.00	77.75	S II-2
	Stone dresser	0.25	nos	367.00	91.75	S II-12
					916.00	
	Add Overhead charge & C.P@15%				137.40	
					1053.40	
						371.96
	Rate per cum	Say Rs		372.00	Per M ³	
5.7.19	Labour charge for stone boulder (uncrated) laying in launching apron and slope (materials within 150 m lead all lifts), all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Unskilled mazdoor for carrying and laying boulder	6	nos	287.00	1722.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	S II-2
	Hire Charge of boat 40 Qt. Capacity	1	hrs	235.30	235.30	P& M-066
					2035.05	
	Add Overhead charge & C.P@15%				305.26	
					2340.31	
						826.38
	Rate per cum	Say Rs		826.40	Per M ³	
5.7.20	Labour charge for pitching with jhama bricks closely packed over apron and including preparation of base, making proper slope and grade etc.all complete (materials within 150 m lead with all lifts) as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put = 2.832 Cum					
	Mason Gr II	0.50	nos	345.00	172.50	{S II- 4}
	Unskilled mazdoor	6	nos	287.00	1722.00	{SI-1}
					1894.50	
	Add Overhead charge & C.P@15%				284.18	
					2178.68	
						769.31
	Rate per cum	Say Rs		769.30	Per M ³	
5.7.21.1	Labour charge for pitching above water on apron and slope of bank with boulder in crates of specified size (material within 150 mtr lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put = 2.832 Cum					
	Skilled mazdoor	1.00	nos	364.00	364.00	{SII-70}
	Unskilled mazdoor	6.50	nos	287.00	1865.50	{SI-1}
	Black smith Gr II	0.25	nos	345.00	86.25	{S II-10}
	Stone dresser	0.25	nos	367.00	91.75	(S II-12)
	Mate	0.25	nos	311.00	77.75	(S II-2)
	Cost of 12 to 14 gauge binding wire for binding crate	0.30	Kg	60.03	18.01	(M-072)
					2503.26	
	Add Overhead charge & C.P@15%				375.49	
					2878.75	
						1016.51
	Rate per cum	Say Rs		1016.50	Per M ³	
5.7.21.2	Labour charge for pitching above water in apron and slope of bank with boulder in crates of specified size (material within 50 mtr lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put = 2.832 Cum					
	Skilled mazdoor	1.00	nos	364.00	364.00	{SII-70}
	Unskilled mazdoor	2.00	nos	287.00	574.00	{SI-1}
	Black smith Gr II	0.25	nos	345.00	86.25	{S II-10}
	Stone dresser	0.25	nos	367.00	91.75	S II-12
	Mate	0.25	nos	311.00	77.75	S II-2

R

167

Handwritten signatures and initials.

	Cost of 12 to 14 gauge binding wire for binding crate	0.30	Kg	60.03	18.01	(M-072)
					1211.76	
	Add Overhead charge & C.P@15%				181.76	
					1393.52	
						492.06
	Rate per sqm	Say Rs		492.00	Per M ³	
5.7.22	Labour charge for pitching under water in apron and slope of bank with boulder in crates of specified size (material within 150 M lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put = 2.832 Cum					
	Skilled mazdoor	1	nos	364.00	364.00	{SII-70}
	Unskilled mazdoor	6.50	nos	287.00	1865.50	{SI-1}
	Black smith Gr II	0.25	nos	345.00	86.25	{S II-10}
	Mate	0.25	nos	311.00	77.75	S II-2
	Cost of 12 to 14 gauge binding wire for binding crate	0.30	Kg	60.03	18.01	(M-072)
	Hire charge of boat of 40 quintal capacity	2	hrs	235.30	470.60	P& M-066
					2882.11	
	Add Overhead charge & C.P@15%				432.32	
					3314.43	
						1170.35
	Rate per cum	Say Rs		1170.30	Per M ³	
5.7.23	Labour charge for pitching under water in apron and slope with rubble having 600 mm to 300 mm size with all leads and lifts complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put = 2.832 Cum					
	Skilled mazdoor	1	nos	364.00	364.00	{SII-70}
	Unskilled mazdoor	8	nos	287.00	2296.00	{SI-1}
	Stone dresser	0.25	nos	367.00	91.75	S II-12
	Mate	0.25	nos	311.00	77.75	S II-2
					2829.50	
	Add Overhead charge & C.P@15%				424.43	
					3253.93	
						1148.98
	Rate per cum	Say Rs		1148.00	Per M ³	
5.7.24.1	Labour charge for pitching above water in apron and slope of bank with bricks packed in crates of specified size (material within 150 mtr lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Skilled mazdoor	1	nos	364.00	364.00	{SII-70}
	Unskilled mazdoor	6.5	nos	287.00	1865.50	{SI-1}
	Black smith Gr II	0.25	nos	345.00	86.25	{S II-10}
	Mate	0.25	nos	311.00	77.75	S II-2
	Cost of 12 to 14 gauge binding wire for binding crate	0.30	Kg	60.03	18.01	(M-072)
					2411.51	
	Add Overhead charge & C.P@15%				361.73	
					2773.24	
						979.25
	Rate per cum	Say Rs		979.20	Per M ³	
5.7.24.2	Labour charge for pitching above water in apron and slope of bank with bricks packed in crates of specified size (material within 50 M lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Skilled mazdoor	1	nos	364.00	364.00	{SII-70}

R

168

(Handwritten signatures and initials)

	Unskilled mazdoor	2	nos	287.00	574.00	{SI-1}
	Black smith Gr II	0.25	nos	345.00	86.25	{S II-10}
	Mate	0.25	nos	311.00	77.75	S II-2
	Cost of 12 to 14 gauge binding wire for binding crate	0.30	Kg	60.03	18.01	(M-072)
					1120.01	
	Add Overhead charge & C.P@15%				168.00	
					1288.01	
						454.81
	Rate per cum	Say Rs		454.80	Per M ³	
5.7.24.3	Extra for each lead of 30 M over the initial lead of 50 M (Boulder or Brick) as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Skilled mazdoor	1.0	nos	364.00	364.00	{SII-70}
	Add Overhead charge & C.P@15%				54.60	
					418.60	
						147.81
	Rate per cum	Say Rs		147.80	Per M ³	
5.7.25	Labour charge for pitching under water in apron and slope of bank with bricks packed in crates of specified size (material within 150 mtr lead and all lifts) including boxing and tying the crates with 12 to 14 gauge G.I wire including cost of G.I wire all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Skilled mazdoor	1	nos	364.00	364.00	{SII-70}
	Unskilled mazdoor	7	nos	287.00	2009.00	{SI-1}
	Black smith Gr II	0.25	nos	345.00	86.25	{S II-10}
	Mate	0.25	nos	311.00	77.75	S II-2
	Cost of 12 to 14 gauge binding wire for binding crate	0.30	Kg	60.03	18.01	(M-072)
	Hire charge of Boat 40 Qt capacity	2	hrs	235.30	470.60	P& M-066
					3025.61	
	Add Overhead charge & C.P@15%				453.84	
					3479.45	
						1228.62
		Say Rs		1228.60	Per M ³	
5.7.26	Providing brick block in designation 100 A bricks of size 600 x 600 x 300 mm for pitching in cement mortar (1:3) with approved quality of sand of requisite F.M. over 150 mm dry khoa rammed to make the inter spaces closer, keeping the thickness intact including royalty etc. complete job as per approved design, specifications and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put = 9.30 Sqm					
	i. Rammed khoa					
	ii. Cost of rammed khoa before ramming (1.415+0.472) 40 mm to	1.887	M ³	1945.83	3671.78	(M SL No.249)
	Unskilled mazdoor	2	nos	287.00	574.00	{SI-1}
	iii. 9.3 Sqm of block is equivalent to 2,832 cum of brick work in C.M (1:3). Cost of 2.832 cum of B.W. in C.M. (1:3) vide item no 5.4.1 (without O.H & C.P)	2.832	M ³	4295.95	12166.13	
	Unskilled mazdoor for placing	4	nos	287.00	1148.00	{SI-1}
					17559.91	
	Add Overhead charge & C.P@15%				2633.99	
					20193.89	
						2171.39
	Rate per sqm	Say Rs		2171.40	Per M ²	
5.7.27	Providing brick block in designation 100 A bricks of size 600 x 600 x 300 mm duly pointed in cement mortar (1:3) with coarse sand of approved quality for staggered pitching over 150 mm dry khoa filter rammed to make the inter spaces closer, keeping the thickness intact. The inter spaces of blocks to be filled with coarse sand of approved quality including royalty etc. complete job as per approved design, specifications and direction of E/I					
	Unit :-Per Sqm					

a

169

②

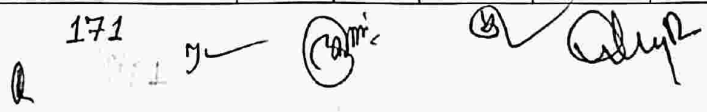
③

④

Taking Out put =9.30 Sqm					
A. Cost of 2.832 cum brick block in C.M. (1:3) as item no.5.4.1 (without O.H & C.P)	2.832	M ³	4295.95	12166.13	A
B. Unskilled mazdoor carrying and placing in position	4	nos	287.00	1148.00	B
C. Cost of 150 mm graded jam filter sand packing					
i. Jhama metal 20mm to 40mm	2.832	M ³	1463.00	4143.22	
ii. Sand	0.425	M ³	175.80	74.72	
iii. Unskilled mazdoor for packing	1.5	nos	287.00	430.50	
				4648.43	C
Total (A+ B+C)				17962.56	
Add Overhead charge & C.P @15% on (A+B+C)				2694.38	
				20656.94	
					2221.18
Rate per sqm	Say Rs		2221.20	Per M ²	
5.7.28	Providing brick block in designation 100 A bricks of size 600 x 600 x 200 mm duly pointed in cement mortar (1:4) with coarse sand of approved quality for staggered pitching over 100 mm dry khoa filter rammed to make the inter spaces closer, keeping the thickness intact. The inter spaces of blocks to be filled with coarse sand of approved quality including royalty etc. all complete as per approved design, specifications and direction of E/I				
Unit :-Per Sqm					
Taking Out put =9.30 Sqm					
A. 9.3 sqm of block is equivalent to 1.887 cum of brick work in C.M (1:4). Cost of 1.887 cum of B.W. in C.M. (1:4) vide item no 5.4.2	1.887	M ³	4787.40	9033.82	A
B. Unskilled mazdoor for carrying and placing	3	M ³	287.00	861.00	B
C. Cost of khoa	1.258	M ³	1945.83	2447.85	(M SL No.249)
Unskilled mazdoor for carrying and ramming	1.5	nos	287.00	430.50	{SI-1}
				2878.35	C
D. Extra materials for setting the block in position					
Cement	0.011	M ³	7811.80	85.93	M-1 P
Sand	0.045	M ³	175.80	7.91	M-004
Mason Gr II	0.25	nos	345.00	86.25	{S II- 4}
				180.09	D
Sub-Total (B+C+D)				3919.44	
Add Overhead charge & C.P on (B+C+D)@15%				587.92	
				4507.36	E
Grand Total (A+E)				13541.19	1456.04
Rate per sqm	Say Rs		1456.00	Per M ²	
5.7.29.1	Supplying fitting and packing jhawa bush wood ,Kans grass or local wood brush in bundle of 600 mm die tied with coir string as per specification including loading, unloading, stacking and carriage up to 1 K.M. lead etc.all complete job as per approved design, specifications and direction of E/I				
Unit :-Per Cum					
Taking Out put =2.832 Cum					
Materials					
1. Cost of 2.832 cum of Jhankhi					
Carriage for 1 K .M lead					
Hire charge of bullock cart per day					
Taking lead of 1 km and speed 2 km per hour					
Nos. of trips per day = $8/(2/S(L+3/4))$ =					
4.56 trip					
Cost per trip= Hire charges/4.56=136.6/4.56=					
#VALUE!					
Assuming bullock cart capacity as jhawa bush wood					
1.70 cum					
Carriage cost per 2.832 cum =Cost					
#VALUE!					
2. Cost of coir string					
0.5 Kg 27.98 13.99					
Labour					
Unskilled mazdoor for loading, unloading and placing					
0.5 nos 287.00 143.50					
Unskilled mazdoor for cutting jhankhi					
0.33 nos 287.00 94.71 {SI-1}					
#VALUE!					
Add Overhead charge & C.P@15%					
#VALUE!					
#VALUE!					
#VALUE!					
Rate per cum					
Say Rs #VALUE! Per M ³					

170 y- (4) m³ (3) ✓ Wdyk


5.7.29.2	Extra for carriage of jhankhi for subsequent K.M. beyond initial 1st K.M.by bullock cart.					
	Unit :-Per Km per Cum					
	Taking Out put =2.832 Cum					
	Assuming 5 K.M lead					
	Nos of trips per day= $8/(2/S(L+3/4))=$	1.4	trip			
	Hire charge of bullock cart per day	0.00	Rs			
	Cost per trip= Hire charges/1.4=136.6/1.4=	0.00	Rs			
	Assuming bullock cart capacity as jhawa bush wood	1.7	cum			
	Carriage cost for 5 K.M lead = Cost per trip x 2.832 /1.70					
						Input
	Hence rate for each subsequent K.M. beyond 1 k.m					
	(Carriage cost for 5 k.m-Carriage cost for 1 k.m)/4*2.832					#VALUE!
	Add Overhead charge & C.P@15%					#VALUE!
						#VALUE!
	Rate per cum	Say Rs		#VALUE!	Per K.M Per M ³	
5.7.30	Supplying palm leaves and fixing in position all complete job as per approved design, specifications and direction of E/I					
	Unit :-Per 100 Nos'					
	Materials					
	Supplying palm leaves 100 nos					input
	Labour					
	Unskilled mazdoor for fixing	1	nos	287.00	287.00	{SI-1}
					287.00	
	Add Overhead charge & C.P@15%				43.05	
					#VALUE!	
	Rate per % nos	Say Rs		#VALUE!	Per % nos	
5.7.31	Labour charge for making crates including cutting taranga wire roll of suitable size from G.I. wire in 8 nos.including cutting the wire and tying the joints with binding wire and making square mesh of 100 mm to 150 mm double knotted with 8 to 10 S.W.G. wire as per approved design, specifications and direction of E/I					
	Vide T.E.C No 67 dated 26.6.90					
	Unit :-Per Sqm					
	Taking Out put =55.76 Sqm					
	Labour					
	Black smith Gr II	2	nos	345.00	690.00	{S II-10}
	Unskilled mazdoor as Helper	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for tying joints	1	nos	287.00	287.00	{SI-1}
					1551.00	
	Add Overhead charge & C.P@15%				232.65	
					1783.65	
	Rate per sqm	Say Rs		32.00	Per M ²	31.99
5.7.32.A	(a).Labour charge for making crates box of size 3m x 1.5m x 0.6m including cutting of G.I wire or B.A wire, weaving of wire to make it taranga wire having 150 mm square mesh with double knot with 8 & 10 S.W.G. wire as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 33 dated 8.4.06)					
	Unit :-Each					
	Taking Out put =10 nos.					
	Labour					
	Black smith Gr II for weaving the wire roll for cutting the taragana wire to size	2	nos	345.00	690.00	{S II-10}
	Unskilled mazdoor for weaving the wire, as helper in making creates & tying joints	3	nos	287.00	861.00	{SI-1}
					1551.00	155.10
	Add Overhead charge & C.P@15%				232.65	
					1783.65	
	Rate per sqm	Say Rs				178.37

171


5.7.32.B	Rate per Each	Say Rs	178.40	Each	
	(a) Labour charge for making crates box size 3m x 1.5m x 0.6m including cutting of G.I wire or B.A.wire, weaving of wire to make it taranga wire having 100 mm square mesh with double knot with 8 & 10 S.W.G. wire as per approved design, specifications and direction of E/I				
	As per T.E.C.letter no 33 dated 8.4.06)				
	Unit :-Each				
	Taking Out put =10 nos.				
	Labour				
	Black smith Gr II for weaving the wire roll for cutting the taragana wire to size	4.2	nos	345.00	1449.00 (S II-10)
	Unskilled mazdoor for weaving the wire, as helper in making creates & tying joints	4.2	nos	287.00	1205.40 (SI-1)
					2654.40 265.44
	Add Overhead charge & C.P@15%				398.16
					3052.56
					305.26
	Rate per Each	Say Rs	305.30	Each	
5.7.32.C	(a).Labour charge for making crates box of size 3m x 1.5m x 0.75m including cutting of G.I wire or B.A wire, weaving of wire to make it taranga wire having 150 mm square mesh with double knot with 8 & 10 S.W.G. wire as per approved design, specifications and direction of E/I				
	As per T.E.C.letter no 33 dated 8.4.06)				
	Unit :-each				
	Taking Out put =10 nos.				
	Labour				
	Black smith Gr II for weaving the wire roll for cutting the taragana wire to size	2.2	nos	345.00	759.00 (S II-10)
	Unskilled mazdoor for weaving the wire, as helper in making creates & tying joints	3.3	nos	287.00	947.10 (SI-1)
					1706.10 170.61
	Add Overhead charge & C.P@15%				255.92
					1962.02
					196.20
	Rate per Each	Say Rs	196.20	Each	
5.7.32.D	(a) Labour charge for making crates box size 3m x 1.5m x 0.75m including cutting of G.I wire or B.A.wire, weaving of wire to make it taranga wire having 100 mm square mesh with double knot with 8 & 10 S.W.G. wire as per approved design, specifications and direction of E/I				
	As per T.E.C.letter no 33 dated 8.4.06)				
	Unit :-Each				
	Taking Out put =10 nos.				
	Labour				
	Black smith Gr II for weaving the wire roll for cutting the taragana wire to size	4.6	nos	345.00	1587.00 (S II-10)
	Unskilled mazdoor for weaving the wire, as helper in making creates & tying joints	4.6	nos	287.00	1320.20 (SI-1)
					2907.20 290.72
	Add Overhead charge & C.P@15%				436.08
					3343.28
					334.33
	Rate per Each	Say Rs	334.30	Each	
5.7.33	Supplying and Labour charge for fitting and fixing empty coal tar drum sheets at piles in position with G.I. nails including cutting the coal tar drum and making it plain as per approved design, specifications and direction of E/I				
	As per T.E.C.letter no 11 dated 7.3.94 and 1(E) dt 3.2.93				
	Unit :-Per Sqm				
	Taking Out put =10.76 Sqm				
	Material				
	Cola tar drum	6	nos	127.80	766.80 (M-172)
	Nail and spike	0.4	Kg	58.00	23.20 BCD
	Labour				
	Black smith Gr II	0.5	nos	345.00	172.50 (S II-10)
	Helper for cutting 12 drum and making plain	0.5	nos	302.00	151.00 (S II-16)
	Unskilled mazdoor for fitting and fixing drums	0.25	nos	287.00	71.75 (SI-1)

172 ✓ (Signature) (Signature)

					1185.25	
	Add Overhead charge & C.P@15%				177.79	
					1363.04	
						126.68
	Rate per sqm	Say Rs		126.70	Per M ²	
5.7.34	Supplying G.I wire crates of size 3 M x 1.5 M x 0.75M and 100 mm square mesh made out of G.I wire 8 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
		Unit :-Each				
	Materials					
	Cost of one M.T. of G.I. Wire of 8 S.W.G					
	including carriage	1	M.T	69300.00		(M SL-224) (i)
	Av nos of crate manufactured (30+33)/2=31.5 nos	31.5	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/31.5				2200.00	
	Labour					
	Labour charge as item 5.7.32.D				290.72	
					2490.72	
	Add Overhead charge & C.P@15%				373.61	
					2864.33	
						2864.33
	Rate per Each	Say Rs		2864.30	Each	
5.7.35.1	Supplying wire mesh crates of size 3 M x 1.5M x 0.75 M and 100 mm square mesh made out of G.I wire 10 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 37 dated 30.4.06)					
		Unit :-Each				
	Materials					
	Cost of one M.T. of G.I Wire of 10 S.W.G					
	including carriage	1	M.T	69300.00		(M SL-224)(i)
	Av nos of crate manufactured 37 nos	37	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/37				1872.97	
	Labour					
	Labour charge as item 5.7.32.D				290.72	
					2163.69	
	Add Overhead charge & C.P@15%				324.55	
					2488.25	
						2488.25
	Rate per Each	Say Rs		2488.20	Each	
5.7.35.2	Supplying wire mesh crates of size 3 M x 1.5 M x 0.60 M and 100 mm square mesh made out of G.I wire 10 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 37 dated 30.4.06)					
		Unit :-Each				
	Materials					
	Cost of one M.T. of G.I Wire of 10 S.W.G					
	including carriage	1	M.T	69300.00		(M SL-224) (i)
	Av nos of crate manufactured 41 nos	41	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/41				1690.24	
	Labour					
	Labour charge as item 5.7.32.B				265.44	
					1955.68	
	Add Overhead charge & C.P@15%				293.35	
					2249.04	
						2249.04
	Rate per Each	Say Rs		2249.00	Each	
5.7.36.1	Supplying wire mesh crates of size 3 M x 1.5 M x 0.75 M and 150 mm square mesh made out of G.I wire 10 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 37 dated 30.4.06)					
		Unit :-Each				
	Materials					

173 y 

	Cost of one M.T. of G.I Wire of 10 S.W.G including carriage	1	M.T	69300.00		(M SL-224) (i)
	Av nos of crate manufactured 53nos	53	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/53				1307.55	
	Labour					
	Labour charge as item 5.7.32.C				170.61	
					1478.16	
	Add Overhead charge & C.P@15%				221.72	
					1699.88	
						1699.88
	Rate per Each	Say Rs		1699.90	Each	
5.7.36.2	Supplying wire mesh crates of size 3 M x 1.5 M x 0.60 M and 150 mm square mesh made out of G.I wire 10 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 37 dated 30.4.06)					
	Unit :-Each					
	Materials					
	Cost of one M.T. of G.I Wire of 10 S.W.G including carriage	1	M.T	69300.00		(M SL-224)(i)
	Av nos of crate manufactured 58 nos	58	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/58				1194.83	
	Labour					
	Labour charge as item 5.7.32.A				155.10	
					1349.93	
	Add Overhead charge & C.P@15%				202.49	
					1552.42	
						1552.42
	Rate per Each	Say Rs		1552.40	Each	
5.7.37.1	Supplying wire mesh crates of size 3 M x 1.5 M x 0.75 M and 100 mm square mesh made out of B.A.wire 10 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 37 dated 30.4.06)					
	Unit :-Each					
	Materials					
	Cost of one M.T. of B.A Wire of 10 S.W.G including carriage	1	M.T	62924.00		(M SL-224)(ii)
	Av nos of crate manufactured 37nos	37	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/37				1700.65	
	Labour					
	Labour charge as item 5.7.32.D				290.72	
					1991.37	
	Add Overhead charge & C.P@15%				298.71	
					2290.07	
						2290.07
	Rate per Each	Say Rs		2290.10	Each	
5.7.37.2	Supplying wire mesh crates of size 3 M x 1.5 M x 0.60 M and 100 mm square mesh made out of Black annealed wire 10 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 37 dated 30.4.06)					
	Unit :-Each					
	Materials					
	Cost of one M.T. of B.A Wire of 10 S.W.G including carriage	1	M.T	62924.00		(M SL-224) (ii)
	Av nos of crate manufactured 41nos	41	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/41				1534.73	
	Labour					
	Labour charge as item 5.7.32.B				265.44	
					1800.17	
	Add Overhead charge & C.P@15%				270.03	
					2070.20	
						2070.20

174

a

y

(C4) 17/11/20

13

WLP

	Rate per Each	Say Rs		2070.20	Each	
5.7.38.1	Supplying wire mesh crates of size 3 M x 1.5M x 0.75 M and 150 mm square mesh made out of B.A.wire 10 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 37 dated 30.4.06)					
	Unit :-Each					
	Materials					
	Cost of one M.T. of B.A Wire of 10 S.W.G					
	including carriage	1	M.T	62924.00		(M SL-224)(ii)
	Av nos of crate manufactured 53nos	53	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/53				1187.25	
	Labour					
	Labour charge as item 5.7.32.C				170.61	
					1357.86	
	Add Overhead charge & C.P@15%				203.68	
					1561.53	
						1561.53
	Rate per Each	Say Rs		1561.50	Each	
5.7.38.2	Supplying wire mesh crates of size 3 M x 1.5 M x 0.60 M and 150 mm square mesh made out of Black annealed wire 10 S.W.G. double knot at each joints in box type etc. all complete as per approved design, specifications and direction of E/I					
	As per T.E.C.letter no 37 dated 30.4.06)					
	Unit :-Each					
	Materials					
	Cost of one M.T. of B.A Wire of 10 S.W.G					
	including carriage	1	M.T	62924.00		(M SL-224)(ii)
	Average nos of crate manufactured= 58nos	58	nos			
	Materials cost of one box=Cost of 1 M.T G.I wire/58				1084.90	
	Labour					
	Labour charge as item 5.7.32.A				155.10	
					1240.00	
	Add Overhead charge & C.P@15%				186.00	
					1426.00	
						1426.00
	Rate per Each	Say Rs		1426.00	Each	
5.7.39.1	Carriage of boulder and metals by boat including, loading, unloading and stacking with lead of 1 K.M.all complete as per approved design, specifications and direction of E/I					
	Unit :- Per Cum					
	Taking Out put =8.0 Cum					
	Assuming three trips per day by 40 quintal capacity boat boulder carried in each trip					
	100x40/42=95.2 cft					
	Total carried per day=3x95.2=285.6 cft=8.08cum					
	Say 8.00 cum					
	Hire charge of Boat 40 Qt capacity	1	Day	1882.40	1882.40	(P & M 066)
	Unskilled mazdoor for loading and unloading	17	nos	287.00	4879.00	{SI-1}
					6761.40	
	Add Overhead charge & C.P@15%				1014.21	
					7775.61	
						971.95
	Rate per cum	Say Rs		972.00	PerM ³	
5.7.39.2	Extra for carriage of boulder and metals by boat including, loading, unloading and stacking beyond 1 K.M. but up to 4 K.M.,all complete as per approved design, specifications and direction of E/I					
	Unit :-Per Km per Cum					
	Taking Out put =5.39 Cum					
	Assuming 4 K.M lead two trips per day by 40 quintal capacity boat boulder carried in each trip					
	100x40/42=95.2 cft					
	Total carried per day=2x95.2=190.4 cft=5.39cum					

175

(Handwritten signatures and initials)

	Hire charge of Boat 40 Qt capacity	1	Day	1882.40	1882.40	(P & M 066)
	Unskilled mazdoor for loading and unloading	11.5	nos	287.00	3300.50	{SI-1}
					5182.90	
	Add Overhead charge & C.P@15%				777.44	
					5960.34	
						1105.81
	Hence Rate per K.M per M ³ =					44.62
	(Rate vide item no 5.7.39.2 - Rate vide item no 5.7.39.1)/3	Say Rs		44.60		Per K.M Per M3
5.7.39.3	Carriage of Filled E.C Bags by boat including loading, unloading and stacking with lead of 1/2 K.M.all complete as per approved design, specifications and direction of E/I					
	Unit :- Per % nos.					
	Taking Out put =600 nos.					
	Assuming Six trips per day by 40 quintal					
	Capacity of boat Filled E.C Bags carried in each trip100 nos filled E.C Bags					
	Total carried per day=6 x100=600 nos					
	Hire charge of Boat 40 Qt capacity	1	Day	1882.40	1882.4	(P & M 066)
	Unskilled mazdoor for loading and unloading	17	nos	287.00	4879.00	{SI-1}
					6761.40	
	Add Overhead charge & C.P@15%				1014.21	
					7775.61	
						1295.94
	Rate per % nos	Say Rs		1295.90		Per % nos
5.7.40.1	Labour for filling empty cement bags with local sand, stitching the bags and placing including supply of sutli etc. all complete as per approved design, specifications and direction of E/I					
	Unit :-Per % nos					
	Taking Out put =100 nos					
	(a)For filling & stitching & stacking					
	Unskilled mazdoor for filling sand into bags and sewing	2	nos	287.00	574.00	{SI-1}
	Sutali	0.5	Kg	19.75	9.88	(M SL 232)
					583.88	
	Add Overhead charge & C.P@15%				87.58	
					671.46	
	Rate per % nos	Say Rs		671.50		Per % nos (a)
	(b)Labour rate for carrying & placing filled E.C.Bags					
	Unskilled mazdoor for carrying filled bags and placing to work site	3	nos	287.00	861.00	{SI-1}
	Add Overhead charge & C.P@15%				129.15	
					990.15	
	Rate per % nos	Say Rs		990.20		Per % nos (b)
	Total (a+b)			1661.70		Per % nos
5.7.40.2	Labour for filling empty cement bags with local sand, stitching the bags and placing in Nylon crate of size (1 m x 1 m x 1 m) with a lead of 150 M including supply of sutli etc. at site in dry portion all complete as per approved design, specifications and direction of E/I					
	Unit :-Each N.C					
	Taking Out put =25 nos.filled E.C Bags in each N/C					
	Cost of 25 nos of filled E.C.Bag (vide item no 5.7.40.1)	25	nos	1661.70	415.43	415.43
	Rate per Each			415.40		Each N.C
5.7.40.3	Labour for filling empty cement bags with local sand, stitching the bags and placing in Nylon crate of size (1 m x 1 m x 1 m) with a lead of 150 M including supply of sutli etc.and placing the filled crates in water portion within a lead 30 M , all complete as per approved design, specifications and direction of E/I					
	Unit :-Each N.C					
	(i) Labour Cost for filling bags in one Nylon crate in dry portion (vide item no 5.7.40.2)	1	nos	415.40	415.40	(i)
	(ii).Placing of filled N/C with 30 m lead in water Portion					
	a. Skilled mazdoor	1	No	364.00	364.00	{SII-70}
	b.Unskilled mazdoor	1	No	287.00	287.00	
	c. Mate	0.37	No	311.00	115.07	(S II- 2)
					766.07	
	Add Overhead charge & C.P@15%				114.91	
	Hence, Total Labour for 100cft				880.98	
	Taking one E.C.bags to contain 1.20 cft of Sand					

176 *[Handwritten initials]*

	Hence, labour rate for placing one filled N.C	264.29			264.29	(ii)
	Hence rate Per Nylon crate in water Portion(i+ii)				679.69	679.69
	Rate per Each N.C	Say Rs		679.60	Each	
5.7.41	Labour charge for taking out disturbed boulder from boulder pitching or riprap or rock toe etc. and cleaning the surface and stacking the same within a lead of 100 metre as per approved design, specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Labour					
	Unskilled mazdoor for picking and carrying	2.5	nos	287.00	717.50	{SI-1}
	Unskilled mazdoor for making stacking	0.5	nos	287.00	143.50	{SI-1}
					861.00	
	Add Overhead charge & C.P@15%				129.15	
					990.15	
						349.63
	Rate per cum	Say Rs		349.60	Per M ³	
5.7.42	Labour charge for loading boulder and dumping etc. with all lead and lifts as per specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Labour					
	Unskilled mazdoor for carriage and dumping boulder	3	nos	287.00	861.00	{SI-1}
	Add Overhead charge & C.P@15%				129.15	
					990.15	
						349.63
	Rate per cum	Say Rs		349.60	Per M ³	
5.7.43	Labour rate for fitting and fixing sal ballah runner in vertical ballah in river bed or canal bed including cost of nails complete job as per specifications and direction of E/I					
	Unit :-Per M					
	Taking Out put =30.48 M					
	Materials					
	Cost of nails or spikes	5	Kg	58.00	290.00	
	Labour					
	Carpenter Gr II	1	nos	345.00	345.00	{SI-17}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
					922.00	
	Add Overhead charge & C.P@15%				138.30	
					1060.30	
						34.79
	Rate per M	Say Rs		34.80	Per M	
5.7.44	Earth work in cutting and making slope in all kinds of soil with all leads and lifts as per specifications and direction of E/I					
	Unit :-Per Cum					
	Taking Out put =28.32 Cum					
	Labour					
	Unskilled mazdoor for cutting earth	4	nos	287.00	1148.00	{SI-1}
	Unskilled mazdoor for carrying earth and clod breaking and rough dressing of slope	3	nos	287.00	861.00	{SI-1}
	Mate	0.125	nos	311.00	38.88	S II-2
					2047.88	
	Add Overhead charge & C.P@15%				307.18	
					2355.06	
						83.16
	Rate per cum	Say Rs		83.20	Per M ³	
5.7.45.1	Providing and Laying of a Geo-textile filter between pitching and embankment slopes on which pitching is laid to prevent escape of the embankment materials through the voids of the stone pitching/cement concrete block as well as to allow free movement of water without creating any uplift head on the pitching as per specifications and direction of E/I					
	Vide T.E.C. letter no 48 (e) dated 10.05.04					
	Unit :-Per Sqm					
	Taking Out put =10.0 Sqm					

177

Q

y - (Signature)

(Signature)

	Material					
	Permeable synthetic Geotextile including 5 % for overlap and wastage	10.50	Sqm	83.76	879.48	(M-109)
	Labour					
	Mate	0.02	nos	311.00	6.22	S II-2
	Unskilled mazdoor	0.30	nos	287.00	86.10	{SI-1}
	Skilled mazdoor	0.10	nos	364.00	36.40	{SII-70}
					1008.20	
	Add Overhead charge & C.P@15%				151.23	
					1159.43	
						115.94
	Rate per sqm	Say Rs		115.90	Per M ²	
5.7.45.2	Laying of a Geo-textile filter between pitching and embankment slopes on which pitching is laid to prevent escape of the embankment materials through the voids of the stone pitching/cement concrete block as well as to allow free movement of water without creating any uplift head on the pitching as per specifications and direction of E/I					
	Unit :-Per Sqm					
	Taking Out put =10.0 Sqm					
	Mate	0.02	nos	311.00	6.22	S II-2
	Unskilled mazdoor	0.30	nos	287.00	86.10	{SI-1}
	Skilled mazdoor	0.10	nos	364.00	36.40	{SII-70}
					128.72	
	Add Overhead charge & C.P@15%				19.31	
					148.03	
						14.80
	Rate per sqm	Say Rs		14.80	Per M ²	
5.7.46(a)	Supplying and Placing bamboo roll each roll of 4 nos uncleaned full bamboo 75 mm dia 6 m to 8 m long at site binding properly each other in bunch with Annealed wire wire 20 to25 SWG at least at three places along its length, 3 nos loads filled with boulder Spall in empty cement bags and tying it with B.A .Wire 8 to 10 SWG launching in river and placing in position and tying the bamboo roll at one end at least 15 M away from river bank to bamboo post ,including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I					
	Unit :- Each					
	Materials					
	Bamboo 75 mm dia 6 m to 8 m long	4.25	Nos	141.50	601.38	(M SL. 222)
	Annealed wire 20 to 25 SWG	0.5	Kg	62.92	31.46	(M SL. 224)
	B.A.Wire 8 to10 SWG	1.125	Kg	62.924	70.790	(M SL. 224)
	E.C.bags	3	Nos	2.92	8.76	(M SL. 275)
	Boulder spall					
	Taking compact volume 0.75 cft per bags	0.064	Cum	248.76	15.92	(M SL-24)
	Labour					
	Unskilled labour for Tying and Placing etc.	0.5		287.00	143.50	{SI-1}
	Unskilled Laour for filling E.C.Bags	0.06		287.00	17.22	{SI-1}
					889.03	
	Add Overhead charge & C.P@15%				133.35	
					1022.38	
						1022.38
	Rate	Say Rs		1022.40	Each	
5.7.46(b)	Supplying and Placing bamboo roll each roll of 4 nos uncleaned full bamboo 75 mm dia 6 m to 8 m long at site binding properly each other in bunch with Annealed wire 20 to 25 SWG at least at three places along its length, 3 nos loads filled with (brick 100B) in empty cement bags and tying it with B.A .Wire 8 to 10 SWG launching in river and placing in position and tying the bamboo roll at one end at least 15 M away from river bank to bamboo post , including Piling of bamboo post & royalty etc. and carriage of all materials at site all complete job as per specifications and direction of E/I					
	Unit :- Each					
	Materials					
	Bamboo 75 mm dia 6 m to 8 m long	4.25	Nos	141.50	601.38	(M SL. 222)
	Annealed wire 20 to 25 SWG	0.5	Kg	62.92	31.46	(M SL. 224(ii))

R

178

M (Signature) (Signature) (Signature)

	B.A.Wire 8 to10 SWG	1.125	Kg	62.924	70.790	(M SL. 224(ii))
	E.C.bags	3	Nos	2.92	8.76	(M SL. 275)
	Brick (100 B)	30	Nos	5.81	174.30	(M-11 b)
	Labour					
	Unskilled labour for Tying and Placing etc.	0.5	Cum	287.00	143.50	{SI-1}
	Unskilled Labour for filling E.C.Bags	0.06	Cum	287.00	17.22	{SI-1}
					1047.41	
	Add Overhead charge & C.P@15%				157.11	
					1204.52	
					1204.52	1204.52
	Rate	Say Rs		1204.50	Each	
5.7.46(c)	Supplying and Placing bamboo roll each roll of 4 nos uncleaned full bamboo 75 mm dia 6 m to 8 m long at site binding properly each other in bunch with Annealed wire 20 to 25 SWG at least at three places along its length, 3 nos loads filled with Local sand in empty cement bags and tying it with G.I. Wire 8 to10 SWG launching in river and placing in position and tying the bamboo roll at one end at least 15 M away from river bank to bamboo post , including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I					
	Unit :-Each					
	Assuming one nos of bamboo roll					
	Materials					
	Bamboo 75 mm dia 6 m to 8 m long	4.25	Nos	141.50	601.38	(M SL. 222)
	Annealed wire 20 to 25 SWG	0.5	Kg	62.92	31.46	(M SL. 224(ii))
	B.A.Wire 8 to 10 SWG	1.125	Kg	62.924	70.790	(M SL. 224)
	E.C.bags	3	Nos	2.92	8.76	(M SL. 275)
	Local sand					
	Taking compact volume 0.75 cft per bags	0.06	Cum	141.85	8.51	{ M 006}
	Labour					
	Unskilled labour for Tying and Placing etc.	0.5	Nos	287.00	143.50	{SI-1}
	Unskilled Labour for filling E.C.Bags	0.06	Nos	287.00	17.22	{SI-1}
					881.62	
	Add Overhead charge & C.P@15%				132.24	
					1013.86	
						1013.86
	Rate	Say Rs		1013.90	Each	
5.7.47(a)	Supplying making and Placing in position Tree branches and Jhankhi covering over all space of about of 2.832 M ³ providing 3 nos of loads by filling Boulder spall in E.C bags, tying with 20 to25 SWG Annealed wire to the tree spur and anchoring the same with B.A. Wire 8 to 10 SWG to the bamboo post at least 15 M away from the river bank, including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I					
	Unit :- Each					
	Assuming 10 nos Tree branches					
	Materials					
	Cost of Tree branches of dia150 mm to 200 mm and 3 M to 4.5 M long with jhankhi covering the space of 100 cft in volume	10	Nos	input	#VALUE!	
	Bamboo 75 mm dia 6 m to 8 m long	3.25	Nos	141.50	459.88	(M SL. 222)
	Annealed wire 20 to 25 SWG	1.5	Kg	62.92	94.39	(M SL. 224)
	B.A.Wire 8 to10 SWG	11.25	Kg	62.924	707.895	(M SL. 224)
	E.C.bags	30	Nos	2.92	87.60	(M SL. 275)
	Boulder spall (compact volume)	0.64	Cum	248.76	159.21	(MSL-24)
	Labour					
	Unskilled labour for Tying and Placing etc.	5	nos	287.00	1435.00	{SI-1}
	Unskilled Labour for filling E.C.Bags	0.6	nos	287.00	172.20	{SI-1}
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
	Rate	Say Rs		#VALUE!	Each	#VALUE!

179

5.7.47(b)	Supplying making and Placing in position Tree branches and Jhankhi covering over all space of about of 2.832 M ³ providing 3 nos of loads by filling Bricks (100 B) in E.C bags, tying with 20 to 25 SWG Annealed wire to the tree spur and anchoring the same with B.A. Wire 8 to 10 SWG to the bamboo post at least 15 M away from the river bank, including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I					
		Unit :- Each				
		Assuming 10 nos Tree branches				
Materials						
Cost of Tree branches of dia150 mm to 200 mm and 3 M to 4.5 M long with jhankhi covering the space of 100 cft in volume		10	Nos	INPUT	#VALUE!	
Bamboo 75 mm dia 6 m to 8 m long		3.25	Nos	141.50	459.88	(M SL. 222)
Annealed wire 20 to 25 SWG		1.5	Kg	62.92	94.39	(M SL. 224)
B.A.Wire 8 to 10 SWG		11.3	Kg	62.924	711.041	(M SL. 224)
E.C.bags		30	Nos	2.92	87.60	(M SL. 275)
Bricks(100B)		300	Nos	5.810	1743.00	(M-11 b)
Labour						
Unskilled labour for Tying and Placing etc.		5		287.00	1435.00	{SI-1}
Unskilled Labour for filling E.C.Bags		0.6		287.00	172.20	{SI-1}
					#VALUE!	
Add Overhead charge & C.P@15%					#VALUE!	
					#VALUE!	
						#VALUE!
Rate		Say Rs		#VALUE!	Each	
5.7.47(c)	Supplying making and Placing in position Tree branches and Jhankhi covering over all space of about of 2.832 M ³ providing 3 nos of loads by filling Local Sand in E.C bags, tying with 20 to 25 SWG Annealed wire to the tree spur and anchoring the same with B.A. Wire 8 to 10 SWG to the bamboo post at least 15 M away from the river bank, including Piling of bamboo post & royalty etc and carriage of all materials at site all complete job as per specifications and direction of E/I					
		Unit :- Each				
		Assuming 10 nos Tree branches				
Materials						
Cost of Tree branches of dia150 mm to 200 mm and 3 M to 4.5 M long with jhankhi covering the space of 100 cft in volume		10	Nos	INPUT	#VALUE!	
Bamboo 75 mm dia 6 m to 8 m long		3.25	Nos	141.50	459.88	(M SL. 222)
Annealed wire 20 to 25 SWG		1.5	Kg	62.92	94.39	(M SL. 224)
B.A.Wire 8 to 10 SWG		11.25	Kg	62.924	707.895	(M SL. 224)
E.C.bags		30	Nos	2.92	87.60	(M SL. 275)
Local sand						
Taking compact volume 0.75 cft per bags		0.64	Cum	141.85	90.78	{ M 006}
Labour						
Unskilled labour for Tying and Placing etc.		5		287.00	1435.00	{SI-1}
Unskilled Labour for filling E.C.Bags		0.6		287.00	172.20	{SI-1}
					#VALUE!	
Add Overhead charge & C.P@15%					#VALUE!	
					#VALUE!	
						#VALUE!
Rate		Say Rs		#VALUE!	Each	
5.7.48	Providing , laying and filling Geo bags of size 1mx0.7m (Type A 300 GSM nonwoven) weight of bag 420 gm,volume of filled bag 0.07 cum, weight of filled Geo bag 126 kg with local sand including stitching in four lines by approved nylon thred with stitching machine and generator, stacking and placing in gabion of size 1.8mx1.8mx0.5m (18nos. Geo bags per gabion) after loading,unloading and carriage with the help of trolley within 150m lead all complete as per specification and direction of E/I					
Unit Each bag						
A. Assuming out put of filling and stitching of 40 nos. of Geo Bags per day						
Materials						

180 y — (Amr)

Stiching Roll(Nylon)	2	nos	30.00	60.00	
Labour					
Unskilled labour for filling,stacking	2	nos	287.00	574.00	{SI-1}
Skilled labour for stacking	0.33	nos	364.00	120.12	{SII-70}
Unskilled labour for carrying and placing	4	nos	287.00	1148.00	{SI-1}
Mate	0.25	nos	311.00	77.75	S II-2
Machine					
Hire charge of Stiching Machine	0.33	day	50.00	16.50	
Hire Charge of manual Trolley	1	day	50.00	50.00	
Hire charge of 3 KVA Generator	2.67	hrs	74.00	197.58	
Total				2243.95	
Add Overhead charge & C.P@15%				336.59	
				2580.54	
Rate per bag=Total/40				64.51	
Cost of filling & stiching of 18 nos of Geo bags	18	nos	64.51	1161.24	A
B. Materials					
Geo Bag	18	nos	81.00	1458.00	(MSL- 277)
Gabion	1	nos	1780.00	1780.00	
Total				3238.00	
Add Overhead charge & C.P@15%				485.70	
				3723.70	B
Total(A+B)				4884.94	
Rate			Say,Rs	4885.00	Each
5.7.49	Supply of New bag and N.C with labour for filling New E.C bag with local sand (volume of filled bag 1.2 cft and weight 50kg),stiching on two lines by approved nylon thread with stiching machine & generator,Stacking the bags and placing in Nylon crate of size (1mx1mx1m) with a lead of 150m including supply of nylon threads etc , placing the filled crates in water portion within a lead of 30m,all complete as per approved design,specification and direction of E/I.				
Unit-	Each Bag				
	Taking output 100 nos. filled New bags in 4 nos N.C.				
Material					
New bag (volume of filled bag 1.2 cft)	100	each	7.72	772.00	(M SL 291)
Nylon Crate(N.C)	4	each	39.85	159.40	(M SL 276)
				931.40	
Add Overhead charge &C.P @15%				139.71	
				1071.11	
				1071.11	
Rate of material per N.C.(25 bags per N.C)				267.78	A
Labour					
Unskilled mazdoor for filling sand,stiching& stacking	1.67	nos	287.00	479.29	{SI-1}
Unskilled labour for carrying and placing	3	nos	287.00	861.00	{SI-1}
Skilled labour for stiching	0.33	nos	364.00	120.12	{SII-70}
Material for stiching					
Stiching Roll(Nylon)	2	nos	30.00	60.00	
Hire charge of Machine					
Hire charge of Stiching Machine	0.33	day	50.00	16.50	
Hire charge of generator 3KVA	2.67	hrs	74.00	197.58	
				1734.49	
Add Overhead charge &C.P @15%				260.17	
				1994.66	
Rate per Each N.C				498.67	(I)
Placing of filled N.C. with 30m lead in water portion					
Skilled Labour	1	nos	364.00	364.00	{SII-70}
Unskilled labour	1	nos	287.00	287.00	{SI-1}
Mate	0.37	nos	311.00	115.07	S II-2
				766.07	
Add Overhead charge &C.P @15%				114.91	
				880.98	V
Taking one E.C.bag to contain 1.2 cft of sand,hence rate for 100 nos. of bags(V*120/100*4)				264.29	(ii)
Rate for N.C in water Portion (i+ii)				762.96	B
Hence, finish rate of N.C in water portion(A+B)				1030.74	
Rate			Say,Rs	1030.70	

181 ✓ (Signature) ✓ (Signature)

5.7.50	Providing,laying & filling Geo bags of size 1mX0.7m (Type A 300GSM nonwoven) Weight 420gm,volume of filled bag 0.07 cum,weight of filledf Geo bag 126kg with local sand including stitching in four lines by approved Nylon thread with stitching machine and generator,stacking and placing after loading,unloading and carriage with the help of Trolley within 150m lead and boat all complete as per specification and direction of E/I(where boat is used)					
	Unit Each bag					
	out put 40 nos bags					
	Labour					
	Unskilled labour for filling,stacking	2	nos	287.00	574.00	{SI-1}
	Skilled labour for Stacking	0.33	nos	364.00	120.12	{SII-70}
	Unskilled labour for carrying and placing	4	nos	287.00	1148.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	S II-2
	Stiching Roll(Nylon)	2	each	30.00	60.00	
	Hire charge of Stiching Machine	0.33	day	50.00	16.50	
	Hire Charge of manual Trolley	1	day	50.00	50.00	
	Hire charge of generator 3KVA	2.67	hrs	74.00	197.58	
	Total				2243.95	
	Add Overhead charge &C.P @15%				336.59	
					2580.54	
	Rate per bag (total/40)				64.51	A
	Charge for placing & dumping with the help of Powe boat of 40 Quintal					
	Out put per day - 256 nos bags carriage by Boat					
	Hire charge of Boat 40 Qt capacity	1	day	1882.40	1882.40	(P&M 006)
	Unskilled labour for loading,unloading & dumping	16	nos	287.00	4592.00	{SI-1}
	Mate	1	nos	311.00	311.00	S II-2
	Hire charge of Trolley	4	each	50.00	200.00	
					6985.40	
	Add Overhead charge &C.P @15%				1047.81	
					8033.21	
	Rate per bag (Total/256)				31.38	B
	Materials					
	Cost of Geo bag	1	each	81.00	81.00	(MSL- 277)
	Add Overhead charge &C.P @15%				12.15	
					93.15	C
	Total Cost (A+B+C)				189.04	
	Rate per bag			Say,Rs	189.00	
5.7.51	Providing,laying & filling Geo bags of size 1mX0.7m (Type A 300GSM nonwoven) Weight 420gm,volume of filled bag 0.07 cum,weight of filledf Geo bag 126kg with local sand including stitching in four lines by approved Nylon thread with stitching machine and generator,stacking and placing in Nylon Crate of size 1.0mx1.0mx1.0m(6 nos. geo bag per N.C) after loading,unloading and carriage with the help of Trolley within 150m lead , all complete as per specification and direction of E/I(where boat is used)					
	Out put - 40 nos bags					
	Labour					
	Unskilled labour for filling,stacking	2	nos	287.00	574.00	{SI-1}
	Skilled labour for stacking	0.33	nos	364.00	120.12	{SII-70}
	Unskilled labour for carrying and placing	4	nos	287.00	1148.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	S II-2
	Stiching roll(nylon)	2	each	30.00	60.00	
	Hire Charge of Stiching Machine	0.33	each	50.00	16.50	
	Hire Charge of manual Trolley	1	day	50.00	50.00	
	Hire charge of Generator 3KVA	2.67	hrs	74.00	197.58	
	Total				2243.95	
	Add Overhead charge &C.P @15%				336.59	
					2580.54	
	Rate per bag (Total/40)				64.51	A
	Material					
	Cost of Geo bag	1	each	81.00	81.00	
	Add Overhead charge &C.P @15%				12.15	

182 y — 22mm ✓ ✓ ✓

				93.15	B
	Rate of Geo bag including filling ,stiching placing (A+B)			157.66	
	Rate of Geo bag including filling ,stiching placing per Nylon Crate	6	Each	157.66	945.98
	Material				
	Cost of Nylon Crate	1	Each	39.85	39.85
	Add Overhead charge &C.P @15%			5.98	
				45.83	D
	Rate of N.C with Geo Bag(C+D)			991.81	
			say, Rs	991.80	
5.7.52	Supply of New bag and N.C with labour for filling New E.C bag with local sand (volume of filled bag 1.2 cft and weight 50kg),stiching on two lines by approved nylon thread with stiching machine & generator,Stacking the bags and placing in Nylon crate of size (1mx1mx1m) with a lead of 150m including supply of nylon threads etc , placing the filled crates in dry portion within a lead of 30m,all complete as per approved design.specification and direction of E/I.				
	Unit - Each bag				
	Taking output of 100 nos filled new bags in 4 nos N.C				
	Material				
	New E.C bag	100	nos	7.72	772.00
	Nylon Crate(N.C)	4	nos	39.85	159.40
					931.40
	Add Overhead charge &C.P @15%				139.71
	Total				1071.11
	Rate of material for each N.C(Totalx25/100)				267.78
	Labour				
	Unskilled labour for filling,stiching & stacking	1.67	nos	287.00	479.29
	Unskilled labour for crrying &placing at work site	3	nos	287.00	861.00
	Skilled labour for stiching	0.33	nos	364.00	120.12
	Stiching Roll(Nylon)	2	nos	30.00	60.00
	Hire Charge of Stiching Machine	0.33	day	50.00	16.50
	Hire charge of Generator 3KVA	2.67	hrs	74.00	197.58
					1734.49
	Add Overhead charge &C.P @15%				260.17
	Total				1994.66
	Rate for each N.C(Totalx25/100)				498.67
	Rate for each N.C in dry portion (A+B)				766.44
				say,Rs	766.40
5.7.53	Supply of New bag with labour for filling New E.C bag with local sand (volume of filled bag 1.2 cft and weight 50kg),stiching on two lines by approved nylon thread with stiching machine & generator,Stacking the bags and placing with a lead of 150m including supply of nylon threads etc ,all complete as per approved design.specification and direction of E/I.				
	Unit- Each bag				
	Taking output 100nos filled new bags				
	Material				
	New E.C.Bag	100	nos	7.72	772.00
	Stiching Roll(Nylon)	2	nos	30.00	60.00
					832.00
	Labour				
	Unskilled labour for filling,stacking	1.67	nos	287.00	479.29
	Unskilled labour for crrying &placing at work site	3	nos	287.00	861.00
	Skilled labour for stiching	0.33	nos	364.00	120.12
					1460.41
	Hire Charge of Machine				
	Hire Charge of Stiching Machine	0.33	day	50.00	16.50
	Hire charge of Generator 3KVA	2.67	hrs	74.00	197.58
					214.08
	Total (A+B+C)				2506.49
	Add Overhead charge &C.P @15%				375.97
					2882.46
	Rate for 100 nos.E.C. bag (A+B+C)				2882.46
	Rate per N.C				28.82

a 183  

				say,Rs	28.80	
5.7.54	Providing, laying & filling Geo bags of size 1mX0.7m (Type A 300GSM nonwoven) Weight 420gm, volume of filled bag 0.07 cum, weight of filled Geo bag 126kg with local sand including stitching in four lines by approved Nylon thread with stitching machine and generator, stacking and placing after loading, unloading and carriage with the help of Trolley within 150m lead, all complete as per specification and direction of E/I.					
	Unit- Each Bag					
	Taking output of 40 nos Geo bags					
	Material					
	Geo bag	40	nos	81.00	3240.00	
	Stiching roll(nylon)	2	nos	30.00	60.00	
	Labour					
	Unskilled labour for filling, stacking	2	nos	287.00	574.00	{SI-1}
	Unskilled labour for carrying & placing at work site	4	nos	287.00	1148.00	{SI-1}
	Skilled labour for stitching	0.33	nos	364.00	120.12	{SI-70}
	Mate	0.25	nos	311.00	77.75	S II-2
	Hire Charge of Machine					
	Hire Charge of Stiching Machine	0.33	nos	50.00	16.50	
	Hire Charge of manual Trolley	1	day	50.00	50.00	
	Hire charge of Generator 3KVA	2.67	hrs	74.00	197.58	
	Total				5483.95	
	Add Overhead charge & C.P @15%				822.59	
					6306.54	
	Rate per geo Bag				157.66	
				say,Rs	157.70	

(Signature) Dehankar

a

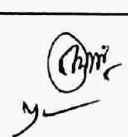
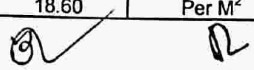
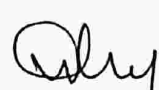

y

(Signature)

(Signature)

5.8 MISCELLANEOUS

Sr.No.	Item	Rate	Unit
5.8.1	Supplying, fitting and fixing copper strip of 16 gauge of approved quality (with 90 % purity) in expansion joints all complete as per approved design, specifications and direction of E/I	870.60	Per KG
5.8.2	Supplying, fitting and fixing rubber seal of (water stop) of approved quality for construction joints all complete as per approved design, specifications and direction of E/I .	#VALUE!	Per Mtr
5.8.3	Supplying, and fixing in position 25 mm thick Bituminous board (Shalitex or equivalent) in expansion or construction joint all complete as per approved design, specifications and direction of E/I	#VALUE!	Per M ²
5.8.4	Supplying, and fixing (Bitumen, cement and sand) in construction joints all complete as per approved design, specifications and direction of E/I	147.10	cm width/ cm depth/ 100 M length
5.8.5.1	Providing and driving steel sheet piles on specified alignment and up to designed level including painting the sheet piles with two coats of anti corrosive bitumen paint (portion of sheet pile inside concrete shall not be painted) including cost of sheet piles and hire charge of sheet pile, driving plant etc as per approved design, specifications and direction of E/I (For the purpose of payment of sheet pile driving measurement of sheet pile dully driven shall be taken only)	#VALUE!	Per M.T
5.8.5.2	Labour rate for extracting steel sheet piles on specified alignment with hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I .(For the purpose of payment of sheet pile extracting, measurement of sheet pile dully extracted shall be taken only)	#VALUE!	Per M.T
5.8.6(a)	Providing weep holes with dry graded stone single filter of 20 mm to 40 mm size in abutment and wing wall including royalty as per specification and direction of E/I	79.80	Each
5.8.6(b)	Providing weep holes with dry graded Jhama metal filter of 20 mm to 40 mm size in abutment and wing wall including royalty as per specification and direction of E/I	228.10	Each
5.8.7	Dismantling pucca brick or lime work including stacking serviceable materials in countable stacks within 15 Meter lead and disposal of unserviceable materials with all leads as per building specifications and direction of E/I.	471.00	Per M ³
5.8.8	Dismantling plain cement or lime concrete work including stacking serviceable materials in stacks within 15 Meter lead and disposal of unserviceable materials with all leads as per building specifications and direction of E/I.	830.40	Per M ³
5.8.9	Dismantling R.C.C work including stacking serviceable materials in stacks within 15 Meter lead and disposal of unserviceable materials with all leads as per building specifications and direction of E/I.	1690.70	Per M ³
5.8.10	Dismantling old plaster and pointing in cement or lime and raking out joints to 15 mm. depth, watering and disposal of unserviceable materials with all leads as per building specifications and direction of E/I.	18.60	Per M ²

185

5.8 MISCELLANEOUS

Sl.No	Description	Quantity	Unit	Rate	Amount	Ref.
5.8.1	Supplying, fitting and fixing copper strip of 16 gauge of approved quality (with 99 % purity) in expansion joints complete job as per drawing, specifications and direction of E/I.					
	Unit:-Per Kg					
	Furnishing and installing seal					
	A. Cost of copper seal and accessories					
	Size of copper seal 250 mm x 1.6 mm					
	weight per sq metre= 14.70 kg	14.7	kg			
	Weight of strips per linear metre Allowing 2.5 % for wastage and incidental to work)=0.25 x1x14.70 x1.025=3.77 kg.					
	i. Cost per linear metre. Including furnishing, storing, handling and cutting etc.	3.77	kg	728.10	2742.66	(M-086)
	ii. Cost of bracing, washers and nails etc. per running metre @ 3 % of item (i)				82.28	
	Sub-Total				2824.94	
	B. Labour charge					
	Taking that 1/4 mason and 1 helper can place seal in one lift of 15 mtr in one shift.					
	Head mason.	0.25	nos	388.00	97.00	(S II-3)
	Helper	1	nos	302.00	302.00	
	Total labour charge				399.00	
	Total charge per mtr= total labour charge / 15				26.60	
	Total A+B				2851.54	
	Hence rate per kg =Total (A+B)/ wt. Of seal per mtr				757.00	
	Add Overhead charge & C.P@15%				113.55	
					870.56	870.56
	Hence rate per kg of copper seal	Say Rs		870.60	Per kg	
5.8.2	Supplying, fitting and fixing rubber seal of (water stop) of approved quality for construction joints expansion joints complete job as per drawing, specifications and direction of E/I.					
	Unit:-Per M					
	Taking Out put =1 M					
	Cost of rubber seal	1	m	#VALUE!	#VALUE!	
	Add for overlapping and vulcanizing 10 % of the materials cost				#VALUE!	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Hence rate per mtr of rubber seal			#VALUE!	Per mtr	#VALUE!
5.8.3	Supplying, and fixing in position 25 mm thick Bituminous board (Shalitest or equivalent) in expansion or construction joint in dam and its allied works all complete as per approved design, specifications and direction of E/I					
	Unit:-Per Sqm					
	Taking Out put =9.30 Sqm					
	Material					
	Bituminastic board	9.3	M ²	input	#VALUE!	
	Shalitest primer	2.25	Kg	input	#VALUE!	
	Labour					
	Mason Gr II	0.25	nos	345.00	86.25	{S II-4}
	Unskilled mazdoor	0.25	nos	287.00	71.75	{SI-1}
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	#VALUE!
	Rate pe sqm	Say Rs		#VALUE!	Per M ²	
5.8.4	Supplying, and fixing Bitumen filter (Bitumen, cement and sand) in construction joints in dam and its allied works all complete as per approved design, specifications and direction of E/I					
	Unit:- Per cm width per cm depth per 100M					
	Consider a joint =2.5 cm wide 15 cm deep and 292.75 metre in length					

186

y

(Signature)

a

(Signature)

(Signature)

Hence cubical contents of a joint					
292.75 x 0.15 x 0.025 =1.1 cum					
Material					
Bitumen	0.282	M.T	32200.00	9080.40	(BCD 312)
Cement	0.088	Cum	7811.80	687.44	M1- P
Coarse sand	0.0283	Cum	175.80	4.98	M-004
Steam coal @ 2 quintal / M.T(including carriage charge)	0.564	Qnt	440.00	248.16	
Total				10020.97	
Labour					
Mason Gr II	5	nos	345.00	1725.00	{S II- 4}
Unskilled mazdoor	8	nos	287.00	2296.00	{SI-1}
Total				4021.00	
				14041.97	
Add Overhead charge & C.P@15%				2106.30	
				16148.27	147.09
Rate per cm width per cm depth per 100M	Say Rs			147.10	
5.8.5.1	Providing and driving steel sheet piles on specified alignment and upto designed levels including painting the sheet piles with two coats of anti- corrosive bitumen paint (portion of sheet pile inside concrete shell not be painted) including cost of sheet piles and hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I . (For the purpose of payment of sheet pile driving, measurement of sheet pile duly driven shall be taken only)				
	Unit:-Per M				
	Assuming pilling that can be expected to be driven per hour= 65.37 x 6.70= 437.98 Kg				
	(Assuming I.S.P.S. 1625 U& pilling section vide I.S. 2314, 1963)				
	Hourly use rate of sheet pile				
A.	Material				
	Cost of Sheet Pile with 10 % wastage	1.1	M.T	#VALUE!	#VALUE!
	Sheet pile Driving plant	#VALUE!			
B.	(i). Cost of driving pile per M.T =(x)1000 / 437.98	#VALUE!		Rs	#VALUE!
	(ii). Shifting of 3 to 4 nos of pile per M.T at the place ready for driving @ 1.5 % of Sub item (i)			Rs	#VALUE!
	(iii). Erecting pilling machines and dismantling @ 0.5 % of sub item (i)			Rs	#VALUE!
	(iv). Depreciation charges for track fand wooden sleeper, fish plates, bolts dog spikes @ 0.5 % of sub item (i)			Rs	#VALUE!
	(v). Depreciation charges forsupply of rails @ 1 % of sub item (i)			Rs	#VALUE!
	(vi). Welding piles 3 to 4 nos @ 8 % of sub item b(i)			Rs	#VALUE!
	(vii). Cutting piles 2 to 4 nos @ 2 % of sub item (i)			Rs	#VALUE!
	(viii). Driving hole 3 to 4 nos @ 0.5 % of sub item (i)			Rs	#VALUE!
	(ix).Carriage of sheet piles 1 M.T. @ 2 % of sub item (i)			Rs	#VALUE!
C.	Surface area of 1 M.T. sheet piles to be painted both side with anti-corrosive bitumen, paint				
	Length of sheet pile per M.T=1 x 1000 / 65.37 = 15.29 m				
	Area of both side of sheet piles=15.29 x 1.71 =24.62 sqm				
	Surface of sheet piles to be painted with two coats of bitumen (Assuming 0.5 Kg / M ² =24.62 x 0.5 =	12.31	Kg	32.20	396.38 (BCD-312)
D.	Unskilled mazdoor	2	nos	287.00	574.00 {SI-1}
	Total (A+B+C+D)				#VALUE!
	Add Overhead charge & C.P@15%				#VALUE!
					#VALUE!
					#VALUE!
	Say		Rs	#VALUE!	Per M.T

187

(Signature)

(Signature)

(Signature)

5.8.5.2	Labour rate for extracting steel sheet piles on specified alignment with hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I . (For the purpose of payment of sheet pile extracting, measurement of sheet pile duly extraced shall be taken only)					
	Unit:-Per M					
	Assuming pilling that can be expected to be extracting					
	per hour= 65.37 x 6.70= 437.98 Kg (Assuming I.S.P.S. 1625 U& pilling section vide I.S. 2314, 1963)					
	Hourly use rate of sheet pile					
	Sheet pile Driving plant					
	(i) Cost of Extracting pile per M.T = (x)x1000 / 437.98					#VALUE!
A.				Rs		#VALUE!
	(ii) Shifting of 3 to 4 nos of pile per M.T at the place ready for driving @ 1.5 % of Sub item (i)			Rs		#VALUE!
	(iii) Erecting pilling machines and dismantling @ 0.5 % of sub item (i)			Rs		#VALUE!
	(iv) Depreciation charges for track fand wooden sleeper, fish plates, bolts dog spikes @ 0.5% of sub item (i)			Rs		#VALUE!
	(v). Depreciation charges forsupply of rails @ 1 % of sub item (i)			Rs		#VALUE!
	(vi) Welding piles 3 to 4 nos @ 8 % of sub item b(i)			Rs		#VALUE!
	(vii) Cutting piles 2 to 4 nos @ 2 % of sub item (i)			Rs		#VALUE!
	(viii) Driving hole 3 to 4 nos @ 0.5 % of sub item (i)			Rs		#VALUE!
	(ix) Carriage of sheet piles 1 M.T. @ 2 % of sub item (i)			Rs		#VALUE!
B.	Unskilled mazdoor	2	nos	287.00	574.00	{SI-1}
	Total (A+B)					#VALUE!
	Add Overhead charge & C.P@15%					#VALUE!
	Say			Rs	#VALUE!	Per M.T
5.8.6(a)	Providing weep holes with dry graded Stone metal filter of 20 mm to 40 mm siz in abutment and wing wall as per specification and direction of E/I					
	Unit :-Each					
	Stone metal filter 20 mm to 40 mm	0.113	M ³	512.06	57.86	M-012
	Fitting and cost of Wire netting @ 20% of above				11.57	
	Add Overhead charge & C.P@15%				69.44	
	Rate				10.42	
	Say Rs			79.80	79.85	79.85
5.8.6(b)	Providing weep holes with dry graded Jhama metal filter of 20 mm to 40 mm siz in abutment and wing wall, as per specification and direction of E/I					
	Unit :-Each					
	Jhama metal filter 20 mm to 40 mm	0.113	M ³	1463.00	165.32	M 11-F I
	Fitting and cost of Wire netting @ 20% of above				33.06	
	Add Overhead charge & C.P@15%				198.38	
	Rate				29.76	
	Say Rs			228.10	228.14	
5.8.7	Dismantling pucca brick or lime work including stacking serviceable materials in countable stacks within 15 Metre lead and disposal of unserviceable materials with all leads as per building specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Semi skilled mazdoor	1	nos	299.00	299.00	S II -69
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Add Overhead charge & C.P@15%				1160.00	
	Rate per cum				174.00	
	Say Rs			471.00	1334.00	471.05
					Per M ³	

188

(Signature)

(Signature)

5.8.8	Dismantling plain cement or lime concrete work including stacking serviceable materials in stacks within 15 Metre lead and disposal of unserviceable materials with all leads as per building specifications and direction of E/I.					
	Unit :-Per Cum	Per M ³				
	Taking Out put =2.832 Cum	2.832	Cum			
	Semi skilled mazdoor	3	nos	299.00	897.00	S II -69
	Unskilled mazdoor	4	nos	287.00	1148.00	{SI-1}
	Add Overhead charge & C.P@15%				2045.00	
					306.75	
	Rate per cum	Say Rs		830.40	Per M ³	830.42
5.8.9	Dismantling R.C.C work including stacking serviceable materials in stacks within 15 Metre lead and disposal of unserviceable materials with all leads as per building specifications and direction of E/I.					
	Unit :-Per Cum					
	Taking Out put =2.832 Cum					
	Hammer man	2.25	nos	302.00	679.50	{S II-17}
	Skilled mazdoor	2.25	nos	364.00	819.00	{SII-70}
	Unskilled mazdoor	7	nos	287.00	2009.00	{SI-1}
	Blacksmith Gr II	1	nos	345.00	345.00	{S II-10}
	Mate	1	nos	311.00	311.00	S II-2
	Add Overhead charge & C.P@15%				4163.50	
					624.53	
	Rate per cum	Say Rs		1690.70	Per M ³	1,690.69
5.8.10	Dismantling old plaster and pointing in cement or lime and raking out joints to 15 mm. depth, watering and disposal of unserviceable materials with all leads as per building specifications and direction of E/I.					
	Unit :-Per Sqm					
	Taking Out put =9.30 Sqm					
	Semi skilled mazdoor	0.35	nos	299.00	104.65	S II -69
	Unskilled mazdoor	0.10	nos	287.00	28.70	{SI-1}
	Bhisti	0.06	nos	285.00	17.10	S II-13
	Add Overhead charge & C.P@15%				150.45	
					22.57	
	Rate per sqm	Say Rs		18.60	Per M ²	18.60

(Signature)

 (Signature)

 (Signature)

 (Signature)

 (Signature)

CHAPTER VI

BARRAGE AND WEIR

6.1 EARTH WORK

Sr.No.	Item	Rate	Unit
6.1.1	Cutting of trees along with branches and their removal away from the work site and stacking the same as per specifications and direction of E/I. (Measurement of girth at a height of one meter above the ground level)		
	(a) Girth above 0.50 meter but up to 0.75 meter	264.20	Each
	(b) Girth above 0.75 meter but upto 1.50 meter	528.40	Each
	(c) Girth above 1.5 meter but upto 2.50 meter	957.70	Each
	(d) Girth above 2.50 meter but up to 4.00 meter	1551.90	Each
	(e) Girth above 4.00 meter	2245.40	Each
6.1.2	Uprooting of stumps and their removal ,away from the work site as per specifications and direction of E/I.		
	(a) Girth above 0.50 meter but up to 0.75 meter	165.00	Each
	(b) Girth above 0.75 meter but up to 1.50 meter	165.00	Each
	(c) Girth above 1.5 meter but upto 2.50 meter	220.00	Each
	(d) Girth above 2.50 meter but up to 4.00 meter	330.10	Each
	(e) Girth above 4.00 meter	412.50	Each
6.1.3.1	Preparation of borrow areas by removing the grass and the jungle, bushes from the top before excavation as per specifications and direction of E/I.	2.70	Per M ²
6.1.3.2	Jungle clearance and weeding out shrubs including small tree up to 0.50 mtr girth and removal as per specifications and direction of E/I.	8.00	Per M ²
6.1.4	Removal of stone boulder of more than 300 mm size from alignment of the dam and stacking the same (beyond 50 M away from Toe of the dam base in the country side) within initial lead of 150 M as per specifications and direction of E/I.	104.90	Per M ³
6.1.5	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder up to 300 mm size and disposal of the same along with all organic materials (beyond 50 M away from Toe of the dam base in the country side) with initial lead of 150 M and all lifts as per specifications and direction of E/I.	195.50	Per M ³
6.1.6	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder up to 300 mm size and disposal of the same along with all organic materials in country side beyond initial lead of 150 mtr but within 1.00 K.M and all lifts by Tipper including loading, unloading and maintenance of haul roads as per specifications and direction of E/I.	342.40	Per M ³
6.1.7	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder up to 300 mm size and disposal of the same along with all organic materials in country side beyond 1.00 K.M but up to 2 K.M away with all lifts by Tipper including loading, unloading and maintenance of haul roads. as per specifications and direction of E/I.	367.10	Per M ³

190

m

Pam

y

Dhy

6.1.8	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of excavated earth so obtained (50 m away from the edge of the trench) with initial lead of 150 M and initial lifts of 1.5 M all complete as per specifications and direction of E/I.	155.40	Per M ³
6.1.9	Extra for earth work in hard soil (vide classification of soil item-B) as per specification and direction of E/I.	23.30	Per M ³
6.1.10	Extra for earth work in marshy soil , slushy and daldal (vide classification of soil item-F)	35.00	Per M ³
6.1.11.1	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of excavated materials so obtained (beyond 50 mtr away from the edge of the trench) with initial lead of 150 m and initial lifts of 1.5 mtr all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	637.50	Per M ³
6.1.11.2	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock(Where blasting is not required) (vide classification of soil item C) disposal of excavated materials so obtained (beyond 50 mtr away from the edge of the trench) with initial lead of 150 m and initial lifts of 1.5 mtr all complete as per specifications and direction of E/I.	497.30	Per M ³
6.1.12	Earth work in excavation of foundation trenches as per designed section in hard rock where blasting is required and stacking properly in approved stack size in approved stack yard (beyond 50 M away from the edge of the trench in country side) with initial lead of 150M and initial lifts of 1.5 mtr all complete	1120.50	Per M ³
6.1.13	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of same in country side by Truck (50M away from the edge of the trench) beyond initial lead of 150 m but up to 1 k.m with all lifts including loading, unloading, constructing and maintenance of haul roads etc.all complete. as per specifications and direction of E/I.	337.30	Per M ³
6.1.14.1	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) and disposal of soil by truck (50M away from the edge of the trench beyond initial lead of 150 mtr but up to 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	756.80	Per M ³
6.1.14.2	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C) and disposal of soil by truck (50 M away from the edge of the trench beyond initial lead of 150 M but upto 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	543.10	Per M ³
6.1.15	Earth work in excavation of foundation trenches as per designed section in hard rock where blasting is needed and disposal of soil by truck (50M away from the edge of the trench beyond initial lead of 150M but up to 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	756.80	Per M ³
6.1.16	Earth work in filling in foundation trenches and back filling of masonry structures with suitable earth in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable profile within a lead of 30 mtr and lift of 1.5M complete job as per specifications and direction of E/I.	101.00	Per M ³
6.1.17	Earth work in filling in foundation trenches and back filling of masonry structures with semi pervious or suitable earth in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with earth obtained after cutting from borrow pits with initial lead of 30 mtr and initial lift of 1.5 mtr. complete job as per specifications and direction of E/I.	112.70	Per M ³

191

y

R

a

6.1.18	Extra for each subsequent lift upto 1 M over the initial lift of 1.5 M (for ordinary or hard soil) as per specification and direction of E/I.	11.70	Per M ³
6.1.19	Extra for each subsequent lead upto 25 M beyond the initial lead of 30 M (for ordinary or hard soil) as per specification and direction of E/I.	11.70	Per M ³
6.1.20	Extra for each subsequent lift upto 1 M over the initial lift of 1.5 M (for ordinary soft or hard rock) as per specification and direction of E/I.	17.50	Per M ³
6.1.21	Extra for each subsequent lead upto 25 Mtr beyond the initial lead of 30 M (for ordinary soft or hard rock) as per specification and direction of E/I.	17.50	Per M ³
6.1.22	Deleted		
6.1.23	deleted		
6.1.24.1	Fine dressing of the canals banks or embankment and turving with 75 mm thick grass sod obtained within a lead of 150 M including the cost of watering the grass surface till it acquires greenness as per specifications and direction of E/I.	2320.70	Per % M ²
6.1.24.2	Extra for each lead of 150 M over initial lead of 150 M including the cost of watering the grass surface till it acquires greenness as per specifications and direction of E/I.	495.10	Per % M ²
6.1.25	Close timbering in trenches including strutting, shoring and packing cavities (wherever required) depth not exceeding 1.5M, complete as per specifications and direction of E/I.	107.90	Per M ²
6.1.26	Close timbering in trenches including strutting, shoring and packing cavities (wherever required) depth not exceeding 1.5 M, but upto 3.0M complete as per specifications and direction of E/I.	112.70	Per M ²
6.1.27	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond initial lead of 150 mtr but within 1.00 K.M and all lifts by Tipper including loading, unloading and maintenance of haul road as per specifications and direction of E/I.	342.60	Per M ³
6.1.28	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond 1.00 K.M but up to 2 K.M away with all lifts by Tipper including loading, unloading and maintenance of haul roads. as per specifications and direction of E/I.	379.00	Per M ³
6.1.29	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of same in country side by Tipper (50M away from the edge of the trench) beyond initial lead of 150M but upto 1 k.m with all lifts including loading, unloading, constructing and maintenance of haul roads etc. all complete as per specifications and direction of E/I.	337.60	Per M ³
6.1.30.1	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) and disposal of soil by Tipper (50 M away from the edge of the trench beyond initial lead of 150M but upto 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	708.10	Per M ³
6.1.30.2	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C) and disposal of soil by Tipper (50 M away from the edge of the trench beyond initial lead of 150 mtr but up to 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	494.40	Per M ³

6.1.31	Earth work in excavation of foundation trenches as per designed section in hard rock where blasting is needed and disposal of soil by Tipper (50 mtr away from the edge of the trench beyond initial lead of 150 M but up to 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	708.10	Per M ³
6.1.32	Earth work in filling in foundation trenches or back filling of masonry structures with pervious soil in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with earth obtained after cutting from borrow pits beyond 150 M lead but up to 1/2 K.M. with all lift and carriage by Tipper complete job as per specifications and direction of E/I.	444.40	Per M ³
6.1.33	Earth work in filling in foundation trenches or back filling of masonry structures with pervious soil in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with earth obtained after cutting from borrow pits beyond 1/2 K.M lead but up to 1 K.M. with all lift and carriage by Tipper complete job as per specifications and direction of E/I.	462.60	Per M ³



 Several handwritten signatures and initials are present below the table. On the left, there is a circled signature that appears to be 'C.M.P.'. To its right, there are several other signatures, including one that looks like 'R' and another that is more complex and illegible.

CHAPTER VI

BARRAGE AND WEIR

6.1 EARTH WORK

Sl.no.	Description	Quantity	Unit	Rate	Amount	Ref.
6.1.1	Cutting of trees along with branches and their removal away from the work site and stacking the same including . as per specifications and direction of E/I.(Measurement of girth at a height of one metre above the ground level)	Analysis same as Item 5.1.4				
6.1.2	Uprooting of stumps and their removal, away from the work site . as per specifications and direction of E/I.	Analysis same as Item 5.1.5				
6.1.3.1	Preparation of borrow areas by removing the grass and the jungles, bushes from the top before excavation as per specifications and direction of E/I.	Analysis same as Item 5.1.2				
6.1.3.2	Jungle clearance and weeding out shrubs including small tree up to 0.50 meter girth and their removal as per specifications and direction of E/I.	Analysis same as Item 5.1.3				
6.1.4	Removal of stone boulder of more than 300 mm size from alignment of the Barrage / Weir and stacking the same (beyond 50 M away from the edge of the foundation trenches in the country side) within initials lead of 150 M . as per specifications and direction of E/I.	Analysis same as Item 5.1.3				
	Unit:- Per Cum					
	Assuming out put =28.32 Cum	28.32	Cum			
	Unskilled mazdoor for removal and stacking	9	nos	287.00	2583.00	{SI-1}
					2583.00	
	Add Overhead charge & C.P@15%				387.45	
					2970.45	104.89
	Rate per cum	Say Rs		104.90	Per M ³	
6.1.5	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder up to 300 mm size and disposal of the same along with all organic materials (beyond 50M away from the edge of the foundation trenches in the country side) with initial lead of 150M and all lifts as per specifications and direction of E/I.	Analysis same as Item 5.1.3				
	Unit:- Per Cum					
	Assuming out put =28.32 Cum					
	Unskilled mazdoor for dagbelling	0.50	nos	287.00	143.50	{SI-1}
	Unskilled mazdoor for for cutting earth as well as removing organic materials etc.	6	nos	287.00	1722.00	{SI-1}
	Unskilled mazdoor for preparation of sheet	1	nos	287.00	287.00	{SI-1}
	Unskilled mazdoor for disposal of earth and organic materials	9	nos	287.00	2583.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	S II-2
					4813.25	
	Add Overhead charge & C.P@15%				721.99	
					5535.24	195.45
	Rate per cum	Say Rs		195.50	Per M ³	
6.1.6	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder up to 300 mm size and disposal of the same along with all organic materials in country side beyond initial lead of 150M but within 1.00 K.M and all lifts by Truck including loading, unloading and maintenance of haul roads . as per specifications and direction of E/I.	Analysis same as Item 5.1.3				
	Unit:- Per Cum					
	Assuming out put =28.32 Cum					
A.	Unskilled mazdoor for dagbelling	0.50	nos	287.00	143.50	{SI-1}
	Unskilled mazdoor for for cutting earth as well as removing organic materials etc.	6	nos	287.00	1722.00	{SI-1}
	Unskilled mazdoor for preparation of sheet	1	nos	287.00	287.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	S II-2
B.	Carriage of earth by 10 M.T capacity Truck					
	Carriage cost of earth for 1 k.m lead					
	Average lead	575	M			
	Truck capacity 8 MT (compacted earth)	4.8	Cum			
	Cycle time--- Average speed	16	km/hr			

194

(Signature) *(Signature)* *(Signature)*

	(a) Hauling time = lead x 60 x 2/1000 x Average speed	Average	4.31	minutes			
	(b) Loading unloading turning and spolling time=		60	minutes			
	Total hauling cycle time=		64.31	minutes			
	No of trip per working hour = Loading unloading turning and spolling time / Total hauling time		0.93	trips			
	Material carried=trips x net capacity		4.48	M ³			
	Hourly use rate of truck (Vide Item no P& M-057)		934.30	hr			
	Rate per 28.32 cum for carriage only= Use rate of truck x 28.32 / material carried				Rs	5908.57	
	(c). Construction and maintenance of haul road @ 5 % of Item (B)				Rs	295.43	
						8434.25	
	Add Overhead charge & C.P@15%					1265.14	
						9699.39	342.49
	Rate per cum	Say Rs				342.40	Per M ³
6.1.7	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder up to 300 mm size and disposal of the same along with all organic materials in country side beyond 1.00 K.M but up to 2 K.M away with all lifts by Truck including loading, unloading and maintenance of haul roads as per specifications and direction of E/I.						
	Unit:-Per Cum						
	Assuming out put=28.32 Cum						
A.	Unskilled mazdoor for dagbelling	0.50	nos	287.00	143.50		{SI-1}
	Unskilled mazdoor for cutting earth as well as removing organic materials etc.	6	nos	287.00	1722.00		{SI-1}
	Unskilled mazdoor for preparation of sheet	1	nos	287.00	287.00		{SI-1}
	Mate	0.25	nos	311.00	77.75		S II-2
B.	Carriage of earth by 10 M.T capacity Truck						
	Carriage cost of earth for 2 k.m lead						
	Average lead	1500	M				
	Truck capacity 8 MT (compacted earth)	4.8	Cum				
	Cycle time— Average speed	17	km/hr				
	(a) Hauling time = lead x 60 x 2/1000 x Average speed	Average	10.59	minutes			
	(b) Loading unloading turning and spolling time=		60	minutes			
	Total hauling cycle time=		70.59	minutes			
	No of trip per working hour = Loading unloading turning and spolling time / Total hauling time		0.85	trips			
	Material carried=trips x net capacity		4.08	M ³			
	Hourly use rate of truck		934.30	hr			
	Rate per 28.32 cum for carriage only= Use rate of truck x 28.32 / material carried				Rs	6485.14	
	© Construction and maintenance of haul road @ 5 % of Item (B)				Rs	324.26	
						9039.65	
	Add Overhead charge & C.P@15%					1355.95	
						10395.60	367.08
	Rate per cum	Say Rs				367.10	Per M ³
6.1.8	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of the excavated earth so obtained (50 M away from the edge of the trench) with initial lead of 150M and initial lifts of 1.5M all complete as per specifications and direction of E/I.						
	Unit:- Per Cum						
	Assuming out put= 28.32 Cum						
	Unskilled mazdoor for cutting earth	6	nos	287.00	1722.00		{SI-1}
	Unskilled mazdoor for carrying	7	nos	287.00	2009.00		{SI-1}
	Head Mason	0.25	nos	388.00	97.00		{S II -3}
						3828.00	
	Add Overhead charge & C.P@15%					574.2	
						4402.20	155.44
	Rate per cum	Say Rs				155.40	Per M ³
6.1.9	Extra for earth work in hard soil (vide classification of soil item-B) all complete as per specification and direction of E/I.						
	Unit:-Per Cum						

195 yr (Sachin)

(Sachin) 12/12/20



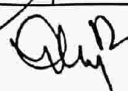

	Assuming out put =28.32 Cum					
	Unskilled mazdoor	2	nos	287.00	574.00	{SI-1}
					574.00	
	Add Overhead charge & C.P@15%				86.10	
					660.10	23.31
	Rate per cum		Say Rs	23.30	Per M ³	
6.1.10	Extra for earth work in marshy soil , slush and daidal (vide classification of soil item-F) all complete as per specification and direction of E/I.					
	Unit:- Per Cum					
	Assuming out put= 28.32 Cum					
	Unskilled mazdoor for cutting	1.50	nos	287.00	430.50	{SI-1}
	Unskilled mazdoor for carrying	1.50	nos	287.00	430.50	{SI-1}
					861.00	
	Add Overhead charge & C.P@15%				129.15	
					990.15	34.96
	Rate per cum		Say Rs	35.00	Per M ³	
6.1.11.1	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of excavated materials so obtained (beyond 50M away from the edge of the trench) with initial lead of 150M and initial lifts of 1.5M all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit:- Per Cum					
	Assuming out put =10.00 Cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	9.50	nos	287.00	2726.50	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II -3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				15.00	
					5543.61	
	Add Overhead charge & C.P@15%				831.54	
					6375.15	637.51
	Rate per cum		Say Rs	637.50	Per M ³	
6.1.11.2	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock(Where blasting is not required) (vide classification of soil Item C) disposal of excavated materials so obtained (beyond 50 M away from the edge of the trench) with initial lead of 150M and initial lifts of 1.5M all complete as per specifications and direction of E/I.					
	Unit:- Per Cum					
	Assuming out put=10.00 Cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	11.50	nos	287.00	3300.50	{SI-1}
	Mason Gr I	0.50	nos	388.00	194.00	{S II -3}
					4325.00	
	Add Overhead charge & C.P@15%				648.75	
					4973.75	497.38
	Rate per cum		Say Rs	497.30	Per M ³	
6.1.12	Earth work in excavation of foundation trenches as per designed section in hard rock where blasting is required and stacking properly in approved stack size in approved stack yard (beyond 50 M away from the edge of the trench in country side) with initial lead of 150 m and initial lifts of 1.5M all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10.00 Cum					

196

M- (4) 31 Wlym d

A.	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all work	13.00	nos	287.00	3731.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II -3}
	Blaster	0.67	nos	477.00	319.59	{S I -54}
B.	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin 80%	2.75	Kg	806.85	2218.84	M-104
	Detonator	18	nos	5.75	103.42	M-094
	Fuse coil	3	nos	15.00	45.00	{0326}
C.	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				26.50	
					9743.39	
	Add Overhead charge & C.P@15%				1461.51	
					11204.90	1120.49
	Rate per cum	Say Rs		1120.50	Per M ³	
6.1.13	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of same in country side by Truck (50M away from the edge of the trench)beyond initial lead of 150M but up to 1 k.m with all lifts including loading, unloading, constructing and maintenance of haul roads etc.all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put =28.32 Cum					
A.	Unskilled mazdoor for cutting earth	6	nos	287.00	1722.00	{SI-1}
	Unskilled mazdoor for carrying	1	nos	287.00	287.00	{SI-1}
	Head Mason	0.25	nos	388.00	97.00	{S II -3}
B.	Cost of carriage of 28.32 cum earth by Truck including					
	Carriage cost of earth for 1 k.m lead					
	Average lead	575	M			
	Truck capacity 8 MT (compacted earth)	4.8	Cum			
	Cycle time--- Average speed	16	km/hr			
	(a) Hauling time = Average	4.31	minutes			
	(b) Loading unloading, turning and spolling time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour =					
	Loading, unloading, turning and spolling time / Total hauling time	0.93	trips			
	Material carried=trips x net capacity	4.48	M ³			
	Hourly use rate of truck	934.30	hr			
	Rate per 28.32 cum for carriage only= Use rate of truck x 28.32 / material carried			Rs	5906.11	
C.	Construction and maintenance of haul road @ 5 % of Item (B)			Rs	295.31	
					8307.42	
	Add Overhead charge & C.P@15%				1246.11	
					9553.53	337.34
	Rate per cum	Say Rs		337.30	Per M ³	
6.1.14.1	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C)and disposal of soil by Truck (50M away from the edge of the trench) beyond initial lead of 150 M but up to 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit:- Per Cum					
	Assuming out put= 10.00 Cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II -3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
B.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					

197

y -    

	Average lead=	575	M			
	Truck capacity 8 MT	6	cum			
	Swell factor	0.67				
	Net capacity=Truck capacity swell factor	4.02	Cum			
	Cycle time--- Average speed	16	km/hr			
	(a) Hauling time =Average leadx60x2/1000xAverage speed	4.31	minutes			
	(b) Loading unloading turning and spollting time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour =					
	Loading unloading turning and spollting time / Total hauling time	0.93	trips			
	Material carried=trips X net capacity	3.75	M ³			
	Hourly use rate of truck	934.30	hr			
	Rate per 10 cum for carriage only=Use rate of truckx10/material carried			Rs	2491.18	
	© Construction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
C.	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.746	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and				15.00	
					6580.84	
	Add Overhead charge & C.P@15%				987.13	
					7567.97	756.80
	Rate per cum	Say Rs		756.80	Per M ³	
6.1.14.2	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock(where blasting is not required) (vide classification of soil item C)and disposal of soil by Truck (50M away from the edge of the trench) beyond Initial lead of 150 M but upto 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Unit:- Per Cum					
	Assuming out put =10.00 Com-					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II -3}
B.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					
	Average lead=	575	M			
	Truck capacity 8 MT	6	cum			
	Swell factor	0.67				
	Net capacity=Truck capacity X swell factor	4.02	Cum			
	Cycle time--- Average speed	16	km/hr			
	(a) Hauling time = Average					
	lead X 60 X 2/1000 X Average speed	4.31	minutes			
	(b) Loading unloading turning and spollting time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour =					
	Loading unloading turning and spollting time / Total hauling time	0.93	trips			
	Material carried=tripsXnet capacity	3.75	M ³			
	Hourly use rate of truck	934.30	hr			
	Rate per 10 cum for carriage only=Use rate of truckx10/material carried			Rs	2491.18	
	© Construction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
					4722.27	
	Add Overhead charge & C.P@15%				708.34	
					5430.62	543.06
	Rate per cum	Say Rs		543.10	Per M ³	

198

(Handwritten signatures and initials)

6.1.15	Earth work in excavation of foundation trenches as per designed section in hard rock where blasting is needed and disposal of soil by Truck (50M away from the edge of the trench beyond initial lead of 150 M but up to 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10.0 Cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II -3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
B.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					
	Average lead=	575	M			
	Truck capacity 8 MT	6	cum			
	Swell factor	0.67				
	Net capacity=Truck capacity X swell factor	4.02	Cum			
	Cycle time--- Average speed	16	km/hr			
	(a) Hauling time =Average leadx60x2/1000xAverage speed	4.31	minutes			
	(b) Loading unloading turning and spollting time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour =					
	Loading unloading turning and spollting time / Total hauling time	0.93	trips			
	Material carried=trips X net capacity	3.75	M ³			
	Hourly use rate of truck	934.30	hr			
	Rate per 10 cum for carriage only=Use rate of truck X 10/material carried			Rs	2491.18	
	© Construction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
C.	Blasting material including carriage from Gomla to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	(0326)
D.	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				15.00	
					6580.84	
	Add Overhead charge & C.P@15%				987.13	
					7567.97	756.80
	Rate per cum	Say Rs		756.80	Per M ³	
6.1.16	Earth work in filling in foundation trenches and back filling of masonry structures with suitable earth in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with suitable earth obtained from excavation of foundation trenches and placed in a suitable profile within a lead of 30M and lift of 1.5M complete job as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting .	4.5	nos	287.00	1291.50	{SI-1}
	Unskilled mazdoor for carrying .	4	nos	287.00	1148.00	{SI-1}
	Head mason	0.125	nos	388.00	48.50	{S II -3}
					2488.00	
	Add Overhead charge & C.P@15%				373.20	
					2861.20	101.03
	Rate per cum	Say Rs		101.00	Per M ³	

(Handwritten signatures and initials)

6.1.17	Earth work in filling in foundation trenches and back filling of masonry structures with semi pervious or suitable earth in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with earth obtained after cutting from borrow pits with initial lead of 30 M and initial lift of 1.5 M complete job as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting .	5.5	nos	287.00	1578.50	{SI-1}
	Unskilled mazdoor for carrying .	4	nos	287.00	1148.00	{SI-1}
	Head mason	0.125	nos	388.00	48.50	{S II -3}
					2775.00	
	Add Overhead charge & C.P@15%				416.25	
					3191.25	112.69
	Rate per cum	Say Rs		112.70	Per M ³	
6.1.18	Extra for each subsequent lift up to 1 M over the initial lift of 1.5 M (for ordinary or hard soil) as per specification and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting	1	nos	287.00	287.00	{SI-1}
					287.00	
	Add Overhead charge & C.P@15%				43.05	
					330.05	11.65
	Rate per cum	Say Rs		11.70	Per M ³	
6.1.19	Extra for each subsequent lead up to 25 M beyond the initial lead of 30 M (for ordinary or hard soil) as per specification and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
					287.00	
	Add Overhead charge & C.P@15%				43.05	
					330.05	11.65
	Rate per cum	Say Rs		11.70	Per M ³	
6.1.20	Extra for each subsequent lift up to 1 M over the initial lift of 1.5 M (for ordinary soft or hard rock)as per specification and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting	1.5	nos	287.00	430.50	{SI-1}
					430.50	
	Add Overhead charge & C.P@15%				64.58	
					495.08	17.48
	Rate per cum	Say Rs		17.50	Per M ³	
6.1.21	Extra for each subsequent lead up to 25 M beyond the initial lead of 30 M (for ordinary soft or hard rock) as per specification and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor	1.5	nos	287.00	430.50	{SI-1}
					430.50	
	Add Overhead charge & C.P@15%				64.58	
					495.08	17.48
	Rate per cum	Say Rs		17.50	Per M ³	
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=(a+b)	#REF!	minutes			
	No of trip per working hour = 60 / Total hauling time	#REF!	Trips			
	Material carried=TripsxTruck capacity =	#REF!	Cum			
	Hourly use rate of	934.30	hr			
	Rate per cum=Use rate of truckx28.32/material carried			Rs	#REF!	
	© Constuction and maintenance of haul road @ 5 % of Item ('b)			Rs	#REF!	
	C. Cost of compaction(vide itm no 5.1.38)					
6.1.22	Deleted					
6.1.23	Deleted					

200

Handwritten signature/initials

Handwritten signature/initials

Handwritten mark

6.1.24.1	Fine dressing of the canals banks or embankment and turfing with 75 mm thick grass sod obtained within a lead of 150 M including the cost of watering the grass surface till it acquires greenness as per specifications and direction of E/I.					
	Unit:-Per % Sqm					
	Assuming out put=100Sqm					
	Unskilled mazdoor for cutting	1.5	nos	287.00	430.50	{SI-1}
	Unskilled mazdoor for caring	1.5	nos	287.00	430.50	{SI-1}
	Unskilled mazdoor for dressing, placing turf and ramming	1	nos	287.00	287.00	{SI-1}
	Bhisti for carriage of water and sprinkling	3	nos	285.00	855.00	{S II-13}
	Cost of watering till the growth				15.00	
					2018.00	
	Add Overhead charge & C.P@15%				302.70	
					2320.70	2320.70
	Rate per % sqm	Say Rs		2320.70	Per % M ²	
6.1.24.2	Extra for each lead of 150 M over initial lead of 150 M including the cost of watering the grass surface till it acquires greenness as per specifications and direction of E/I.					
	Unit:-Per % Sqm					
	Assuming out put=100Sqm					
	Unskilled mazdoor for carrying	1.50	nos	287.00	430.50	{SI-1}
					430.50	
	Add Overhead charge & C.P@15%				64.58	
					495.08	495.08
	Rate per % sqm	Say Rs		495.10	Per % M ²	
6.1.25	Close timbering in trenches including strutting, shoring and packing cavities (whereve required) depth not exceeding 1.5 M, complete as per specifications and direction of E/I. (Measurement to be taken of the face area timbered)					
	Unit:-Per Sqm					
	Assuming out put=90 Sqm					
	Assuming 30 mtr long 1.5 mtr deep					
	Area= 2 x 30 x 1.5 = 90 sqm.					
	Poling Boards					
	Local wood/kail planks 90 x 0.38= 3.42 cum	3.42	cum	26000.00	88920.00	M SL-221
	100 mm x100 mm					
	Local wood planks 4 x30x 0.1 x0.1 = 1.2 cum	1.2	Cum	26000.00	31200.00	
	Balli struts					
	Sal ballah 120 mm dia 1.5 m long 2 x17x1.5=51 mtr	51	mtr	53.99	2753.49	M SL-223
	Total Cost of material				122873.49	
	Carriage					
	Cost of carriage of material including loading, unloading and stacking @ 1% of total of cost materials				1228.73	
	Total cost of material with carriage cost				124102.22	
	Deduct credit for materials 75 % of the cost of material				92155.12	
					31947.11	(A)
	This (A) can be used four times					
	Therefore cost per use A/4				7986.78	
	Labour					
	Carpenter Gr II	0.5	nos	345.00	172.50	{S I -17}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
	Total				8446.28	
	Add Overhead charge & C.P@15%				1266.94	
					9713.22	107.92
	Rate per sqm	Say Rs		107.90	Per M ²	
6.1.26	Close timbering in trenches including strutting, shoring and packing cavities (whereve required) depth exceeding 1.5M ,but upto 3.0 M complete as per specifications and direction of E/I. (Measurement to be taken of the face area timbered)					
	Unit:-Per Sqm					
	Assuming out put=90 Sqm					
	Assuming 30 mtr long 1.5 mtr deep					

201

(Handwritten signatures and initials)

Area= 2 x 30 x 1.5 = 90 sqm.					
Poling Boards					
Local wood planks 90 x 0.38= 3.42 cum	3.42	cum	26000.00	88920.00	(BCD-1199)
100 mm x100 mm					
Local wood planks 4 x30x 0.1 x0.1 = 1.2 cum	1.2	Cum	26000.00	31200.00	
Balli struts					
Sal balliah 120 mm dia 1.5 m long 2 x17x1.5=51 mtr	51	mtr	53.99	2753.49	M SL-223
Total Cost of material				122873.49	
Cost of carriage of material including loading, unloading and stacking @ 1 % of total of cost materials				1228.73	
Total cost of material with carriage cost				124102.22	
Deduct credit for materials 75 % of the cost of material				92155.12	
				31947.11	(A)
This (A) can be used four times Therefore, cost per use A/4				7986.78	
Labour					
Carpenter Gr II	0.75	nos	345.00	258.75	{S I -17}
Unskilled mazdoor	2	nos	287.00	574.00	{SI-1}
Total				8819.53	
Add Overhead charge & C.P@15%				1322.93	
				10142.46	112.69
Rate per sqm		Say Rs	112.70	Per Sqm	
6.1.27	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond initial lead of 150 M but within 1.00 K.M and all lifts by Tipper including loading, unloading and maintenance of haul roads as per specifications and direction of E/I.				
Unit:-Per Cum					
Assuming out put=28.32 Cum					
A.	Unskilled mazdoor for dagbelling	0.50	nos	287.00	143.50 {SI-1}
	Unskilled mazdoor for for cutting earth as well as removing organic materials etc.	6	nos	287.00	1722.00 {SI-1}
	Unskilled mazdoor for preparation of sheet	1	nos	287.00	287.00 {SI-1}
	Mate	0.25	nos	311.00	77.75 S II-2
				2230.25	
Add Overhead charge & C.P@15%				334.54	
				2564.79	90.56
B.	Carriage of earth by 5.5 cum capacity Tipper				
Taking output = 1 cum.km					
Loading and Unloading of Earth By manual means Vide item no 4.2					
		1	cum	215.70	215.70 Xa
Cost of Haulage vide item no 4.4 (c)					
		1	cum.km	36.40	36.40 Lead x H _{ka}
				252.10	
					342.66
Rate per sqm		Say Rs	342.60	Per M ³	
6.1.28	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond 1.00 K.M but up to 2 K.M away with all lifts by Tipper including loading, unloading and maintenance of haul roads as per specifications and direction of E/I.				
Unit:-Per Cum					
Assuming out put=28.32 Cum					
A.	Unskilled mazdoor for dagbelling	0.50	nos	287.00	143.50 {SI-1}
	Unskilled mazdoor for cutting earth as well as removing organic materials etc.	6	nos	287.00	1722.00 {SI-1}
	Unskilled mazdoor for preparation of sheet	1	nos	287.00	287.00 {SI-1}
	Mate	0.25	nos	311.00	77.75 S II-2
				2230.25	
Add Overhead charge & C.P@15%				334.5375	
				2564.79	90.56
B.	Carriage of earth by 5.5 cum capacity Tipper				
Taking output = 1 cum.km					

202 y

	Loading and Unloading of Earth By manuals means Vide item no 4.2	1	cum	215.70	215.70	Xa
	Cost of Haulage vide item no 4.4(c)	2	cum.km	36.40	72.80	Lead x H _{ka}
					288.50	288.5
						379.06
	Rate per cum	Say Rs		379.00	Per M ³	
6.1.29	Earth work in excavation of foundation trenches in ordinary soil (vide classification of soil item A) and disposal of same in country side by Tipper (50M away from the edge of the trench)beyond initial lead of 150M but up to 1 k.m with all lifts including loading, unloading, constructing and maintenance of haul roads etc.all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
A.	Unskilled mazdoor for cutting earth	6	nos	287.00	1722.00	{SI-1}
	Unskilled mazdoor for carrying	1	nos	287.00	287.00	{SI-1}
	Head Mason	0.25	nos	388.00	97.00	{S II -3}
					2106.00	
	Add Overhead charge & C.P@15%				315.9	
					2421.90	85.52
B.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means Vide item no 4.2	1	cum	215.70	215.70	Xa
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ka}
					252.10	252.1
						337.62
	Rate per cum	Say Rs		337.60	Per M ³	
6.1.30.1	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C)and disposal of soil by Tipper (50 M away from the edge of the trench beyond initial lead of 150 M but up to 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit:-Per Cum					
	Assuming out put=10.00 Cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II -3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
					2263.95	
	Add Overhead charges &C.P@15%				339.59	
					2603.54	260.35
B.	Blasting material includingcarriage from Gomia to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				15.00	
					1701.16	
	Add Overhead charge & C.P@15%				255.17	
					1956.33	195.63
C.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means Vide item no 4.2	1	cum	215.70	215.70	Xa
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _k
					252.10	252.10

203

y

24/10/20

a

Shy

						708.09
						708.09
	Rate per cum	Say Rs		708.10	Per M ³	
6.1.30.2	Earth work in excavation of foundation trenches as per designed section in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C) and disposal of soil by Tipper (50 M away from the edge of the trench beyond initial lead of 150 M but up to 1 k.m away with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Assuming 10cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II -3}
					2106.54	
	Add Overhead charge & C.P@15%				315.98	
					2422.52	242.25
	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means Vide item no 4.2					
		1	cum	215.70	215.70	Xa
	Cost of Haulage vide item no 4.4(c)					
		1	cum.km	36.40	36.40	Lead x H _{ka}
					252.10	252.1
						494.35
						494.35
	Rate per cum	Say Rs		494.40	Per M ³	
6.1.31	Earth work in excavation of foundation trenches as per designed section in hard rock where blasting is needed and disposal of soil by Tipper (50M away from the edge of the trench beyond initial lead of 150 M but upto 1 k.m away with all lifts, including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10.00 Cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II -3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
B.	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories					
					15.00	
					3965.11	
	Add Overhead charge & C.P@15%				594.77	
					4559.87	455.99
C.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means Vide item no 4.2					
		1	cum	215.70	215.70	Xa
	Cost of Haulage vide item no 4.4(c)					
		1	cum.km	36.40	36.40	Lead x H _k
					252.10	252.10
						708.09
						708.09
	Rate per cum	Say Rs		708.10	Per M ³	

a

204

✓ (Signature) (Signature) (Signature)

6.1.32	Earth work in filling in foundation trenches or back filling of masonry structures with pervious soil in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with earth obtained after cutting from borrow pits beyond 150 M lead but up to 1/2 K.M. with all lift and carriage by Tipper complete job as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	S II-2
B.	Cost of compaction(vide itm no 6.1.38)					
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Bhisti for carriage of water and sprinkling	3	nos	285.00	855.00	{S II-13}
	Total (A+B)				5184.00	
	Add Overhead charge & C.P	15	%		777.60	
					5961.60	210.51
C.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means Vide item no 4.2	1	cum	215.70	215.70	Xa
	Cost of Haulage vide item no 4.4 (c)	0.5	cum.km	36.40	18.20	Lead x H _k
					233.90	233.9
						444.41
						444.41
	Rate per cum	Say Rs		444.40	Per M ³	
6.1.33	Earth work in filling in foundation trenches or back filling of masonry structures with pervious soil in layers not exceeding 150 mm thick well watered, rammed and fully compacted and finally dressed with earth obtained after cutting from borrow pits beyond 1/2 K.M lead but up to 1 K.M. with all lift and carriage by Tipper complete job as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	S II-2
B.	Cost of compaction(vide Item no 6.1.38)					
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Bhisti for carriage of water and sprinkling	3	nos	285.00	855.00	Xa
	Total (A+B)				5184.00	
	Add Overhead charge & C.P@15%				777.60	
					5961.60	210.51
C.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means Vide item no 4.2	1	cum	215.70	215.70	Xa
	Cost of Haulage vide item no 4.4 (c)	1	cum.km	36.40	36.40	Lead x H _k
					252.10	252.1
						462.61
						462.61
	Rate per cum	Say Rs		462.60	Per M ³	

Handwritten signatures and initials: *Y*, *Chit*, *R*, *Shy*

205

6.2 DRILLING WORK

Sr.No.	Item	Rate	Unit
6.2.1.1	Core drilling of N x (53 mm To 75 mm) (Internal dia To External dia) size by Rotary core drilling machine up to 20 meters depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.	#VALUE!	Per M
6.2.1.2	Core drilling of N x (Internal dia To External dia) (53 mm To 75 mm) (Internal dia To External dia) size by Rotary core drilling machine up to 20 meters depth and up to 30 meters depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.	#VALUE!	Per M
6.2.2	Core drilling of 41mm To 75 mm (Internal dia To External dia) size by Rotary core drilling machine with T.C drill bit in all kinds of soil mixed with boulder, pebbles, shingles etc. including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction maintenance of core and sludge for foundation exploration only complete as per specifications and direction of E/I.	#VALUE!	Per M
6.2.3.1	Core drilling of B x (41 mm To 59 mm)(Internal dia To External dia) size by Rotary core drilling machine up to 20 meters depth and up to 30 meters depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete . as per specifications and direction of E/I.	#VALUE!	Per M
6.2.3.2	Core drilling of B x (Internal dia To External dia) (41 mm To 59 mm) size by Rotary core drilling machine up to 20 meters depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete . as per specifications and direction of E/I.	#VALUE!	Per M
6.2.4.	Drilling by Rotary core drilling machine of size 41 mm To 75 mm dia (Internal dia To External dia) with T.C drill bit for grout and test holes in all kinds of soil including moorum, hard soil mixed with pebbles, shingles and compacted soil up to 20 meter depth including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction finishing etc. till operation is completed as per specifications and direction of E/I.	#VALUE!	Per M
6.2.5	Drilling by Rotary drill machine of size 41 mm To 75 mm dia (Internal dia To External dia) with T.C drill BUT for grout and test holes in clay soft and decomposed rock upto 20 meter depth including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction finishing etc. till grouting, complete including as per specifications and direction of E/I.	#VALUE!	Per M
6.2.6	Drilling B x (41 mm To 59 mm) (Internal dia To External dia) size dia test and grout holes in all kinds of hard rock including finishing etc. till grouting operation is completed as per specifications and direction of E/I.	#VALUE!	Per M

R

206

①

②

③

6.2.7	Drilling N x (53 mm To 75 mm) size dia test and grout holes in all kinds of hard rock including finishing etc. till grouting operation is completed as per specifications and direction of E/I.	#VALUE!	Per M
6.2.8.	Drilling Jack Hammer in hard of all kinds for grout holes up to 5 meter depth (for contact grouting) all complete including washing of holes for period not exceeding 10 minutes per hole as per specifications and direction of E/I.	#VALUE!	Per M
6.2.9	Drilling by wagon drill machine in hard of all kinds for grout holes up to 5 meter depth (for consolidation grouting) all complete including washing of holes for period not exceeding 10 minutes per hole as per specifications and direction of E/I.	#VALUE!	Per M



 A collection of handwritten signatures and initials, including a circled 'Ami', 'yr', 'd', and a large signature 'Aly' with a checkmark above it.

6.2 DRILLING WORK

Sl.no	Description	Quantity	Unit	Rate	Amount	Ref.
6.2.1.1	Core drilling of N x (53 mm To 75 mm) (Internal dia To External dia) size by Rotary core drilling machine up to 20 metres depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.					
	(i) Hourly use rate of rotary core drilling machine and diesel pump (Vide item no 3.4)	#VALUE!				
	(ii). Average progress of core drilling has been found to be 1.5 metre in 3 hrs. Therefore cost of drilling /m= R/0.5	0.5	M		#VALUE!	
	(iii). Cost of Diamond bit for N x size at site Rs 'D'	IINPUT				
	Life of the bit = 10 metres	10	M			
	Cost of bit per metre = D/10				#VALUE!	
	(iv). Cost of (N x Size) Reaming shell at site = 'S'	IINPUT				
	Life of Reaming shell = 50 metres / shell	50	M/shell			
	Cost of shell per metre = S / 50				#VALUE!	
	(v). Shifting cost of the machine from one hole to another @ 40 % of item no (ii). Above	40	%		#VALUE!	
	(vi). Cost of core box, indexing marking placing in the core box and storing it properly. Cost of good quality wooden core box 3 metres long x 0.85 metre wide x 0.15 metre deep with longitudinal compartment to accommodate 5 row of 3 metres long cores i.e. total 15 metres.	15	M			
	Cost of core box = 'X'	IINPUT				
	Cost per meter= X/15				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per M		Say Rs	#VALUE!	Per M	
6.2.1.2	Core drilling of N x (Internal dia To External dia) (53 mm To 75 mm) (Internal dia To External dia) size by Rotary core drilling machine up to 20 metres depth and up to 30 metres depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.					
	The rate for item 6.2.1.1 has been worked out for drilling up to 20 metres depth while drilling beyond 20 metres depth. The depth covered per hour gets reduced to 0.33 metres in place of 0.50 metre per hour, therefore affecting the cost of drilling as per item 8.2.1 ii.Hence cost of drilling per metre = R x 3					
	(i) Hourly use rate of rotary core drilling machine and diesel pump (Vide item no 3.4)	#VALUE!				
	ii.Hence cost of drilling per metre = R /0.33	0.33	M		#VALUE!	
	(iii). Cost of Diamond bit for N x size at site Rs 'D'	IINPUT				
	Life of the bit = 10 metres	10	M			
	Cost of bit per metre = D/10				#VALUE!	
	(iv). Cost of (NxSize) Reaming shell at site = 'S'	IINPUT				
	Life of Reaming shell = 50 metres / shell	50	mtr/shell			
	Cost of shell per metre = S / 50				#VALUE!	
	(v). Shifting cost of the machine from one hole to another @ 40 % of item no (ii). Above	40	%		#VALUE!	

208

Handwritten signatures and initials: (Amit), (S), (Dhy R), and other marks.

	(vi). Cost of core box, indexing marking placing in the core box and storing it properly. Cost of good quality wooden core box 3 metres long x 0.85 metre wide x 0.15 metre deep with longitudinal compartment to accommodate 5 row of 3 metres long cores i.e. total 15 metres.	15	M			
	Cost of core box = 'X' /	IINPUT				
	Cost per metre= X/15				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
	Rate per M				#VALUE!	#VALUE!
	Note:- To the rates derived above following may be included as mobilization and demobilization charge depending on the value of work (i). Upton Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii). Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only		Say Rs	#VALUE!	Per M	
6.2.2	Core drilling of 41mm To 75 mm (Internal dia To External dia) size by Rotary core drilling machine with T.C drill bit in all kinds of soil mixed with boulder, pebbles, shingles etc. including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction maintenance of core and sludge for foundation exploration only complete as per specifications and direction of E/I.					
	(i) Hourly use rate of rotary core drilling machine and diesel pump (Vide Item no 3.4)	#VALUE!				
	(ii). Average progress of core drilling has been found to be 2.50 metre per hour (As per actual observation). Therefore cost of drilling /m= Use rate of DCDM/2.5	2.5	mtr		#VALUE!	
	(iii). Cost of Tungsten Carbide bit at site Rs.	IINPUT				
	Assuming Life of the bit = 20 metres / bit	20				
	Cost of bit per metre = R/20				#VALUE!	
	(iv). Cost of Reaming shell at site = 'N'	IINPUT				
	Life of Reaming shell = 100 metres / shell	100				
	Cost of shell per metre = N / 100				#VALUE!	
	(v). Shifting cost of the machine from one hole to another @ 40 % of item no (ii). Above (On the basis of item on 20(iii) page 125 of report of committee on control of R.V.Project)	40	%		#VALUE!	
	(vi). Cost of core box, indexing marking placing in the core box and storing it properly. Cost of good quality wooden core box 3 metres long x 0.85 metre wide x 0.15 metre deep with longitudinal compartment to accommodate 5 row of 3 metres long cores i.e. total 15 metres.	15	M			
	Cost of core box = 'CB'	IINPUT				
	Cost per meter= CB/15				#VALUE!	
	(vii). Lowering 50 m dia light duty G.I causing pipe and its extraction including cutting , threading an providing socket wherever necessary.					
	(a). Cost of 50 mm dia light duty G.I pipe= (assuming 50 % of light G.I pipe will be salvaged hence only 50 % cost should be taken)	INPUT			#VALUE!	
	(b) Unskilled mazdoor for raising (Extracting) the casing pipe	0.17	nos	287.00	47.83	
	Total (ii)+(iii)+(iv)+(v)+(vi)+(vii)				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
	Rate per M			Say Rs	#VALUE!	Per M

g- (Amr) 3/2
 Only
 a



209

	Note:- To the rates derived above following may be included as mobilization and demobilization charge depending on the value of work (i). Upto Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii). Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only						
6.2.3.1	Core drilling of B x (41 mm To 59 mm)(Internal dia To External dia) size by Rotary core drilling machine up to 20 metres depth and up to 30 metres depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.						
	(I) Hourly use rate of rotary core drilling machine and diesel pump (Vide Item no 3.4)	#VALUE!					
	(ii).Average progress of core drilling has been found to be 0.80 metre per hrs(as per actual observation at Latratu Dam site). Therefore cost of drilling /m= R/0.80	0.8	M			#VALUE!	
	(iii). Cost of Diamond bit or (Bxsize) at site Rs 'T'	IINPUT					
	Life of the bit = 10 metres	10					
	Cost of bit per metre = T/10					#VALUE!	
	(iv). Cost of (Bxsize) Reaming shell at site = 'TK'	IINPUT					
	Life of Reaming shell = 50 metres / shell	50					
	Cost of shell per metre = TK / 50					#VALUE!	
	(v). Shifting cost of the machine from one hole to another @ 40 % of item no (ii). Above	40	%			#VALUE!	
	(vi). Cost of core box, indexing marking placing in the core box and storing it properly. Cost of good quality wooden core box 3 metres long x 0.85 metre wide x 0.15 metre deep with longitudinal compartment to accommodate 5 row of 3 metres long cores i.e. total 15 metres.	15	M				
	Cost of core box = 'CB'	IINPUT					
	Cost per meter= CB/15					#VALUE!	
	Add Overhead charge & C.P@15%					#VALUE!	
						#VALUE!	#VALUE!
						#VALUE!	#VALUE!
	Rate per M		Say Rs	#VALUE!	Per M		
6.2.3.2	Core drilling of B x (Internal dia To External dia) (41 mm To 59 mm) size by Rotary core drilling machine up to 20 metres depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.						
	The rate for Item 8.2.3.1 has been worked out for drilling up to 20 metres depth while drilling beyond 20 metres depth. The depth covered per hour gets reduced to 0.50 metres in place of 0.80 metre per hour, therefor affecting the cost of drilling as per item 8.2.1 (ii). Hence cost of drilling per metre = R x 0.50						
	(I) Hourly use rate of rotary core drilling machine and diesel pump (Vide Item no 3.4)	#VALUE!					
	(ii).Average progress of core drilling has been found to be 0.50 metre per hrs(as per actual observation at Latratu Dam site). Therefore cost of drilling /m= R/0.50	0.5	mtr			#VALUE!	
	(iii). Cost of Diamond bit or (Bxsize) at site Rs 'T'	IINPUT					
	Life of the bit = 10 metres	10					
	Cost of bit per metre = T/10					#VALUE!	
	(iv). Cost of (Bxsize) Reaming shell at site = 'TK'	IINPUT					
	Life of Reaming shell = 50 metres / shell	50					

210 R

Handwritten signatures and initials.

Cost of shell per metre = TK / 50				#VALUE!	
(v). Shifting cost of the machine from one hole to another @ 40 % of Item no (ii). Above	40	%		#VALUE!	
(vi). Cost of core box, indexing marking placing in the core box and storing it properly. Cost of good quality wooden core box 3 metres long x 0.85 metre wide x 0.15 metre deep with longitudinal compartment to accommodate 5 row of 3 metres long cores i.e. total 15 metres.	15	M			
Cost of core box = 'CB'	IINPUT				
Cost per metre= CB/15				#VALUE!	
Add Overhead charge & C.P@15%				#VALUE!	
				#VALUE!	#VALUE!
				#VALUE!	#VALUE!
Rate per M		Say Rs	#VALUE!	Per M	
Note:- To the rates derived above following may be included as mobilization and demobilization charge depending on the value of work (i). Up to Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii). Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only					
6.2.4. Drilling by Rotary core drilling machine of size 41 mm To 75 mm dia (Internal dia To External dia) with T.C drill bit for grout and test holes in all kinds of soil including moorum, hard soil mixed with pebbles, shingles and compacted soil up to 20 metre depth including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction finishing etc. till operation is completed as per specifications and direction of E/I.					
(i) Hourly use rate of rotary core drilling machine and diesel pump (Vide Item no 3.4)	#VALUE!				
(ii). Average progress of core drilling has been found to be 2.50 metre per hour (As per actual observation). Therefore cost of drilling /m= D/2.5	2.5	M		#VALUE!	
(iii). Cost of Tungsten Carbide bit at site Rs.T.C	IINPUT				
Assuming Life of the T.C bit = 20 metres	20				
Cost of bit per metre = T.C/20				#VALUE!	
(iv). Cost of Reaming shell at site = 'RS'	IINPUT				
Assuming Life of Reaming shell = 100 metres	100				
Cost of shell per metre = RS / 100				#VALUE!	
(v). Shifting cost of the machine from one hole to another @ 40 % of item no (ii). Above	40	%		#VALUE!	
(vi). Lowering 50 metre dia light duty G.I casing pipe and its extraction including cutting, threading and providing socket wherever necessary. (vide T.E.C Item no 12.1.61)	1	M	#VALUE!	#VALUE!	
Analysis (vide T.E.C Item no 12.1.61) Supplying labour, materials and equipment for lowering 100 mm G.I.pipe (casing) up to 12 m depth for protecting the sides from filling during the process of drilling as per specification and direction of E/I. (G.I casing to be supplied departmentally)					
i. Carriage of pipe for an average lead of 50 K.M from store to site (12 mtr. In length as per carriage schedual					
ii. Cutting two pipe in four pieces) lowering of pipe is made in length of 3 metre)					
iii. Making thread In cut pieces	4	nos	INPUT	#VALUE!	
iv. Supplying and fitting two extra socket	2	nos	INPUT	#VALUE!	
v. Red lead and jute etc. for socket fixing				3.00	
vi. Plumber Gr I	0.5	nos	367.00	183.50	(SII 32)
				#VALUE!	
Add Overhead charge & C.P @15%				#VALUE!	
				#VALUE!	#VALUE!

a 211 ✓   R. A. Jey




	Rate per M	Say Rs	#VALUE!	Per mtr	
(a). Cost of 50 mm dia light duty G.I pipe= (assuming 50 % of light G.I pipe will be salvaged hence only 50 % cost should be taken)	1.00	mtr	INPUT	#VALUE!	
(b). Labour for cutting, threading and inserting etc.	0.08		287.00	22.96	
(c) Unskilled mazdoor for raising (Extracting) the casing pipe	0.17	nos	287.00	48.79	
(d). Clearing the pipe					
Final Rate (ii)+(iii)+(iv)+(v)+(vi)+(vii)				#VALUE!	
Add Overhead charge & C.P@15%				#VALUE!	
				#VALUE!	#VALUE!
				#VALUE!	#VALUE!
Rate per M	Say Rs	#VALUE!	Per M		
Note:- To the rates derived above following may be included as mobilisation and demobilisation charge depending on the value of work (i). Upto Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii). Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only					
6.2.5	Drilling by Rotary drill machine of size 41 mm To 75 mm dia (Internal dia To External dia) with T.C drill BUT for grout and test holes in clay soft and decomposed rock upto 20 metre depth including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction finishing etc. till grouting, complete as per specifications and direction of E/I.				
	(i) Hourly use rate of rotary core drilling machine and diesel pump (Vide item no 3.4)	#VALUE!			
	(ii). Average progress of core drilling has been found to be 1.50 metre per hour (As per actual observation at Latrau Dam site). Therefore cost of drilling /m= R/1.5	1.5	M	#VALUE!	
	(iii). Cost of Tungsten Carbide bit at site Rs.	INPUT			
	Assuming Life of the T.C bit = 20 metres	20			
	Cost of bit per metre = T.C/20			#VALUE!	
	(iv). Cost of Reaming shell at site = 'RS'	INPUT			
	Assuming Life of Reaming shell =100 metres	100			
	Cost of shell per metre = RS / 100			#VALUE!	
	(v). Shifting cost of the machine from one hole to another @ 40 % of item no (ii). Above	40	%	#VALUE!	
	(vi). Lowering 50 metre dia light duty G.I casing pipe and its extraction including cutting, threading and providing socket wherever necessary.	1	mtr	#VALUE!	#VALUE!
	(a). Cost of 50 mm dia light duty G.I pipe= (assuming 50 % of light G.I pipe will be salvaged hence only 50 % cost should be taken)	1.00	M	INPUT	#VALUE!
	(b). Labour for cutting, threading and inserting etc.	0.08		INPUT	#VALUE!
	© Unskilled mazdoor for raising (Extracting) the casing pipe	0.17	nos	INPUT	#VALUE!
	(d). Clearing the pipe				
	Final Rate (ii)+(iii)+(iv)+(v)+(vi)+(vii)			#VALUE!	
	Add Overhead charge & C.P@15%			#VALUE!	
				#VALUE!	#VALUE!
				#VALUE!	#VALUE!
Rate per M	Say Rs	#VALUE!	Per M		
Note:- To the rates derived above following may be included as mobilisation and demobilisation charge depending on the value of work (i). Upto Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii). Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only					

a

212

Handwritten signatures and initials at the bottom of the page.

6.2.6	Drilling B x (41 mm To 59 mm) (Internal dia To External dia) size dia test and grout holes in all kinds of hard rock including finishing etc. till grouting operation is completed as per specifications and direction of E/I.					
	(A). 40% drilling is done by wagon drill machine. Hence cost of drilling per metre by wagon drill vide item no 8.2.9 x 0.4 =				#VALUE!	
	(B). 60 % drilling is done by diamond core drilling machine because beyond filled up portion of cut off trench diamond core drilling machine is utilised in place of wagon drill for deeper depth machine. Drilling for the purpose of test and grout holes take place only in fissures and fractured rock. Hence cost of drilling per metre by Diamond core drilling= 0.60 x Rate of B x Size drilling by Rotary core drilling machine. Cost of core box, indexing, marking etc.) vide item 8.2.3.1. Total cost of drilling per metre				#VALUE!	
	Total				#VALUE!	#VALUE!
	Add Overhead charge & C.P@15%					#VALUE!
	Rate pe M		Say Rs	#VALUE!	Per M	
	Note:- To the rates derived above following may be included as mobilisation and domobilisation charge depending on the valu of work (i). Upto Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii). Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only					
6.2.7	Drilling N x (53 mm To 75 mm) size dia test and grout holes in all kinds of hard rock including finishing etc. till grouting operation is completed as per specifications and direction of E/I.					
	(One a fission and Zeological condition as per report received from zeological and actual obervation)					
	(A). 40% drilling is done by wagon drill machine. Hence cost of drilling per metre by wagon drill vide item no 8.2.9 x 0.4 =				#VALUE!	
	(B). 60 % drilling is done by diamond core drilling machine because beyond filled up portion of cut off trench diamond core drilling machine is utilised in place of wagon drill for deeper depth machine. Drilling for the purpose of test and grout holes take place only in fissures and fractured rock. Hence cost of drilling per metre by Diamond core drilling= 0.60 x Rate of N x Size drilling by Rotary core drilling machine. Cost of core box, indexing, marking etc.) vide item 8.2.1.2. Total cost of drilling per metre				#VALUE!	
	Total				#VALUE!	#VALUE!
	Add Overhead charge & C.P@15%					#VALUE!
	Rate per M		Say Rs	#VALUE!	Per M	
	Note:- To the rates derived above following may be included as mobilisation and domobilisation charge depending on the valu of work (i). Upto Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii). Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only					
6.2.8	Drilling Jack Hammer in hard of all kinds for grout holes upto 5 metre depth (for contact grouting) all complete including washing of holes for period not exceeding 10 minutes per hole as per specifications and direction of E/I.					
	(A) Cost of drilling. Use rate of Jack Hammer (52 lbs) (vide Item 3.2)	#REF!				
	Average rate of drilling 35 mm hole per hour-- 2.3 metre	2.3	M			

a 213 M   

Hence rate of drilling per metre = Use rate of Jack Hammer/2.3				#REF!
(B). Cost of drill rod per metre of drilling. Drilling with Jack Hammer . Cost of 5.6 metre drill rod at site including cost of bit 'P'. Bit life 130 metre	#VALUE!			
(a). Rate per metre of drill rod and bit= P/130				#VALUE!
(b). Sharpening charge of bit @Rs 1.00 per m				1.00
Use rate of drill rods with bit / M= (a+b)				#VALUE!
(C). Labour, lighting and scaffolding etc. = 60 % of use rate of drill rods with bit per metre				#VALUE!
(D). Ventilation and work shap charges = = 40 % of use rate of drill rods with bit per metre				#VALUE!
(E). Washing the hole				
Total				#VALUE!
Add Overhead charge & C.P@15%				#VALUE!
				#VALUE!
Rate per M		Say Rs	#VALUE!	Per M
Note:- To the rates derived above following may be included as mobilisation and domobilisation charge depending on the valu of work (I). Upto Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii).Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only				
6.2.9 Drilling by wagon drill machine In hard of all kinds for grout holes upto 5 metre depth (for consolidation grouting) all complete including washing of holes for period not exceeding 10 minutes per hole as per specifications and direction of E/I.				
(On the basis of item on 20 page 125 of report of committee on control of R.V.Project vil II)				
(I) Hourly uso rate of Wagon drilling machine and diesel pump. (vide item 3.5)	#VALUE!			
(ii).Average progress of core drilling has been found to be 6 metre per hour 50 % progress due to source limitation etc. . The rate of drilling /hr= Use rate of wagon drill M/C=R/3				#VALUE!
(iii). Cost of drill steel per metre of drilling				
(a). Drill steel used with wagon drill				
The following drill equipments will be required for 10 metre deep drill holes with one wagon drill.				
Shank adopter	1	no	IINPUT	#VALUE!
Coupling sleeves	4	no	IINPUT	#VALUE!
Extension rod 1 x 3.00metre	1	no	IINPUT	#VALUE!
Extension rod 1 x 2.50 metre	1	no	IINPUT	#VALUE!
Extension rod 1 x 2.00 metre	1	no	IINPUT	#VALUE!
Extension rod 1 x 1.50 metre	1	no	IINPUT	#VALUE!
Extension rod 1 x 1.00 metre	1	no	IINPUT	#VALUE!
				#VALUE!
Economic lift=460 metre	460			
Cost of drill steel per metre of drilling				#VALUE!
(b).Cost of 4 point drill bit at site= R.S (Vide item no 3.5h)				
Total life of bit 130 metre	IINPUT			
Cost of bit/ metre of drilling= R.S/130	130			
(c).Sharpening charge @ 1.00 per metre				1.00
(iv). Cost of shifting of wagon drill @ 40 % of item (iii).				#VALUE!
(v). Lightening, ventilation and workshop charge @ 40 % of item (iii)				#VALUE!
(iv).Washing hole				
Total				#VALUE!
Add Overhead charge & C.P@15%				#VALUE!
				#VALUE!
				#VALUE!
Rate per M		Say Rs	#VALUE!	Per M

214

(Handwritten initials)

(Handwritten signature)

Note:- To the rates derived above following may be included as mobilization and demobilization charge depending on the value of work (i). Upto Rs 5 lakhs @ 10 % subject to maximum of Rs 37500 /- only (ii). Above Rs 5 lakhs Upto Rs 10 lakhs @ 7.5 % subject to maximum of Rs 50000 /- only (iii). Above Rs 10 lakhs @ 5 % subject to maximum of Rs 75000 /- only

--	--	--	--	--	--

(Signature)

y

3

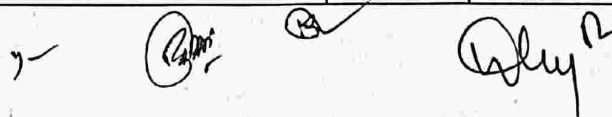
(Signature)

a

6.3. CONCRETE WORK

Sr.No.	Item	Rate	Unit
6.3.1	Providing and laying P.C.C with nominal mix of (1: 4 : 8) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates Gr III Taken)	3549.30	Per M ³
6.3.2	Providing and laying P.C.C M-100 with nominal mix of (1: 3 : 6) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc.complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates Gr IV Taken)	3884.10	Per M ³
6.3.3	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1:2:4) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc.complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm to 10 mm Taken)	4642.00	Per M ³
6.3.4	Providing and laying P.C.C or R.C.C M-200 with nominal mix of (1:1.5:3) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm to 10 mm Taken)	5161.40	Per M ³
6.3.5	Providing and laying P.C.C or R.C.C M-250 with nominal mix of (1:1:2) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc.complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates 20 mm To 10 mm Taken)	6380.70	Per M ³

6.3.6	Providing and laying P.C.C M-75 with nominal mix of (1: 4 : 8) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curingroyalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates Gr IV Taken)	3607.60	Per M ³
6.3.7	Providing and laying P.C.C M-100 with nominal mix of (1: 3 : 6) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates Gr III Taken)	3896.30	Per M ³
6.3.8	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1:2:4) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per design) (Rate of Coarse aggregates 20 mm to 10 mm Taken)	4642.00	Per M ³
6.3.9	Providing and laying P.C.C or R.C.C M-200 with nominal mix of (1:1.5:3) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates 20 mm to 10 mm Taken)	5161.40	Per M ³
6.3.10	Providing and laying P.C.C or R.C.C M-250 with nominal mix of (1:1:2) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates 20 mm to 10 mm Taken)	6415.70	Per M ³
6.3.11	Providing and laying R.C.C M-150 with nominal mix of (1: 2 : 4) in deck slab with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc. complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates 20 mm To 10 mm Taken)	4677.30	Per M ³



6.3.12	Providing and laying R.C.C M-200 with nominal mix of (1:1.5:3) in deck slab with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc.complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm to 10 mm Taken)	5196.40	Per M ³
6.3.13	Providing and laying mass concrete of M-100 with nominal mix of (1:3:6) in Barrage with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc. as well as royalty but excluding the cost of form work etc. wherever provided and removed after use,all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates Gr IV Taken)	#VALUE!	Per M ³
6.3.14	Providing and laying mass concrete of M-150 with nominal mix of (1:2:4) in Barrage with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc. as well as royalty but excluding the cost of form work etc. wherever provided and removed after use, all complete including royalty as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	#VALUE!	Per M ³
6.3.15	Providing and laying mass concrete of M-200 with nominal mix of (1:1.5:3) in Barrage with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc as well as royalty but excluding the cost of form work etc. wherever provided and removed after use, all complete including royalty, as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	#VALUE!	Per M ³
6.3.16	Providing and laying mass concrete of M-250 with nominal mix of (1:1:2) in Barrage with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc.as well as royalty but excluding the cost of form work etc. wherever provided and removed after use, all complete including royalty . as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	#VALUE!	Per M ³
6.3.17	Providing and laying dry pitching with precast cement concrete block 600 mm x 600 mm x 300 mm size of M-75 with nominal mix of (1:4:8) in floor and flank wall with approved quality of graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M washed and screened including necessary form work, tools and plants, vibrating, curing as well as royalty complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates Gr III Taken)	5713.10	Per M ³

4 (B)   

a

6.3.18	Providing and laying dry pitching with precast cement concrete block 600 mm x 600 mm x 300 mm size of M-100 with nominal mix of (1:3:6) in floor and flank wall with approved quality of graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M washed and screened including necessary form work, tools and plants, vibrating, curing as well as royalty complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates Gr III Taken)	6047.40	Per M ³
6.3.19	Centering and shuttering in major Barrage work involving mass concrete including cost of form work, their carriage from work shop to work site, erection with the help of suitable crane and stripping etc. complete job as per specifications and direction of E/I.	#VALUE!	Per M ²
6.3.20	Providing shuttering including strutting. Propping etc. and its removal after use in foundation work as per specifications and direction of E/I.	506.00	Per M ²
6.3.21	Providing shuttering including strutting. Propping etc. and its removal after use in superstructure portion of various components of dam work. as per specifications and direction of E/I.	506.00	Per M ²
6.3.22	Providing centering including strutting. Propping etc. and removing after use in deck slab as per specifications and direction of E/I.	677.10	Per M ²
6.3.23	Providing M.S reinforcement(Plain steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete jobi as per specifications and direction of E/I.		
	(a).Dia of bar 6 mm	56869.70	Per M.T
	(B).Dia of bar above 6 mm to 12 mm	56869.70	Per M.T
	(B).Dia of bar above 14 mm to 50 mm	56869.70	Per M.T
6.3.24	Providing M.S reinforcement (Tor steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.		
(a)	T.M.T.GRADE Fe-415- 8 mm	#VALUE!	Per M.T
(b)	T.M.T.GRADE Fe-415- 10 mm	#VALUE!	Per M.T
(c)	T.M.T.GRADE Fe-415- 12 mm	#VALUE!	Per M.T
(d)	T.M.T.GRADE Fe-415- 16 mm	#VALUE!	Per M.T
(e)	T.M.T.GRADE Fe-415- 20 mm	#VALUE!	Per M.T
(f)	T.M.T.GRADE Fe-415- 25 mm	#VALUE!	Per M.T
(g)	T.M.T.GRADE Fe-415- 28 mm	#VALUE!	Per M.T
(h)	T.M.T. GRADE Fe-415- 32 mm	#VALUE!	Per M.T
(i)	T.M.T.GRADE Fe-500- 8 mm	54877.30	Per M.T
(j)	T.M.T. GRADE Fe-500- 10 mm	53669.80	Per M.T
(k)	T.M.T.GRADE Fe-500- 12 mm	53066.10	Per M.T
(l)	T.M.T. Fe-500- 16 mm	53066.10	Per M.T
(m)	T.M.T. Fe-500- 20 mm	53066.10	Per M.T
(n)	T.M.T. Fe-500- 25 mm	53066.10	Per M.T
(o)	T.M.T. Fe-500- 28 mm	57395.00	Per M.T
(p)	T.M.T. Fe-500- 32 mm	53066.10	Per M.T
(q)	T.M.T. Fe-500- 36 mm	#VALUE!	Per M.T
6.3.25	Grouting for Dam foundation per bags of cement all complete as per specifications and direction of E/I.	345.90	Per Bags of cement
6.3.26	Providing and laying mass concrete of M-100 with nominal mix of (1:3:6) in flow and non-over flow of dam section with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.as well as royalty.but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.(With Batching Plant, Translt Mixer And Concrete Pump)(Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates Gr IV Taken)	2733.60	Per M ³

219

a

Handwritten signature

6.3.27	Providing and laying mass concrete of M-150 with nominal mix of (1:2:4) in over flow and non-over flow sectopm of dry intake, structures and bridges etc with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I. (With Batching Plant, Transit Mixer And Concrete Pump)(Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	3486.80	Per M ³
6.3.28	Providing and laying mass concrete of M-200 with nominal mix of (1:1.5 :3) in Dam and Spillways with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.as well as royalty .but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I. (With Batching Plant, Transit Mixer And Concrete Pump)(Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	4007.60	Per M ³
6.3.29	Providing and laying mass concrete of M-250 with nominal mix of (1: 1 : 2) in Dam , Spillways and Head works with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I. (With Batching Plant, Transit Mixer And Concrete Pump)(Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	5184.40	Per M ³

(Signature)

(Signature)

(Signature)

(Signature)

(Signature)

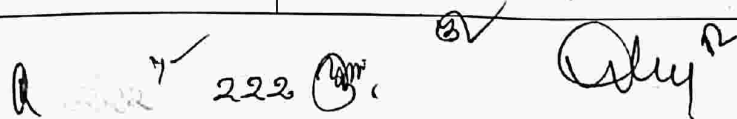
(Signature)

6.3. CONCRETE WORK

Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
6.3.1	Providing and laying P.C.C with nominal mix of (1: 4 : 8) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing royalty etc.complete job as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design) (Rate of Coarse aggregates Gr III Taken)					Analysis same as Item 5.3.2
6.3.2	Providing and laying P.C.C or R.C.C M-100 with nominal mix of (1: 3 : 6) In various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing,royalty etc. complete job as per specifications and direction of E/I.					Analysis same as Item 5.3.3
6.3.3	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1: 2 : 4) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc. complete job as per specifications and direction of E/I.					Analysis same as Item 5.3.4
6.3.4	Providing and laying P.C.C or R.C.C M-200 with nominal mix of (1:1.5:3) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc. complete job as per specifications and direction of E/I.					Analysis same as Item 5.3.5
6.3.5	Providing and laying P.C.C or R.C.C M-250 with nominal mix of (1: 1 : 2) in various components of Barrage foundation with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc.complete job as per specifications and direction of E/I.					Analysis same as Item 5.3.6
6.3.6	Providing and laying P.C.C or R.C.C M-75 with nominal mix of (1: 4 : 8) In various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc. complete job as per specifications and direction of E/I.					
	Unit:- Per Cum					
	Assuming out put=2.832 Cum					
MATERIALS						
	Coarse aggregates Gr IV (Rate of approved quality of aggregate as per Design)	2.718	M ³	532.52	1447.39	(M-048/ M-049)
	Sand	1.368	M ³	175.80	240.49	M-004
	Cement	0.34	M ³	7811.80	2656.01	M-1 P
	Total				4343.90	

Q
221
(Signature)
(Signature)
(Signature)
R

Labour					
Head mason	0.5	nos	388.00	194.00	{SII -3}
Mason Gr II	1.25	nos	345.00	431.25	{SII- 4}
Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
Bhisti	1	nos	285.00	285.00	S II-13
Total				4354.25	
HIRE CHARGES OF MACHINE					
(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 M ³ per hour. (vide Item 3.25)					
Used rate per hourx2.832/1.98	1.43	hr	86.30	123.41	(P&M- 009)
(ii) Vibrator 1no. To vibrate 2.832 cum on thebasic of vibrator capacity 1.98 cum per hour.					
Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	BCD SOR
				185.97	
				8884.12	
Add Overhead charge & C.P@15%				1332.62	
				10216.73	3607.60
Rate per cum	Say Rs		3607.60	Per M ³	
6.3.7	Providing and laying P.C.C or R.C.C M-100 with nominal mix of (1: 3 : 6) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc. complete job as per specifications and direction of E/I.				
	Unit:-Per Cum				
	Assuming out put=2.832 Cum				
MATERIALS					
Coarse aggregates Gr III (Rate of approved quality of aggregate as per Design)					
	2.66	M ³	511.44	1360.43	M-036
Sand	1.330	M ³	175.80	233.81	M-004
Cement	0.443	M ³	7811.80	3460.63	M-1 P
				5054.87	
Labour					
Head mason	0.5	nos	388.00	194.00	{S II -3}
Mason Gr II	1.25	nos	345.00	431.25	{S II- 4}
Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
Bhisti	1	nos	285.00	285.00	S II-13
Total				4354.25	
HIRE CHARGES OF MACHINE					
(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 M ³ per hour. (vide item 3.25)					
Used rate per hourx2.832/1.98	1.43	hr	86.30	123.41	P&M-009
(ii) Vibrator 1no. To vibrate 2.832 cum on thebasic of vibrator capacity 1.98 cum per hour.					
Used rate per hourx2.832/1.98	1.43	hr	43.75	62.56	BCD SOR
Total				9595.09	
Add Overhead charge & C.P@15%				1439.26	
				11034.36	3896.31
Rate per cum	Say Rs		3896.30	Per M ³	
6.3.8	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1: 2 : 4) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc. complete job , as per specifications and direction of E/I.				
	Analysis same as Item 5.3.9				



6.3.9	Providing and laying P.C.C or R.C.C M-200 with nominal mix of (1: 1.5 : 3) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc. complete job as per specifications and direction of E/I.	Analysis same as Item 5.3.10			
6.3.10	Providing and laying P.C.C or R.C.C M-250 with nominal mix of (1: 1 : 2) in various components of Barrage superstructure with approved quality of gravel coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc. complete job as per specifications and direction of E/I.				
Unit:-Per Cum					
Assuming out put=2.832 Cum					
MATERIALS					
Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Design)					
	2.40	M ³	697.55	1674.12	M-04/ M-052
Sand	1.20	M ³	175.80	210.96	M-004
Cement	1.20	M ³	7811.80	9374.16	M-1 P
				11259.24	
Labour					
Head mason	0.5	nos	388.00	194.00	{S II -3}
Mason Gr II	1.25	nos	345.00	431.25	{S II -4}
Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
Bhisti	1	nos	285.00	285.00	S II-13
				4354.25	
HIRE CHARGES OF MACHINE					
(i) Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 M ³ per hour. (vide Item 3.25)					
	Used rate per hour	2.832/1.98	1.43	hr	86.30 123.41
(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour.					
	Used rate per hour	2.832/1.98	1.43	hr	43.75 62.56 BCD SOR
Total				15799.46	
Add Overhead charge & C.P@15%				2369.92	
				18169.38	6415.74
Rate per cum		Say Rs	6415.70	Per M ³	
6.3.11	Providing and laying R.C.C M-150 with nominal mix of (1: 2 : 4) in deck slab with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc complete job as per specifications and direction of E/I.	Analysis same as Item 5.3.12			
6.3.12	Providing and laying R.C.C M-200 with nominal mix of (1: 1.5 : 3) in deck slab with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened excluding cost of shuttering or form work as well as reinforcement its cutting, bending, binding, and placing but including necessary tools and plants, vibrating, curing, royalty etc. complete job as per specifications and direction of E/I.	Analysis same as Item 5.3.13			

a 223 (Pmt) 3 Wdy R

6.3.13	Providing and laying mass concrete of M-100 with nominal mix of (1:3:6) in flow and non-over flow of dam section with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating, precooling etc as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Taking Out put=1.00 Cum					
	MATERIALS					
	Coarse aggregates Gr IV (Rate of approved quality of aggregate as per Design)	0.94	M ³	532.52	500.57	M-048 / M-049
	Sand	0.470	M ³	175.80	82.63	M-004
	Cement	0.157	M ³	7811.80	1226.45	M-1 P
(B)	(a). Batching and mixing charge					
	Use rate of Batching and mixing plant (vide Item 3.13a)	2981.00				P&M-002
	Batching and mixing plant capacity 26.76 cum (35 cuyd)	26.76	cum			
	(Taking job management factor as 0.69)	0.69				
	Rate per cum= Use rate/26.76*0.69	76.86			76.86	
	(b) Transport of concrete by 3.06 cum (4 cuyd) buckets hauled by 5 T Diesel Locomotive from batching and mixing plant to pick up point	3.06	cum			
	Average lead= 1.0 Km	1.00	Km			
	Hauling Cycle time					
	Ideal production at Batching plant=57.34 cum (75 cuyd)	57.34	cum			
	Actual production with 0.69 x 57.34=39.56 cum	39.56	cum			
	I.Loading time of a Train =3.06 x2 x60/39.56 =9.28 minutes	9.28	minute			
	ii.spolting time and waiting time =	1.50	minutes			
	iii.Turning and unloading time	9.28	minutes			
	iv.Empty haul @6.00 K.M per hour =Average Leadx60/6	10.00	minutes			
	v.Loaded haul @ 6.00 K.M per hour =Average Leadx60/6	10.00	minutes			
	Total hauling cycle time=(i +ii+iii+iv+v)	40.06	minutes			
	No of trips in 50 cum in working	1.25				
	Output of one train with 2 buckets per hr	7.65	cum			
	Use rate of Diesel Locomotive (Vide item 3.17a)	#VALUE!				
	Use rate of concrete buckets 2.nos (Vide Item 3.30a)	24.30				P&M-008
	Total use rate	#VALUE!				
	Transport rate per cum= Total use rate/7.65	#VALUE!			#VALUE!	
	(c). Placement of concrete by Hammer Head Crane					
	Use rate per cum (vide Item 3.20 b)	1289.30				P&M-071
	Output of crane per hour (production) using 2 no Bucates of 3.06 cum (4 cuyd) capacity each	3.06	cum			
	(Taking job management factor as 0.69)	0.69				
	Ideal production =57.34 cum (75 cuyd)	57.34	cum			
	Actual production with 0.69 x 57.34=39.56 cum	39.56	cum			
	Rate per cum= Use rate/39.56	1.00	cum	32.59	32.59	
	(d). Vibrating the concrete.	0.07	day	350.00	24.50	BCD SOR 4.1.1
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per cum	Say Rs		#VALUE!	Per M ³	

a 224

(Signature)

(Signature)

(Signature)

6.3.14	Providing and laying mass concrete of M-150 with nominal mix of (1:2 :4) in over flow and non-over flow sectopm of dry intake, structures and bridges etc with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.				
	Unit:-Per Cum Taking Out put=1.00Cum				
A	MATERIALS				
	Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Deslgn)	0.90	M ³	697.55	627.80 M 045
	Sand	0.450	M ³	175.80	79.11 M-004
	Cement	0.225	M ³	7811.80	1757.66 M-1 P
(B)	(a). Batching and mixing charge				
	Use rate of Batching and mixing plant (vide Item 3.13a)	2981.00			P & M-002
	Batching and mixing plant capacity 26.76 cum (35 cuyd)	26.76	cum		
	(Taking job management factor as 0.69)	0.69			
	Rate per cum= Use rate/26.76*0.69	76.86			76.86
	(b) Transport of concrete by 3.06 cum (4 cuyd) buckets hauled by 5 T Diesel Locomotive from batching and mixing plant to pick up point	3.06	cum		
	Average lead= 1.0 Km	1.00	Km		
	Hauling Cycle time				
	Ideal production at Batching plant=57.34 cum (75 cuyd)	57.34	cum		
	Actual production with 0.69 x 57.34=39.56 cum	39.56	cum		
	i.Loading time of a Train =3.06 x2 x60/39.56 =9.28 minutes	9.28	minute		
	ii.spotling time and waiting time =	1.50	minutes		
	iii.Turning and unloading time	9.28	minutes		
	iv.Empty haul @6.00 K.M per hour =Average Leadx60/6	10.00	minutes		
	v.Loaded haul @ 6.00 K.M per hour =Average Leadx60/6	10.00	minutes		
	Total hauling cycle time=(i +ii+iii+iv+v)	40.06	minutes		
	No of trips in 50 cum in working	1.25			
	Output of one trian with 2 buckets per hr	7.65	cum		
	Use rate of Diesel Locomotive (Vide item 3.17a)	#VALUE!			
	Use rate of concrete buckets 2.nos (Vide item 3.30a)	24.30			P & M-008
	Total use rate	#VALUE!			
	Transport rate per cum= Total use rate/7.65	#VALUE!			#VALUE!
	(c). Placement of concrete by Hammer Head Crane				
	Use rate per cum (vide Item 3.20 b)	1289.30			P&M-071
	Output of crane per hour (production) using 2 no Bucates of 3.06 cum (4 cuyd) capacity each	3.06	cum		
	(Taking job management factor as 0.69)	0.69			
	Ideal production =57.34 cum (75 cuyd)	57.34	cum		
	Actual production with 0.69 x 57.34=39.56 cum	39.56	cum		
	Rate per cum= Use rate/39.56	1.00	cum	32.59	32.59
	(d). Vibrating the concrete.	0.07	day	350	24.50 BCD SOR 4.1.1
					#VALUE!
	Add Overhead charge & C.P@15%				#VALUE!
					#VALUE!
	Rate per cum	Say Rs		#VALUE!	Per M ³

y ✓ (P.M.) ✓ Wly R

225

R

6.3.15	Providing and laying mass concrete of M-200 with nominal mix of (1:1.5:3) in Dam and Spillways with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					
		Unit:-Per Cum				
		Taking Out put=1.00Cum				
(A)	MATERIALS					
	Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Design)	0.860	M ³	697.55	599.89	
	Sand	0.430	M ³	175.80	75.59	M-004
	Cement	0.287	M ³	7811.80	2241.99	M-1 P
(B)	(a) Batching and mixing charge					
	Use rate of Batching and mixing plant (vide Item 3.13a)	2981.00				P&M-002
	Batching and mixing plant capacity 26.76 cum (35 cuyd)	26.76	cum			
	(Taking job management factor as 0.69)	0.69				
	Rate per cum= Use rate/26.76*0.69	76.86			76.86	
	(b) Transport of concrete by 3.06 cum (4 cuyd) buckets hauled by 5 T Diesel Locomotive from batching and mixing plant to pick up point	3.06	cum			
	Average lead= 1.0 Km	1.00	Km			
	Hauling Cycle time					
	Ideal production at Batching plant=57.34 cum (75 cuyd)	57.34	cum			
	Actual production with 0.69 x 57.34=39.56 cum	39.56	cum			
	i.Loading time of a Train =3.06 x2 x60/39.56 =9.28 minutes	9.28	minute			
	ii.spotling time and waiting time =	1.50	minutes			
	iii.Turning and unloading time	9.28	minutes			
	iv.Empty haul @8.00 K.M per hour =Average Leadx60/6	10.00	minutes			
	v.Loaded haul @ 6.00 K.M per hour =Average Leadx60/6	10.00	minutes			
	Total hauling cycle time=(i +ii+iii+iv+v)	40.06	minutes			
	No of trips in 50 cum in working	1.25				
	Output of one trian with 2 buckets per hr	7.65	cum			
	Use rate of Diesel Locomotive (Vide Item 3.17a)	#VALUE!				
	Use rate of concrete buckets 2.nos (Vide Item 3.30a)	24.30				P&M-008
	Total use ratr	#VALUE!				
	Transport rate per cum= Total use rate/7.65	#VALUE!			#VALUE!	
	(c). Placement of concrete by Hammer Head Crane					
	Use rate per cum (vide item 3.20 b)	1289.30				P&M-071
	Output of crane per hour (production) using 2 no Bucates of 3.06 cum (4 cuyd) capacity each	3.06	cum			
	(Taking job management factor as 0.69)	0.69				
	Ideal production =57.34 cum (75 cuyd)	57.34	cum			
	Actual production with 0.69 x 57.34=39.56 cum	39.56	cum			
	Rate per cum= Use rate 39.56	32.59			32.59	
	(d). Vibrating the concrete.	0.07	day	350	24.50	BCD SOR 4.1.1
					#VALUE!	
	Add Overhead charge & C.P.@15%				#VALUE!	
					#VALUE!	
	Rate per cum	Say Rs		#VALUE!	Per M ³	
6.3.16	Providing and laying mass concrete of M-200 with nominal mix of (1: 1 : 2) in Dam , Spillways and Head works with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating, pre cooling etc. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					
		Unit:-Per Cum				

226


Q

Taking Out put=1.00 Cum					
A	MATERIALS				
	Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Design)	0.84	M ³	697.55	585.94
	Sand	0.420	M ³	175.80	73.84 M-004
	Cement	0.42	M ³	7811.80	3280.96 M-1 P
(B)	(a). Batching and mixing charge				
	Use rate of Batching and mixing plant (vide Item 3.13a)	2981.00			P&M-002
	Batching and mixing plant capacity 26.76 cum (35 cuyd)	26.76	cum		
	(Taking job management factor as 0.69)	0.69			
	Rate per cum= Use rate/26.76*0.69	76.86		76.86	
	(b) Transport of concrete by 3.06 cum (4 cuyd) buckets hauled by 5 T Diesel Locomotive from batching and mixing plant to pick up point	3.06	cum		
	Average lead= 1.0 Km	1.00	Km		
	Hauling Cycle time				
	Ideal production at Batching plant=57.34 cum (75 cuyd)	57.34	cum		
	Actual production with 0.69 x 57.34=39.56 cum	39.56	cum		
	i.Loading time of a Train =3.06 x2 x60/39.56 =9.28 minutes	9.28	minute		
	ii.spotling time and waiting time =	1.50	minutes		
	iii.Turning and unloading time	9.28	minutes		
	iv.Empty haul @6.00 K.M per hour =Average Leadx60/6	10.00	minutes		
	v.Loaded haul @ 6.00 K.M per hour =Average Leadx60/6	10.00	minutes		
	Total hauling cycle time=(i +ii+iii+iv+v)	40.06	minutes		
	No of trips in 50 cum in working	1.25			
	Output of one trian with 2 buckets per hr	7.65	cum		
	Use rate of Diesel Locomotive (Vide Item 3.17a)	#VALUE!			
	Use rate of concrete buckets 2.nos (Vide Item 3.30a)	24.30			P&M-008
	Total use ratr	#VALUE!			
	Transport rate per cum= Total use rate/7.65	#VALUE!		#VALUE!	
	(c). Placement of concrete by Hammer Head Crane				
	Use rate per cum (vide Item 3.20 b)	1289.30			P&M-071
	Output of crane per hour (production) using 2 no Bucates of 3.06 cum (4 cuyd) capacity each	3.06	cum		
	(Taking job management factor as 0.69)	0.69			
	Ideal production =57.34 cum (75 cuyd)	57.34	cum		
	Actual production with 0.69 x 57.34=39.56 cum	39.56	cum		
	Rate per cum= Use rate/39.56	1.00	cum	32.59	32.59
	(d). Vibrating the concrete.	0.07	day	350	24.50 BCD SOR 4.1.1
				#VALUE!	
	Add Overhead charge & C.P@15%			#VALUE!	
				#VALUE!	
	Rate per cum	Say Rs		#VALUE!	Per M ³
6.3.17	Providing and laying dry pitching with precast cement concrete block 600 mm x 600 mm x 300 mm size of M-75 with nominal mix of (1:4:8) in floor and flank wall with approved quality of graded coarse aggregate of required grade(as per design) and approved quality of sand of requisite F.M washed and screened including necessary form work, tools and plants, vibrating, curing as well as royalty complete job as per specifications and direction of E/I.				
	Unit:-Per Cum				
	Taking Out put=2.832 Cum				
A	MATERIALS				
	Coarse aggregates Gr III (Rate of approved quality of aggregate as per Design)	2.720	M ³	511.44	1391.12 M-036
	Sand	1.360	M ³	175.80	239.09 M-004
	Cement	0.34	M ³	7811.80	2656.01 M-1 P
					4286.22 A
B	LABOUR				

227

(Handwritten signatures and initials)

	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Unskilled mazdoor for placing blocks in position	4	nos	287.00	1148.00	{SI-1}
					5416.00	B
C	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hrs	86.30	123.41	P&M-009
	(ii) Vibrator 1no. To vibrate 2:832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hrs	43.75	62.56	BCD SoR
					185.97	C
D	SHUTTERING CHARGES					
	Shuttering 25 blocks 25 mm thick mango planks with 10 % wastage 20.45 sqm 20.45X25/1000	0.51	M ³	26000.00	13260.00	BCD-1198
	Add 1 % for cost of nails and spikes				132.60	
	LABOUR for shuttering					
	Carpenter Gr II	3	nos	345.00	1035.00	{S I -17}
	Unskilled mazdoor	8	nos	287.00	2296.00	{SI-1}
	Total cost of Shuttering				16723.60	
	Assuming 4 uses to calculate					
	Cost of Shuttering for 2.832 Cum=total cost/4				4180.90	D
	Total Cost =A+B+C+D				14069.09	
	Add Overhead charge & C.P@15%				2110.36	
					16179.45	5713.08
	Rate per cum	Say Rs		5713.10	Per M ³	
6.3.18	Providing and laying dry pitching with precast cement concrete block 600 mm x 600 mm x 300 mm size of M-100 with nominal mix of (1:3:6) in floor and flank wall with approved quality of graded coarse aggregate of required grade (as per design) and approved quality of sand of requisite F.M washed and screened including necessary form work, tools and plants, vibrating, curing as well royalty complete job as per specifications and direction of E/I.					
	Unit:- Per Cum					
	Taking Out put=2.832 Cum					
A	MATERIALS					
	Coarse aggregates GR III (Rate of approved quality of aggregate as per Design)	2.66	M ³	511.44	1360.43	M-036
	Sand	1.33	M ³	175.80	233.81	M-004
	Cement	0.45	M ³	7811.80	3515.31	M-1 P
					5109.55	A
B	LABOUR					
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1	nos	345.00	345.00	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Unskilled mazdoor for placing blocks in position	4	nos	287.00	1148.00	{SI-1}
					5416.00	B
C	HIRE CHARGES OF MACHINE					
	(i)Concrete mixer (10 H.P) for 2.832 cum consists on the basic of mixer production capacity 1.98 m3 per hour. Used rate per hourx2.832/1.98	1.43	hrs	86.30	123.41	P&M-009
	(ii) Vibrator 1no. To vibrate 2.832 cum on the basic of vibrator capacity 1.98 cum per hour. Used rate per hourx2.832/1.98	1.43	hrs	43.75	62.56	BCD SOR
					185.97	C
D	SHUTTERING CHARGES					
	Shuttering 25 blocks 25 mm thick mango planks with 10 % wastage 20.45 sqm 20.45X25/1000 0.51M3 @Rs11075.00	0.51	PerM ³	26000.00	13260.00	BCD-1198
	Add 1 % for cost of nails and spikes				132.60	
	LABOUR					
	Carpenter Gr II	3	nos	345.00	1035.00	{S I -17}

228 

	Unskilled mazdoor	8	nos	287.00	2296.00	(SI-1)
	Total cost of Shuttering				16723.60	
	Assuming 4 uses to calculate					
	Cost of shuttering for 2.832 cum total cost/4				4180.90	D
	TOTAL Cost=A+B+C+D				14892.43	
	Add overhead charges & C.P @15%				2233.86	
					17126.29	
	Rate per cum	Say Rs		6047.40	Per M ³	
6.3.19	Centering and shuttering in major Barrage work involving mass concrete including cost of form work, their carriage from work shop to work site, erection with the help of suitable crane and stripping etc. complete job as per specifications and direction of E/I.					
	Brief specification					
	Heavir type steel shuttering for use in dams					
	Working with suitable crane					
	Shuttering once manufactured shall be used thirty four times.					
	Materials (for 100 sqm).					
	(A).Materials (for 100 sqm).					
	M.S. plates 3 mm thick	57	kg	#VALUE!	#VALUE!	
	M.S. plates 2 mm thick	23	kg	#VALUE!	#VALUE!	
	M.S. plates 60x60x10 mm thick	47	kg	#VALUE!	#VALUE!	
	M.S. plates 65x45x8 mm thick	20	kg	#VALUE!	#VALUE!	
	M.S. channel 125 x 50 mm	82	kg	#VALUE!	#VALUE!	
	M.S. channel 150x55 mm	42	kg	#VALUE!	#VALUE!	
	M.S. channel 100x45 mm	30	kg	#VALUE!	#VALUE!	
	M.S. plates 63x6 mm	22	kg	#VALUE!	#VALUE!	
	G.I pipe 50 mm dia	3.5	M	310.00	1085.00	BCD 1550
	Nuts and bolts 10 mm dia and 85 mm long(31 nos)	4.5	kg	61.74	277.83	M-130
	Slotted pins and wedges 10 mm dia and 60 mm long	30	nos	#VALUE!	#VALUE!	
	Tube and nuts 25 mm dia and above	26	nos	#VALUE!	#VALUE!	
	Total of materials cost				#VALUE!	
	Deduct salvage @ 20 % of the above sub total				#VALUE!	
	Net total cost of materials				#VALUE!	
	Additional materials (per 50 % sqm)	50	%		#VALUE!	
	M.S. rods 16 mm and 25 mm dia for ancorage 24 kg	24	kg	39.65	951.60	M-126
	Linssed oil @ 8 litres per % sqm	8	lit	200.00	1600.00	BCD-0818
	Sub Total of materials				#VALUE!	
	(B). Transportation and fabrication (per % sqm)					
	i. Transportation shuttering from work shops to work site including loading, unloading for lead below 5 km @ 5% of sub Total of materials cost at sl (A)				#VALUE!	
	ii. Fabrication charge including cutting, welding, marking and oil other operations @ 90 % of the materials item 1 to 12				#VALUE!	
	Total transportaion and febrication charge per sqm.				#VALUE!	
	(C). Machinery charge					
	Taking in output of crane / hr	8.33	sqm			
	Hourly use rate or crane	1289.30				P & M-012
	Machinery charge per sqm = Use rate of crane x 100 / 8.33				15477.79	
	(D). Labour charge					
	Foreman	0.25	nos	488.00	122	(SII-54)
	Semi Skilled mazdoor	20	nos	364.00	7280	(SII-70)
	Carpenters Gr II	4	nos	345.00	1380	(SI-17)
	Total				8782	
	Total Of A+B+C				#VALUE!	
	Add Overhead charge & C.P@15%		%		#VALUE!	
					#VALUE!	
	Rate per sqm	Say Rs		#VALUE!	Per M ²	
6.3.20	Providing shuttering including structting proping etc. and its removal after use in foundation work as per specifications and direction of E/I.					Analysis same as Item 5.3.18
6.3.21	Providing shuttering including structting. Proping etc. and its removal after use in superstructure portion of various components of Barrage work as per specifications and direction of E/I.					Analysis same as Item 5.3.19

A
 y
 229
 (Signature)
 (Signature)
 (Signature)

6.3.22	Providing centering including strutting. Proping etc. and removing after use in deck slab as per specifications and direction of E/I.					
	(Assuming size in slab 7.32 x 3.05 =22.326 sqm)					
A.	MATERIALS					
	a. 40 mm thick local wood planks 22.326 x40 / 1000					
	=0.85					
	Add 5 % for wastages					
	=0.04					
	=0.89					
	Assuming 4 uses to calculate					
	Cost of planks per use =0.89 x rate of local wood /4	0.89	cum	26000.00	5785.00	BCD-1198
	b. Assuming av. Hight of slab from G.L=3.66 M					
	150 mm salbullah required =78 nos					
	Length of sal bullah =78 x3.66 =285.48 Mtr					
	(Assuming sal bullah to be used 10 times for centerins					
	=285.48 x Rate per Mtr / 10	285.48	mtr	67.02	1913.29	WRD
	c. Salwood scanting required (75 mm x 63 mm size) =0.311 cum					
	(Assuming 10 uses)					
	Cost per use =0.311 x Rate per Mtr/10	0.311	cum	60000.00	1866.00	BCD-1199
	Total				9564.29	
	Add 1 % for cost of nails and spikes				95.64	
					9659.93	(A)
B.	LABOUR					
	Carpenter Gr II	4	nos	345.00	1380.00	{S I -17}
	Unskilled mazdoor	7	nos	287.00	2009.00	{SI-1}
					3389.00	(B)
C.	Carriage of materials					
	Cost of the carriage of materials from Godown and back to godown after use including loading unloading and stacking @ 1 % of Total cost of wooden materials				95.64	(C)
	TOTAL cost per 22.326 sqm =A+B+C				13144.57	
	Add Overhead charge & C.P@15%				1971.69	
					15116.26	677.07
	Rate per sqm	Say Rs		677.10	Per M ²	
6.3.23	Providing M.S reinforcement(Plain steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position etc. complete job as per specifications and direction of E/I.	Analysis same as Item 5.3.21				
6.3.24	Providing M.S reinforcement (Tor steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.	Analysis same as Item 5.3.22				
6.3.25	Grouting for Dam foundation per bags of cement all complete as per specifications and direction of E/I.					
	Unit:-Per Bag of Cement					
	Taking Out put=1.0 Bag					
	(A). Cost of 1.05 bag of cement at site including 5 % wastage and incidental charge	0.0357	Cum	7811.80	278.88	
	(B). Grouting					
	I. Hourly use rate of grouting machine	175.00				P & M-078
	Taking progress of grouting 8 bags of cement per hour	8	Bags			
	Cost of Grouting= use rate/8	1	Bags	21.875	21.88	
					300.76	
	Add Overhead charge & C.P@15%				45.11	
					345.87	345.87
	Rate per bag of Cement	Say Rs		345.90	Per Bag of cement	
6.3.26	Providing and laying mass concrete of M-100 with nominal mix of (1:3:6) in Barrage with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing as well royalty etc. but excluding the cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					

a
230
(Ratna)
a
Amit

With Batching Plant, Transit Mixer And Concrete Pump					
Unit:-Per Cum					
Taking Out put=1.0 Cum					
MATERIALS					
Coarse aggregates Gr IV (Rate of approved quality of aggregate as per Design)	0.94	M ³	532.52	500.57	M-048/ M-049
Sand	0.470	M ³	175.80	82.63	M-004
Cement	0.157	M ³	7811.80	1226.45	M-1 P
				1809.65	
(b) LABOURS					
Mate	0.01	nos	311.00	3.11	S II-2
Mason	0.03	nos	345.00	10.35	S II-4
Mazdoor	0.15	nos	287.00	43.05	SII-1
				56.51	
c) Machinery					
Batching Plant @ 20 cum/hour	0.05	hr	1937.70	96.89	P&M-003
Generator 100 KVA	0.05	hr	1995.00	99.75	P&M-080
Loader 1 cum capacity	0.05	hr	1403.00	70.15	P&M-017
Transit Mixer 4 cum capacity for lead up to 1 km.	0.13	hr	1406.00	182.78	P&M-049
Lead beyond 1 km, L-lead in km	2.50	t.km	7.00	17.50	P&M-050
Concrete Pump	0.05	hr	387.20	19.36	P&M-007
				486.43	
(d). Vibrating the concrete.	0.07	day	350.00	24.50	BCD-4.1.1
				2377.08	
Add Overhead charge & C.P@15%				356.56	
				2733.64	2733.64
Rate per cum	Say Rs		2733.60	Per M ³	
6.3.27	Providing and laying mass concrete of M-150 with nominal mix of (1:2:4) in Barrage with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating,curing etc. as well as royalty etc. but excluding the cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.				
With Batching Plant, Transit Mixer And Concrete Pump					
Unit:-Per Cum					
Taking Out put=1.0 Cum					
MATERIALS					
Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Design)	0.90	M ³	697.55	627.80	M-045
Sand	0.450	M ³	175.80	79.11	M-004
Cement	0.225	M ³	7811.80	1757.66	M-1 P
				2464.56	
(b) LABOURS					
Mate	0.01	nos	311.00	3.11	S II-2
Mason	0.03	nos	345.00	10.35	S II-4
Mazdoor	0.15	nos	287.00	43.05	SII-1
				56.51	
c) Machinery					
Batching Plant @ 20 cum/hour	0.05	hr	1937.70	96.89	P&M-003
Generator 100 KVA	0.05	hr	1995.00	99.75	P&M-081
Loader 1 cum capacity	0.05	hr	1403.00	70.15	P&M-017
Transit Mixer 4 cum capacity for lead upto 1 km.	0.13	hr	1406.00	182.78	P & M-049
Lead beyond 1 km, L-lead in km	2.50	t.km	7.00	17.50	P & M-050
Concrete Pump	0.05	hr	387.20	19.36	P&M-007
				486.43	
(d). Vibrating the concrete.	0.07	day	350.00	24.50	BCD-4.1.1
				3032.00	
Add Overhead charge & C.P@15%				454.80	
				3486.79	3486.79
Rate per cum	Say Rs		3486.80	Per M ³	

231 (4) (5) (6) (7) (8) (9) (10) (11) (12)

6.3.28	Providing and laying mass concrete of M-200 with nominal mix of (1:1.5:3) in Barrage with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc. as well as royalty, but excluding the cost of form work etc. wherever provided and removed after use, all complete including royalty as per specifications and direction of E/I.					
	With Batching Plant, Transit Mixer And Concrete Pump					
	Unit:-Per Cum					
	Taking Out put=1.0 Cum					
	MATERIALS					
	Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Design)	0.86	M ³	697.55	599.89	M-045
	Sand	0.430	M ³	175.80	75.59	M-004
	Cement	0.287	M ³	7811.80	2241.99	M-1 P
					2917.47	
	(b) LABOURS					
	Mate	0.01	nos	311.00	3.11	S II-2
	Mason	0.03	nos	345.00	10.35	S II-4
	Mazdoor	0.15	nos	287.00	43.05	S II-1
					56.51	
	c) Machinery					
	Batching Plant @ 20 cum/hour	0.05	hr	1937.70	96.89	P&M-003
	Generator 100 KVA	0.05	hr	1995.00	99.75	P&M-081
	Loader 1 cum capacity	0.05	hr	1403.00	70.15	P&M-017
	Transit Mixer 4 cum capacity for lead upto 1 km.	0.13	hr	1406.00	182.78	P & M=049
	Lead beyond 1 km, L-lead in km	2.50	t.km	7.00	17.50	P & M=050
	Concrete Pump	0.05	hr	387.20	19.36	P&M-007
					486.43	
	(d). Vibrating the concrete.	0.07	day	350.00	24.50	BCD-4.1.1
					3484.91	
	Add Overhead charge & C.P@15%				522.74	
					4007.64	4007.64
	Rate per cum	Say Rs		4007.60		Per M ³
6.3.29	Providing and laying mass concrete of M-250 with nominal mix of (1:1:2) in Barrage with approved quality of graded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc. as well as royalty but excluding the cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					
	With Batching Plant, Transit Mixer And Concrete Pump					
	Unit:-Per Cum					
	Taking Out put=1.0 Cum					
	MATERIALS					
	Coarse aggregates (20 mm To 10 mm) (Rate of approved quality of aggregate as per Design)	0.84	M ³	697.55	585.94	M-045
	Sand	0.420	M ³	175.80	73.84	M-004
	Cement	0.42	M ³	7811.80	3280.96	M-1 P
					3940.73	
	(b) LABOURS					
	Mate	0.01	nos	311.00	3.11	S II-2
	Mason	0.03	nos	345.00	10.35	S II-4
	Mazdoor	0.15	nos	287.00	43.05	SII-1
					56.51	
	c) Machinery					
	Batching Plant @ 20 cum/hour	0.05	hr	1937.70	96.89	P&M-003
	Generator 100 KVA	0.05	hr	1995.00	99.75	P&M-081
	Loader 1 cum capacity	0.05	hr	1403.00	70.15	P&M-017
	Transit Mixer 4 cum capacity for lead upto 1 km.	0.13	hr	1406.00	182.78	P&M-049
	Lead beyond 1 km, L-lead in km	2.50	t.km	7.00	17.50	P&M-050
	Concrete Pump	0.05	hr	387.20	19.36	P&M-007
					486.43	

232

Amit Kumar Sachin

(d). Vibrating the concrete.	0.07	day	350.00	24.50	BCD-4.1.1
				4508.17	
Add Overhead charge & C.P@15%				676.23	
				5184.39	5184.39
Rate per cum	Say Rs		5184.40	Per M ³	

Am
y

B *R*

R

6.4 MASONRY WORK

Sr.No	Item	Rate	Unl
6.4.1	Brick work in designation 100 A Brick with cement motar (1 : 3) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	4940.30	Per M ³
6.4.2	Brick work in designation 100 A Brick with cement motar(1 : 4) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royaltycomplete job as per specification and direction of E / I.	4787.40	Per M ³
6.4.3	Brick work in designation 100A Brick with cement motar (1 : 5) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	4662.70	Per M ³
6.4.4	Brick work in designation 100 A Brick with cement motar (1:3) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	5056.90	Per M ³
6.4.5	Brick work in designation 100 A Brick with cement motar (1 : 4) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required. including royalty complete job .as per specification and direction of E / I.	4904.00	Per M ³
6.4.6	Brick work in designation 100 A Brick with cement motar (1 : 5) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	4779.20	Per M ³
6.4.7	Providing rough dressed random rubble stone masonry in cement mortar (1:3) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E/I.	2517.30	Per M ³
6.4.8	Providing rough dressed random rubble stone masonry in cement mortar (1:4) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty .complete job as per specification and direction of E/I.	2300.30	Per M ³
6.4.9	Providing rough dressed random rubble stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty .complete job as per specification and direction of E/I.	2165.00	Per M ³
6.4.10	Providing rough dressed random rubble stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2663.00	Per M ³

234

6.4.11	Providing rough dressed random rubble stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2445.90	Per M ³
6.4.12	Providing rough dressed random rubble stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E/I.	2310.60	Per M ³
6.4.13	Providing rough dressed coarse rubble stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2663.00	Per M ³
6.4.14	Providing rough dressed coarse rubble stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2445.90	Per M ³
6.4.15	Providing rough dressed coarse stone masonry in cement mortar (1:5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2310.60	Per M ³

(Handwritten initials)

(Handwritten mark)

(Handwritten signature)

(Handwritten mark)


235

6. 4 MASONARY WORK


Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
6.4.1	Brick work in designation 100 A Brick with cement mortar (1 : 3) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.1
6.4.2	Brick work in designation 100 A Brick with cement mortar (1 : 4) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc complete job as per specification and direction of E / I.					Analysis same as Item 5.4.2
6.4.3	Brick work in designation 100 A Brick with cement mortar (1 : 5) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.3
6.4.4	Brick work in designation 100 A Brick with cement mortar (1 : 3) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required complete job including royalty etc. as per specification and direction of E / I.					Analysis same as Item 5.4.5
6.4.5	Brick work in designation 100 A Brick with cement mortar (1 : 4) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.					Analysis same as Item 5.4.6
6.4.6	Brick work in designation 100 A Brick with cement mortar (1 : 5) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required complete job including royalty as per specification and direction of E / I.					Analysis same as Item 5.4.7
6.4.7	Providing rough dressed random rubble stone masonry in cement mortar (1:3) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required complete job including royalty as per specification and direction of E / I.					Analysis same as Item 5.4.9
6.4.8	Providing rough dressed random rubble stone masonry in cement mortar (1:4) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.10
6.4.9	Providing rough dressed random rubble stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.					Analysis same as Item 5.4.11
6.4.10	Providing rough dressed random/coursed rubble stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.12
6.4.11	Providing rough dressed random /coursed rubble stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.13

236

6.4.12	Providing rough dressed random/coursed rubble stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	Analysis same as Item 5.4.14
6.4.13	Providing rough dressed coarse rubble stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	Analysis same as Item 5.4.15
6.4.14	Providing rough dressed coarse rubble stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	Analysis same as Item 5.4.16
6.4.15	Providing rough dressed coarse stone masonry in cement mortar (1:5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	Analysis same as Item 5.4.17







837 237

6.5. PLASTER WORK

Sr.No.	Item	Rate	Unit
6.5.1	Providing 12 mm thick cement plaster (1: 3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal royalty etc. complete job as per specification and direction of E / I.	157.90	Per M ²
6.5.2	Providing 12 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal royalty etc. complete job as per specification and direction of E / I.	149.30	Per M ²
6.5.3	Providing 12 mm thick cement plaster (1: 5) with approved quality sand of requisite F.M., washed and screened, including curing, scaffolding wherever required and its removal royalty etc. complete job as per specification and direction of E / I.	143.60	Per M ²
6.5.4	Providing 25 mm thick cement plaster (1: 3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job including . as per specification and direction of E / I.	257.90	Per M ²
6.5.5	Providing 25 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal, royalty complete job as per specification and direction of E / I.	241.90	Per M ²
6.5.6	Providing 25 mm thick cement plaster (1: 5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal, royalty complete job . as per specification and direction of E / I.	228.80	Per M ²
6.5.7	Providing 12 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty complete job as per specification and direction of E / I.	168.20	Per M ²
6.5.8	Providing 25 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty complete job as per specification and direction of E / I.	278.70	Per M ²
6.5.9	Providing 25 mm thick water proof cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal. royalty complete job as per specification and direction of E / I.	262.70	Per M ²
6.5.10	Providing 1.5 mm thick cement punning including curing, royalty complete job as per specification and direction of E / I.	46.70	Per M ²
6.5.11	Providing cement ruled pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.	149.30	Per M ²
6.5.12	Providing cement flush pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc.. complete job as per specification and direction of E / I.	110.20	Per M ²

238

6.5.13	Providing cement truck pointing (1:3) on Brick work with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, . royalty etc.. complete job as per specification and direction of E / I.	162.50	Per M ²
6.5.14	Providing cement truck pointing (1:3) on stone masonry with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc.. complete job as per specification and direction of E / I.	210.50	Per M ²

(Signature)
✓

(Signature)

(Signature)

6.5 PLASTER WORK

Sl.no.	Description	Quantity	Unit	Rate	Amount	Ref.
6.5.1	Providing 12 mm thick cement plaster (1: 3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.1
6.5.2	Providing 12 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.2
6.5.3	Providing 12 mm thick cement plaster (1: 5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.3
6.5.4	Providing 25 mm thick cement plaster (1: 3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.4
6.5.5	Providing 25 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.5
6.5.6	Providing 25 mm thick cement plaster (1: 5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal, complete job including royalty etc. as per specification and direction of E / I.					Analysis same as Item 5.5.6
6.5.7	Providing 12 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty complete job as per specification and direction of E / I.					Analysis same as Item 5.5.7
6.5.8	Providing 25 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.8
6.5.9	Providing 25 mm thick water proof cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.9
6.5.10	Providing 1.5 mm thick cement punning including curing, royalty etc. complete job including royalty etc. as per specification and direction of E / I.					Analysis same as Item 5.5.10
6.5.11	Providing cement ruled pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.11
6.5.12	Providing cement flush pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.12
6.5.13	Providing cement truck pointing (1:3) on Brick work with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, complete job including royalty etc. as per specification and direction of E / I.					Analysis same as Item 5.5.13

240

②

4

a

Wdy

6.5.14	Providing cement truck pointing (1:3) on stone masonry with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.	Analysis same as Item 5.5.14
--------	--	------------------------------

(Handwritten marks)
① ✓
② ✓
y ✓
R
R
R

6.6 PITCHING & PILING

Sr.No.	Item	Rate	Unit
6.6.1	Labour for laying dry graded jhama khoa or stone filter under brick pitching or boulder pitching in slope or apron including light ramming etc.all complete job as per specification and direction of E / I.	349.60	Per M ³
6.6.2	Labour for laying sand filter under brick pitching or boulder pitching in slope or apron including light ramming etc.all complete job as per specification and direction of E / I.	349.60	Per M ³
6.6.3	Providing pitching work with designation 100A bricks in panel in herring bond pattern one brick on edge over a brick flat soling filled with local sand free from clay contents including royalty as per approved design, specifications and direction of E/I	755.00	Per M ²
6.6.4	Providing pitching work with designation 100A bricks in panel two brick on edge over a brick flat soling joints filled with local sand free from clay contents including royalty as per approved design, specifications and direction of E/I	1261.30	Per M ²
6.6.5	Providing Brick flat soling work with designation 100A bricks joints filled with local sand free from clay contents including royalty as per approved design, specifications and direction of E/I	291.60	Per M ²
6.6.6	Labour charge for pitching with stone boulder duly packed in slope and apron with materials within 150 meter of work site and all lifts as per approved design, specifications and direction of E/I	838.10	Per M ²
6.6.7	Providing and laying coarse clean sand in filling in foundation trenches including ramming as well as royalty as per approved design, specifications and direction of E/I	279.70	Per M ³



 A

6.6 PITCHING & PILING

Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
6.6.1	Labour for laying dry graded jhama khoa or stone filter under brick pitching or boulder pitching in slope or apron including light ramming etc.all complete job as per specification and direction of E/I.					
	Unit:-Per Cum Taking Out put=2.832 Cum					
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Add Overhead charge & C.P@15%				861.00	
					129.15	
	Rate per cum				990.15	349.63
		Say Rs		349.60	Per M ³	
6.6.2	Labour for laying sand filter under brick pitching or boulder pitching in slope or apron including light ramming etc.all complete job as per specification and direction of E/I.					
	Unit:-Per Cum Taking Out put=2.832 Cum					
	Unskilled mazdoor	3	nos	287.00	861.00	{SI-1}
	Add Overhead charge & C.P@15%				861.00	
					129.15	
	Rate per cum				990.15	349.63
		Say Rs		349.60	Per M ³	
6.6.3	Providing pitching work with designation 100A bricks in panel in herring bond pattern one brick on edge over a brick flat soling filled with local sand free from clay contents including royalty etc. as per approved design, specifications and direction of E/I					
	Unit:-Per Sqm Taking Out put=9.30 Sqm					
	Materials					
	Bricks	800	per 1000 nos	6261.00	5008.80	M-11
	Local Sand	0.43	M ³	141.85	61.00	M-006
	Labour					
	Mason Gr II	1.13	nos	345.00	389.85	S II-4
	Unskilled mazdoor	2.25	nos	287.00	645.75	{SI-1}
	Add Overhead charge & C.P@15%				6105.40	
					915.81	
	Rate per sqm				7021.20	754.97
		Say Rs		755.00	Per M ²	
6.6.4	Providing pitching work with designation 100A bricks in panel two brick on edge over a brick flat soling joints filled with local sand free from clay contents including royalty as per approved design, specifications and direction of E/I					
	Unit:-Per Sqm Taking Out put=9.30 Sqm					
	Materials					
	Bricks	1300	per 1000 Nos.	6261.00	8139.30	M-11
	Local Sand	0.56	M ³	141.85	79.44	M-006
	Labour					
	Mason Gr II	2	nos	345.00	690.00	S II-4
	Unskilled mazdoor	4.50	nos	287.00	1291.50	{SI-1}
	Add Overhead charge & C.P@15%				10200.24	
					1530.04	
	Rate per sqm				11730.27	1261.32
		Say Rs		1261.30	Per M ²	
6.6.5	Providing Brick flat soling work with designation 100A bricks joints filled with local sand free from clay contents including royalty etc. as per approved design, specifications and direction of E/I					
	Unit:-Per Sqm Taking Out put=9.30 Sqm					
	Materials					

243 (Signature) (Signature) (Signature)

	Bricks	300	per 1000 Nos.	6261.00	1878.30	M-11
	Local Sand	0.142	M ³	141.85	20.14	M-006
	Labour					
	Mason Gr II	0.50	nos	345.00	172.50	S II-4
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
	Add Overhead charge & C.P@15%				2357.94	
					353.69	
					2711.63	291.57
	Rate per sqm	Say Rs		291.60	Per M ²	
6.6.6	Labour charge for pitching with stone boulder duly packed in slope and apron with materials within 150 metre of work site and all lifts as per approved design, specifications and direction of E/I					
	Unit:-Per Cum					
	Taking Out put=2.832 Cum					
	Unskilled mazdoor for lifting stone boulder on head carrying to work site and unloading from head at place of work site	6	nos	287.00	1722.00	{SI-1}
	Mason Gr II	0.50	nos	345.00	172.50	S II-4
	Stone dresser	0.25	nos	367.00	91.75	S II-12
	Mate	0.25	nos	311.00	77.75	S II-2
	Add Overhead charge & C.P@15%				2064.00	
					309.60	
					2373.60	838.14
	Rate per cum	Say Rs		838.10	Per M ²	
6.6.7	Providing and laying coarse clean sand in filling in foundation trenches including ramming as per approved design, specifications and direction of E/I					
	Unit:-Per Cum					
	Taking Out put=2.832 Cum					
	Materials					
	Local sand	2.832	cum	141.85	401.72	M-006
	Labour					
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
	Add Overhead charge & C.P@15%				688.72	
					103.31	
					792.03	279.67
	Rate per cum	Say Rs		279.70	Per M ³	

(Signature)

y

(Signature)

d

6.7 MISCELLANEOUS

Sr.No	Item	Rate	Unit
6.7.1	Supplying, fitting and fixing copper strip of 16 gauge of approved quality (with 99 % purity) in expansion joints complete job as per drawing, specifications and direction of E/I.	870.60	Per kg
6.7.2	Supplying, fitting and fixing rubber seal of (water stop) of approved quality for construction joints expansion joints complete job as per drawing, specifications and direction of E/I.	#VALUE!	Per mtr
6.7.3	Supplying, and fixing in position 25 mm thick Bituminous board (Shalitec or equivalent) in expansion or construction joint in dam and its allied works all complete as per approved design, specifications and direction of E/I	#VALUE!	Per M ²
6.7.4	Supplying, and fixing Bitumen filter (Bitumen, cement and sand) in construction joints in dam and its allied works all complete including royalty as per approved design, specifications and direction of E/I	147.10	per cm width per cm depth per 100M
6.7.5.1	Providing and driving steel sheet piles on specified alignment and upto designed levels including painting the sheet piles with two coats of anti-corrosive bitumen paint (portion of sheet pile inside concrete shell not be painted) including cost of sheet piles and hire charges of sheet pile driving plant etc. all complete. as per specifications and direction of E/I . (For the purpose of payment of sheet pile driving, measurement of sheet pile duly driven shall be taken only)	#VALUE!	Per M.T
6.7.5.2	Labour rate for extracting steel sheet piles on specified alignment with hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I . (For the purpose of payment of sheet pile extracting, measurement of sheet pile duly extracted shall be taken only)	#VALUE!	Per M.T
6.7.6	Providing weep holes with dry graded Stone metal filter of 20 mm to 40 mm size in abutment and wing wall including royalty as per specification and direction of E/I	79.80	Each



 A collection of handwritten signatures and initials, including a large signature that appears to be 'Gly' and several other initials and marks.

245

6.7 MISCELLANEOUS

Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
6.7.1	Supplying, fitting and fixing copper strip of 16 gauge of approved quality (with 99 % purity) in expansion joints complete job as per drawing, specifications and direction of E/I.					Analysis same as Item 5.8.1
6.7.2	Supplying, fitting and fixing rubber seal of (water stop) of approved quality for construction joints expansion joints complete job as per drawing, specifications and direction of E/I.					Analysis same as Item 5.8.2
6.7.3	Supplying, and fixing in position 25 mm thick Bituminous board (Shalitex or equivalent) in expansion or construction joint in dam and its allied works all complete as per approved design, specifications and direction of E/I					Analysis same as Item 5.8.3
6.7.4	Supplying, and fixing Bitumen filter (Bitumen, cement and sand) in construction joints in dam and its allied works all complete including royalty etc. as per approved design, specifications and direction of E/I					Analysis same as Item 5.8.4
6.7.5.1	Providing and driving steel sheet piles on specified alignment and up to designed levels including painting the sheet piles with two coats of anti- corrosive bitumen paint (portion of sheet pile inside concrete shell not be painted) including cost of sheet piles and hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I.(For the purpose of payment of sheet pile driving, measurement of sheet pile duly driven shall be taken only)					Analysis same as Item 5.8.5.1
6.7.5.2	Labour rate for extracting steel sheet piles on specified alignment with hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I .(For the purpose of payment of sheet pile extracting, measurement of sheet pile duly extracted shall be taken only)					Analysis same as Item 5.8.5.2
6.7.6	Providing weep holes with dry graded Stone metal filter of 20 mm to 40 mm size in abutment and wing wall including royalty etc. as per specification and direction of E/I					Analysis same as Item 5.8.6(a)



 (Ami)

 y-

 R

 R

CHAPTER VII

EARTHEN MASONRY AND COCRETE DAM WITH SPILLWAY OUTLET INTAKE WELL, SURGE TANK AND TUNNELLING ETC.

7.1 EARTH WORK

Sr.No	Item	Rate	Unit
7.1.1	Cutting of trees along with branches and their removal away from the work site and stacking the same as per specifications and direction of E/I.(Measurement of girth at a height of one meter above the ground level)		
	(a) Girth above 0.50 meter but upto 0.75 meter	264.20	Each
	(b) Girth above 0.75 meter but upto 1.50 meter	528.40	Each
	(c) Girth above 1.5 meter but upto 2.50 meter	957.70	Each
	(d) Girth above 2.50 meter but upto 4.00 meter		
	(e) Girth above 4.00 meter	1551.90	Each
		2245.40	Each
7.1.2	Uprooting of stumps and their removal ,away from the work site as per specifications and direction of E/I.		
	(a) Girth above 0.50 meter but upto 0.75 meter	165.00	Each
	(b) Girth above 0.75 meter but upto 1.50 meter	165.00	Each
	(c) Girth above 1.5 meter but upto 2.50 meter	220.00	Each
	(d) Girth above 2.50 meter but upto 4.00 meter		
	(e) Girth above 4.00 meter	330.10	Each
		412.50	Each
7.1.3.1	Preparation of borrow areas by removing the grass and the jungle, bushes from the top before excavation as per specifications and direction of E/I.		
		2.70	Per M ²
7.1.3.2	Jungle clearance and weeding out shrubs including small tree upto 0.50 M girth and removal as per specifications and direction of E/I.		
		8.00	Per M ²
7.1.4	Removal of stone boulder of more than 300 mm size from alignment of the dam and stacking the same (beyond 50 M away from Toe of the dam base in the country side) within initial lead of 150M as per specifications and direction of E/I.		
		104.90	Per M ³
7.1.5	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials (beyond 50M away from Toe of the dam base in the country side) with initial lead of 150M and all lifts as per specifications and direction of E/I.		
		195.50	Per M ³
7.1.6	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond initial lead of 150M but within 1.00 K.M and all lifts by Truck including loading unloading and maintenance of haul roads as per specifications and direction of E/I.		
		342.40	Per M ³
7.1.7	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond 1.00 K.M but up to 2 K.M away with all lifts by Truck including loading unloading and maintenance of haul roads as per specifications and direction of E/I.		
		367.10	Per M ³

247

7.1.8	Earth work in excavation of cut -off trenches as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same (beyond 50 mtr away from Toe of the dam base in the country side) with initial lead of 150 m and initial lifts of 1.5 mtr as per specifications and direction of E/I.	178.30	Per M ³
7.1.9	Earth work in excavation of cut -off trenches as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same in country side beyond initial lead of 150 mtr but up to 1 K.M away with all lifts by truck including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	349.10	Per M ³
7.1.10.1	Earth work in excavation of cut -off trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil (beyond 50 M away from Toe of the dam base in the country side) with initial lead of 150M and initial lifts of 1.5 M including making the section in proper profile, dressing side in proper slope and bed in proper grade etc.all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	637.50	Per M ³
7.1.10.2	Earth work in excavation of cut-off trenches as per designed section in soft rock or ordinary rock (Where blasting is not required) (vide classification of soil item C) disposal of soil (beyond 50M away from Toe of the dam base in the country side) with initial lead of 150M and initial lifts of 1.5M including making the section in proper profile, dressing side in proper slope and bed in proper grade etc.all complete as per specifications and direction of E/I.	497.30	Per M ³
7.1.11.1	Earth work in excavation of cut -off trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil beyond 150 M from the Toe of the dam but within 1 k.m with all lifts by Truck including loading unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	756.80	Per M ³
7.1.11.2	Earth work in excavation of cut -off trenches as per designed section in soft rock or ordinary rock. (Where blasting is not required) (vide classification of soil item C) with disposal of soil beyond 150 mtr from the Toe of the dam but within 1 k.m with all lifts by truck including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I	543.00	Per M ³
7.1.12	Earth work in excavation of cut -off trenches as per designed section in hard rock and stacking properly in approved stack size in approved stack yard (beyond 50 M away from Toe of the dam base in the country side) with initial lead of 150 M and initial lifts of 1.5 M as per specifications and direction of E/I.	1120.50	Per M ³
7.1.13	Earth work in excavation of cut-off trenches as per designed section in hard rock and stacking properly in approved stack size in approved stack yard beyond initial lead of 150 M but upto 1 k.m in country side with all lifts by truck including loading, unloading, stacking properly in approved stack yards, construction and maintenance of haul roads as per specifications and direction of E/I.	1322.30	Per M ³
7.1.14.1	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc.as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same (beyond 50 M away the edge of the trench) with initial lead of 150 M and initial lift of 1.5 M as per specifications and direction of E/I.	178.30	Per M ³

248

(Handwritten signature)

(Handwritten signature)

7.1.14.2	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same in country side beyond initial lead of 150 M but up to 1 K.M away with all lifts by truck including loading, unloading, construction and maintenance of haul roads as per specifications	349.90	Per M ³
7.1.15.1	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil (beyond 50 M from Toe the edge of the trench) with initial lead of 150 M and initial lifts of 1.5 M,all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	473.80	Per M ³
7.1.15.2	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C) disposal of soil (beyond 50M from Toe the edge of the trench) with initial lead of 150 M and initial lifts of 1.5 M, all complete as per specifications and direction of E/I.	489.80	Per M ³
7.1.15.3	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil beyond 150 mtr but upto 1 k.m away from toe of the dam with all lifts by truck including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	756.80	Per M ³
7.1.15.4	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock(Where blasting is not required) (vide classification of soil item C) disposal of soil beyond 150 M but upto 1 k.m away from toe of the dam with all lifts by truck including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	543.10	Per M ³
7.1.16.1	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in hard rock where blasting needed and staking properly in approved stack size in approved stack yard (beyond 50 M from the edge of the trench in country side) with initial lead of 150 M and initial lifts of 1.5 M, all complete as per	1120.50	Per M ³
7.1.16.2	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in hard rock where blasting needed and disposal of excavated rock by truck beyond initial lead of 150 M but upto 1 k.m away from toe of the dam with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	1322.30	Per M ³
7.1.17.1	Earth work in excavation of the toe drain and heel trench as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same (beyond 50M away the edge of the trench) with initial lead of 100 M and initial lift of 1.5 M,all complete as per specifications and direction of E/I.	167.10	Per M ³
7.1.17.2	Earth work in excavation of the drain and heel trench as per designed section in soft rock or ordinary rock (vide classification of soil item C) with disposal of the soil (beyond 50M away from the toe drain in country side) with initial lead of 100M and initial lifts of 1.5 M,all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	605.80	Per M ³
7.1.17.3	Earth work in excavation of the drain and heel trench as per designed section in soft rock or ordinary rock (Where blasting is not required) (vide classification of soil item C) with disposal of the soil (beyond 50 M away from the toe drain in country side) with initial lead of 100 M and initial lifts of 1.5 M,all complete as per specifications and direction of E/I.	489.80	Per M ³

R

249

(Signature)

(Signature)

7.1.17.4	Earth work in excavation of the toe drain and heel trench as per designed section in hard rock where blasting needed and and stacking properly in approved stack yard (beyond 50 M away from the toe drain in country side)and approved stack size with initial lead of 150 M and initial lifts of 1.5 M,all complete as per specifications and direction of E/I.	1120.50	Per M ³
7.1.17.5	Earth work in excavation of the toe drain and heel trench as per designed section in hard rock with chisel and hammer and stacking properly in approved stack yard (beyond 50M away from the toe drain with initial lead of 100 m and initial lifts of 1.5 M,all complete as per specifications and direction of E/I.	478.80	Per M ³
7.1.18	Earth work in excavation of foundation trenches in hard rock (on- blasting zone) or dismantling cement concrete (1:2:4) by manual labour with chisel hammer, wedging barring etc. disposal of excavated materials with an initial lead of and initial lifts of 1.5M including making the edges straight, dressing, profiling and final preparation of surface all complete as per specifications and direction of E/I.	478.80	Per M ³
7.1.19	Earth work in dam fill by head load in semi previous or impervious soil with initial lead of 150 M and initial lift of 1.5 M including breaking clods to maximum 63 mm cubs, placing the earth in layer not exceeding 225 mm thick all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).	251.50	Per M ³
7.1.20.1	Extra for earth work in all kinds of soil for each additional lead of 25 Mtr or part there of over the initial lead as per specification and direction of E/I.	11.70	Per M ³
7.1.20.2	Extra for earth work in rock for each additional lead of 25M or part there of over the initial lead as per specification and direction of E/I.	17.50	Per M ³
7.1.21.1	Extra for earth work in all kinds of soil for each additional lift of 1 Mtr or part there of over the initial lift of 1.50M as per specification and direction of E/I.	11.70	Per M ³
7.1.21.2	Extra for earth work in rock each additional lift of 1 M or part there of over the initial lift of 1.50 M as per specification and direction of E/I.	17.50	Per M ³
7.1.22	Earth work in dam fill in semi previous or impervious zone by manual excavation and carriage by Tipper and loading by manual labours including , making dam in proper design section including earth to be laid in layers of not more than 225 mm thick with all lift and breaking clods to maximum 63 mm cubs as well as construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).		
7.1.22.1	Lead beyond 150 mtr but upto 1/2 K.M	385.40	Per M ³
7.1.22.2	Lead beyond 1/2 K.M but upto 1 K.M	397.90	Per M ³
7.1.22.3	Lead beyond 1 K.M but upto 2 K.M	417.30	Per M ³
7.1.22.4	Lead beyond 2 K.M but upto 3 K.M	#VALUE!	Per M ³
7.1.23	Earth work in dam fill in semi previous or impervious zone fill materials to be loosened and excavated by Ripper and shovel at the borrow area and transported by truck to the dam fill site with all lift as well as spreading leveling by Dozer including construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).		
7.1.23.1	Lead beyond 150 mtr but upto 1/2 K.M	#VALUE!	Per M ³
7.1.23.2	Lead beyond 1/2 K.M but upto 1 K.M	#VALUE!	Per M ³
7.1.23.3	Lead beyond 1 K.M but upto 2 K.M	#VALUE!	Per M ³
7.1.23.4	Lead beyond 2 K.M but upto 3 K.M	#VALUE!	Per M ³

250

7.1.24	Earth work in dam fill in semi previous or impervious zone fill materials to be loosened and excavated by Ripper and shovel at the borrow area and transported by Dumper to the dam fill site with all lift as well as spreading leveling by Dozer including construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).		
7.1.24.1	Lead beyond 150 mtr but upto 1/2 K.M	#VALUE!	Per M ³
7.1.24.2	Lead beyond 1/2 K.M but upto 1 K.M	#VALUE!	Per M ³
7.1.24.3	Lead beyond 1 K.M but upto 2 K.M	#VALUE!	Per M ³
7.1.24.4	Lead beyond 2 K.M but upto 3 K.M	#VALUE!	Per M ³
7.1.25	Earth work in dam fill in semi previous or impervious zone fill materials to be loosened and excavated by Ripper and scraper at the borrow area and transported by Scraper itself to the dam fill site with all lift as well as spreading leveling by Dozer including construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).		
7.1.25.1	Lead beyond 150 mtr but upto 1/2 K.M	#VALUE!	Per M ³
7.1.25.2	Lead beyond 1/2 K.M but upto 1 K.M	#VALUE!	Per M ³
7.1.25.3	Lead beyond 1 K.M but upto 2 K.M	#VALUE!	Per M ³
7.1.25.4	Lead beyond 2 K.M but upto 3 K.M	#VALUE!	Per M ³
7.1.26*	Labour for initial Rolling and compacting the ground before forming the embankment with power road roller at O.M.C to achieve minimum 95 % of dry density including sprinkling the required quanting of water, making arrangement for supply and carriage of water with all leads and lifts, finishing the surface with proper grade, camber or super elevation including, hire charges of compaction machine and other tools and plants etc. all complete as per specifications and direction of E/I.	76.00	Per 10 M ²
7.1.27	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C by sheep foot roller driven by tractor to achieve minimum 95 % of dry density includingsprinkling the required quanting of water making arrangement for supply and carriage of water with all leads and lifts, finishing the surfaces plan and drawing including hire charge of compaction, machine and other tools and plants etc. for lined canal all complete as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)	#VALUE!	Per M ³
7.1.28	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C. by road roller to achieve minimum 95 % of maximum dry density including sprinkling the required quanting of water by tanker within 1 km. lead and all lifts including cost of water, finishing the surface with proper grade, camber or super elevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. .(Mode of measurement - Sectional measurement of compacted earth)	35.40	Per M ³
7.1.29	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C. by sheep foot roller driven by tractor to achieve minimum 90 % of maximum dry density including sprinkling the required quanting of water by tanker within 1 km. lead and all lifts including cost of water, finishing the surface with proper grade, camber or super elevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. .(Mode of measurement - Sectional measurement of compacted earth)	#VALUE!	Per M ³

Handwritten signatures and initials: (SAB), y, (B), and a large signature.

251

a

7.1.30	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C. by road roller to achieve minimum 90 % of maximum dry density including sprinkling the required quanting of water by tanker within 1 km. lead and all lifts including cost of water, finishing the surface with proper grade, camber or super elevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)	34.20	Per M ³
7.1.31	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C. by sheep foot roller driven by tractor to achieve minimum 95 % of maximum dry density including sprinkling the required quanting of water making arrangement for supply and carriage of water with all leads and lift finishing the surface with proper grade, camber or super elevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)	#VALUE!	Per M ³
7.1.32	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C. by road roller to achieve minimum 95 % of maximum dry density including sprinkling the required quanting of water making arrangement for supply and carriage of water with all leads and lift finishing the surface with proper grade, camber or super elevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)	48.40	Per M ³
7.1.33	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C. by sheep foot roller driven by tractor to achieve minimum 90 % of maximum dry density including sprinkling the required quanting of water making arrangement for supply and carriage of water with all leads and lift	#VALUE!	Per M ³
7.1.34	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C. by road roller to achieve minimum 90 % of maximum dry density including sprinkling the required quanting of water making arrangement for supply and carriage of water with all leads and lift finishing the surface with proper grade, camber or super elevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)	47.10	Per M ³
7.1.35	Close timbering in trenches including shuttering, shoring and packing cavities (wherever required) depth not exceeding 1.5 meter all complete as per specifications and direction of E/I. (Measurement to be taken of the face area timbered)	105.00	Per M ²
7.1.36	Close timbering in trenches including shuttering, shoring and packing cavities (wherever required) depth not exceeding 1.5 meter but upto 3.0 meter all complete as per specifications and direction of E/I. (Measurement to be taken of the face area timbered)	109.80	Per M ²
7.1.37	Supply and laying 300 mm thick humous earth layer on slopes of dam with manual compaction and turfing the surface with approved dub grass with 1 k.m lead including watering and ramming till growth of grass all complete as per specifications and direction of E/I.	#VALUE!	Per M ²
7.1.38	Trimming an dressing the side slope of dam to proper section with all lead and lifts as per drawing, specifications and direction of E/I.	31.60	Per M ²
7.1.39	Earth work in foundation excavation as per designed section in ordinary or soft rock (vide classification of soil item C) by shovel and its disposal upto 1 k.m by dumper with all lift including construction and maintenance of haul roads, all complete as per specifications and direction of E/I.	#VALUE!	Per M ³

Handwritten signatures and initials: (B)M, y, Q, R, a

252

7.1.40	Earth work in foundation excavation as per designed section in hard rock where blasting is needed and disposal of excavated rock with the combination of machines shovel, Dumper and Tractor - Dozer within one k.m with all lift including stacking properly in approved stack yard as well as construction and maintenance of haul roads, all complete as per specifications and direction of E/I.	#VALUE!	Per M ³
7.1.41	Earth work in foundation excavation as per designed section in sand and slushes soil in river bed and disposal of the same upto 1/2 k.m with the combination of machines Dragline Dumper and Tractor - Dozer complete job including construction and maintenance of haul roads, all complete as per specifications and direction of E/I.	#VALUE!	Per M ³
7.1.42	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond initial lead of 150 mtr but within 1.00 K.M and all lifts by Tipper and loading by Front end loader, including unloading and maintenance of haul roads as per specifications and direction of E/I.	295.80	Per M ³
7.1.43	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond 1.00 K.M but up to 2 K.M away with all lifts by by Tipper and loading by Front end loader, including unloading and maintenance of haul roads as per specifications and direction of E/I.	332.10	Per M ³
7.1.44	Earth work in excavation of cut -off trenches as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same in country side beyond initial lead of 150 M but up to 1 K.M away with all lifts by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	302.40	Per M ³
7.1.45.1	Earth work in excavation of cut -off trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil beyond 150 M from the Toe of the dam but within 1 k.m with all lifts by by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	661.20	Per M ³
7.1.45.2	Earth work in excavation of cut -off trenches as per designed section in soft rock or ordinary rock. (Where blasting is not required) (vide classification of soil item C) with disposal of soil beyond 150 M from the Toe of the dam but within 1 k.m with all lifts by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I	447.50	Per M ³
7.1.46	Earth work in excavation of cut -off trenches as per designed section in hard rock and stacking properly in approved stack size in approved stack yard beyond initial lead of 150 M but upto 1 k.m in country side with all lifts by Tipper and loading by Front end loader, including unloading, stacking properly in approved stack yards, construction and maintenance of haul roads as per specifications and direction of E/I.	1226.70	Per M ³
7.1.47	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same in country side beyond initial lead of 150 M but up to 1 K.M away with all lifts by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	302.40	Per M ³

(Signature)
yu
(Signature)
2

253

(Signature)

7.1.48.1	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil beyond 150 M but upto 1 k.m away from toe of the dam with all lifts by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)	661.20	Per M ³
7.1.48.2	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock(Where blasting is not required) (vide classification of soil item C) disposal of soil beyond 150 M but upto 1 k.m away from toe of the dam with all lifts by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	447.50	Per M ³
7.1.49	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in hard rock where blasting needed and disposal of excavated rock by Tipper and loading by Front end loader, including beyond initial lead of 150 M but upto 1 k.m away from toe of the dam with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.	1226.70	Per M ³
7.1.50	Earth work in dam fill in semi pervious or impervious zone by manual excavation and carriage by Tipper and loading by manual labours including , making dam in proper design section including earth to be laid in layers of not more than 225 mm thick with all lift and breaking clods to maximum 63 mm cubs as well as construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).		
7.1.50.1	Lead beyond 150 mtr but upto 1/2 K.M	374.70	Per M ³
7.1.50.2	Lead beyond 1/2 K.M but upto 1 K.M	392.90	Per M ³
7.1.50.3	Lead beyond 1 K.M but upto 2 K.M	429.30	Per M ³
7.1.50.4	Lead beyond 2 K.M but upto 3 K.M	465.70	Per M ³



CHAPTER --VII

EARTHEN MASONARY AND COCRETE DAM WITH SPILLWAY OUTLET INTAKE WELL, SURGE TANK AND TUNNELLING ETC.

7.1 EARTH WORK

Sl.no.	Description	Quantity	unit	Rate	amount	Ref.
7.1.1	Cutting of trees alongwith branches and their removal away from the work site and stacking the same as per specifications and direction of E/I.(Measurement of girth at a height of one metre above the ground level)	Analysis same as Item 5.1.4				
7.1.2	Up.rooting of stumps and their removal ,away from the work site as per specifications and direction of E/I.	Analysis same as Item 5.1.5				
7.1.3.1	Preparation of borrow areas by removing the grass and the jungle, bushes from the top befor excavation as per specifications and direction of E/I.	Analysis same as Item 5.1.2				
7.1.3.2	Jungle clearance and weeding out shurbs including small tree upto 0.50 mtr girth and removal as per specifications and direction of E/I.	Analysis same as Item 5.1.3				
7.1.4	Removal of stone boulder of more than 300 mm size from alignment of the dam and stacking the same (beyond 50 mtr away from Toe of the dam base in the country side) within initial lead of 150 m as per specifications and direction of E/I.	Analysis same as Item 6.1.4				
7.1.5	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials (beyond 50 mtr away from Toe of the dam base in the country side) with initial lead of 150 m and all lifts. as per specifications and direction of E/I.	Analysis same as Item 6.1.5				
7.1.6	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond initial lead of 150 mtr but within 1.00 K.M and all lifts by Truck including loading unloading and maintenance of haul roads . as per specifications and direction of E/I.	Analysis same as Item 6.1.6				
7.1.7	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond 1.00 K.M but up to 2 K.M away with all lifts by Truck including loading unloading and maintenance of haul roads . as per specifications and direction of E/I.	Analysis same as Item 6.1.7				
7.1.8	Earth work in excavation of cut -off trenches as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same (beyond 50 M away from Toe of the dam base in the country side) with initial lead of 150M and initial lifts of 1.5M as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting earth	7	nos	287.00	2009.00	{SI-1}
	Unskilled mazdoor for profiling dressing and making edge straight	1	nos	287.00	287.00	{SI-1}
	Unskilled mazdoor for carrying excavated materials	7	nos	287.00	2009.00	{SI-1}
	Mason Gr II	0.25	nos	345.00	86.25	{S II- 4}
	Add Overhead charge & C.P@15%				4391.25	
					658.69	
					5049.94	
	Rate per cum	Say Rs		178.30	Per M ³	178.32
7.1.9	Earth work in excavation of cut -off trenches as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same in country side beyond initial lead of 150M but up to 1K.M away with all lifts by Truck including loading unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
A.	Unskilled mazdoor for cutting earth	7.00	nos	287.00	2009.00	{SI-1}
	Unskilled mazdoor for profiling dressing and making edge straight	1.00	nos	287.00	287.00	{SI-1}
	Mason Gr I	0.25	nos	388.00	97.00	{S II- 3}
B.	Carriage of earth by 10 M.T capacity Truck					
	Carriage cost of earth for 1 k.m lead					
	Average lead	575	M			
	Truck capicity 8 MT (compacted earth)	4.8	Cum			
	Cycle time---- Average speed	16	km/hr			
	(a) Hauling time =Average leadx60x2/1000xAverage speed	4.31	minutes			
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour = L,U & S time / Total hauling time=0.93 trips	0.93	trips			
	Material carried=tripsxnet capacity	4.478	M ³			
	Hourly use rate of truck (Vide item no 3.26)	934.30	hr			P&M 057
	Rate per 28.32 cum for carriage only=Use rate of truckx28.32/material carried			Rs	5908.57	
	© Constuction and maintenance of haul road @ 5 % of Item (B)			Rs	295.43	
	Add Overhead charge & C.P 15%				8597.00	
					1289.55	
					9886.55	
	Rate per cum	Say Rs		349.10	Per M ³	349.10

Handwritten notes and signatures: 255 (amp), (B), (C), (D), R

7.1.10.1	Earth work in excavation of cut-off trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil (beyond 50M away from Toe of the dam base in the country side) with initial lead of 150M and initial lifts of 1.5M including making the section in proper profile, dressing side in proper slope and bed in proper grade etc.all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	9.50	nos	287.00	2726.50	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
	Materials					
	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				15.00	
					5543.61	
	Add Overhead charge & C.P @15%				831.54	
					6375.15	
						637.51
	Rate per cum	Say Rs		637.50	Per M ³	
7.1.10.2	Earth work in excavation of cut-off trenches as per designed section in soft rock or ordinary rock (Where blasting is not required)(vide classification of soil item C) disposal of soil (beyond 50M away from Toe of the dam base in the country side) with initial lead of 150M and initial lifts of 1.5M including making the section in proper profile, dressing side in proper slope and bed in proper grade etc.all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work (i.e cutting & carrying etc.)	11.50	nos	287.00	3300.50	{SI-1}
	Mason Gr I	0.50	nos	388.00	194.00	{S II- 3}
					4325.00	
	Add Overhead charge & C.P15%				648.75	
					4973.75	
						497.38
	Rate per cum	Say Rs		497.30	Per M ³	
7.1.11.1	Earth work in excavation of cut-off trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil beyond 150M from the Toe of the dam but within 1 k.m with all lifts by Truck including loading unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
	Blaster	0.33	nos	477.00	157.41	{S I -54}
B.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					
	Average lead=	575	M			
	Truck capacity 8 MT	8	cum			
	Swell factor	0.67				
	Net capacity=Truck capacityx swell factor	4.02	Cum			
	Cycle time--- Average speed	16	km/hr			
	(a) Hauling time =Average leadx2/1000xAverage speed	4.31	minutes			
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour = Loading unloading turning and spolling time / Total hauling time	0.93	trips			
	Material carried=tripsxnet capacity	3.75	M ³			
	Hourly use rate of truck (Vide item no 3.26)	934.30	hr			P&M 057
	Rate per 10 cum for carriage only=Use rate of truckx10/material carried			Rs	2491.18	
	© Constnction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
	Materials					
C.	Blasting material Including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094

1) 256 (Signature) (Signature) (Signature)

	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				15.00	
					6580.84	
	Add Overhead charge & C.P@15%				987.13	
					7567.97	
						756.80
	Rate per cum	Say Rs		756.80	Per M ³	
7.1.11.2	Earth work in excavation of cut-off trenches as per designed section in soft rock or ordinary rock. (Where blasting is not required) (vide classification of soil item C) with disposal of soil beyond 150M from the Toe of the dam but within 1 k.m with all lifts Truck including loading unloading, construction and maintenance of haul roads as per specifications and direction of E/I					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
B.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					
	Average lead=	575	M			
	Truck capacity 8 MT	6	cum			
	Swell factor	0.67				
	Net capacity=Truck capacity X swell factor	4.02	Cum			
	Cycle time---- Average speed	16	km/hr			
	(a) Hauling time = Average lead X 60 X 2/1000 X Average speed	4.31	minutes			
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour = Loading unloading turning and spolling time / Total hauling time	0.93	trips			
	Material carried=tripsxnet capacity	3.75	M ³			
	Hourly use rate of truck (Vide item no 3.26)	934.30	hr			
	Rate per 10 cum for carriage only=Use rate of truckx10/material carried			Rs	2491.18	
	(c) Constuction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
					4722.27	
	Add Overhead charge & C.P@15%				708.34	
					5430.62	
						543.06
	Rate per cum	Say Rs		543.00	Per M ³	
7.1.12	Earth work in excavation of cut-off trenches as per designed section in hard rock and stacking properly in approved stack size in approved stack yard (beyond 50 m away from Toe of the dam base in the country side) with initial lead of 150 m and initial lifts of 1.5 m as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
A.	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all work	13.00	nos	287.00	3731.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.67	nos	477.00	319.59	{S I-54}
	Materials					
B.	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.75	Kg	806.85	2218.84	M-104
	Defonator	18	nos	5.75	103.42	M-094
	Fuse coil	3	nos	15.00	45.00	{0326}
C.	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				26.50	
					9743.39	
	Add Overhead charge & C.P@15%				1461.51	
					11204.90	
						1120.49
	Rate per cum	Say Rs		1120.50	Per M ³	
7.1.13	Earth work in excavation of cut-off trenches as per designed section in hard rock and stacking properly in approved stack size in approved stack yard beyond initial lead of 150 m but upto 1 k.m in country side with all lifts by Truck including loading, unloading, stacking properly in approved stack yards, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
A.	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}

257

257

257

	Unskilled mazdoor for all work	10.00	nos	287.00	2870.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
	Blaster	0.67	nos	477.00	319.59	{S I -54}
	Materials					
B.	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.75	Kg	806.85	2218.84	M-104
	Detonator	18	nos	5.75	103.42	M-094
	Fuse coil	3	nos	15.00	45.00	{0326}
C.	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories	LS			28.50	
D.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					
	Average lead=	575	M			
	Truck capacity 8 MT	6	cum			
	Swell factor	0.67				
	Net capacity=Truck capacityx swell factor	4.02	Cum			
	Cycle time--- Average speed	16	km/hr			
	(a) Hauling time = Average leadx60x2/1000xAverage speed	4.31	minutes			
	(b) Loading unloading turning and spotting time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour = Loading unloading turning and spotting time / Total hauling time	0.93	trips			
	Material carried=tripsxnet capacity	3.75	M ³			
	Hourly use rate of truck (Vide item no 3.26 b)	934.30	hr			
	Rate per 10 cum for carriage only=Use rate of truckx10/material carried			Rs	2491.18	
	© Constuction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
					11498.13	
	Add Overhead charge & C.P@15%				1724.72	
					13222.85	
						1322.28
	Rate per cum	Say Rs		1322.30	Per M ³	
7.1.14.1	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc.as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same (beyond 50M away the edge of the trench) with initial lead of 150M and initial lift of 1.5M as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting earth	7	nos	287.00	2009.00	{SI-1}
	Unskilled mazdoor for profiling dressing and making edge straight	1	nos	287.00	287.00	{SI-1}
	Unskilled mazdoor for carrying excavated materials	7	nos	287.00	2009.00	{SI-1}
	Mason Gr II	0.25	nos	345.00	86.25	{S II- 4}
					4391.25	
	Add Overhead charge & C.P@15%				658.6875	
					5049.94	
	Rate per cum	Say Rs		178.30	Per M ³	178.32
7.1.14.2	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same in country side beyond initial lead of 150M but up to 1 K.M away with all lifts by Truck including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
A.	Labour					
	Unskilled mazdoor for cutting foundation	7	nos	287.00	2009.00	{SI-1}
	Unskilled mazdoor for forming spoil	1	nos	287.00	287.00	{SI-1}
	Mason Gr II	0.25	nos	345.00	86.25	{S II- 4}
		LS			4.50	
				Total	2386.75	(a)
B.	Cost of carriage of 28.32 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					
	Average lead	575	M			
	Truck capacity 8 MT (compacted earth)	4.8	Cum			
	Cycle time--- Average speed	17	km/hr			
	(a) Hauling time =Average leadx60x2/1000xAverage speed	4.06	minutes			
	(b) Loading unloading turning and spotting time=	60	minutes			
	Total hauling cycle time=	64.06	minutes			
	No of trips per working hour = Loading, unloading, turning and spotting time / Total hauling time	0.94	trips			
	Material carried=trips x net capacity	4.46	M ³			

7-258 (Am) a 25/12

Hourly use rate of truck (Vide item no 3.26)		934.30	hr			
Rate per cum= Use rate of truck x 28.32/material carried				Rs	5932.60	(b)
© Construction and maintenance of haul road @ 5 % of Item (B)				Rs	296.63	(c)
Add Overhead charge & C.P@15%					8615.98	(a+b+c)
					1292.40	
					9908.37	
Rate per cum		Say Rs			349.90	Per M ³
7.1.15.1	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil (beyond 50 m from Toe the edge of the trench) with initial lead of 150 m and initial lifts of 1.5M all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
Unit:-Per Cum						
Assuming out put=10.0 Cum						
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for cutting	4	nos	287.00	1148.00	{SI-1}
	Unskilled mazdoor for carrying	0.50	nos	287.00	143.50	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
	Blaster	0.33	nos	477.00	157.41	{S I-54}
B.	Materials					
Blasting material including carriage from Gomia to work site, storage etc.						
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
C	Tools and Plants					
Cost of hire charge of compressor, drilling equipment and other accessories		L.S			26.50	
					4120.12	
Add Overhead charge & C.P@15%					618.02	
					4738.14	
Rate per cum		Say Rs			473.81	
7.1.15.2	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock (where blasting is not required) (vide classification of soil item C) disposal of soil (beyond 50M from Toe the edge of the trench) with initial lead of 150 m and initial lifts of 1.5M all complete as per specifications and direction of E/I.					
Unit:-Per Cum						
Assuming out put=10.0 Cum						
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for cutting	11.50	nos	287.00	3300.50	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
Add Overhead charge & C.P@15%					4259.05	
					638.86	
					4897.91	
Rate per cum		Say Rs			489.79	
7.1.15.3	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil beyond 150 m but upto 1 k.m away from toe of the dam with all lifts by Truck including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
Unit:-Per Cum		Per M ³				
Assuming out put=10.0 Cum		10	Cum			
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
	Blaster	0.33	nos	477.00	157.41	{S I-54}
B.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
Carriage cost of earth for 1 k.m lead						
	Average lead=	575	M			
	Truck capacity 8 MT	6	cum			
C.	Swell factor	0.67				
Net capacity=Truck capacity X swell factor		4.02	Cum			
Cycle time--- Average speed		16	km/hr			
(a) Hauling time =Average leadx60x2/1000xAverage speed		4.31	minutes			
(b) Loading unloading turning and spolling time=		60	minutes			
Total hauling cycle time=		64.31	minutes			

259

[Handwritten signature]

	No of trip per working hour = and spolling time / Total hauling time	0.93	trips			
	Material carried=trips x net capacity	3.75	M ³			
	Hourly use rate of truck (Vide Item no 3.26)	934.30	hr			
	Rate per cum=Use rate of truck x 10/material carried			Rs	2491.18	
	© Constuction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
	Materials					
C.	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	(0326)
D.	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories	L.S			15.00	
					6580.84	
	Add Overhead charge & C.P@15%				987.13	
					7567.97	
						756.80
	Rate per cum	Say Rs		756.80	Per M ³	
7.1.15.4	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock(Where blasting is not required) (vide classification of soil item C) disposal of soil beyond 150 m but upto 1 k.m away from toe of the dam with all lifts by Truck including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
B.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					
	Average lead=	575	M			
	Truck capacity 8 MT	6	cum			
	Swell factor	0.67				
	Net capacity=Truck capacity x swell factor	4.02	Cum			
	Cycle time--- Average speed	16	km/hr			
	(a) Hauling time =Average leadx60x2/1000xAverage speed	4.31	minutes			
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour = Loading, unloading, turning and spolling time /	0.93	trips			
	Total hauling time					
	Material carried=trips x net capacity	3.75	M ³			
	Hourly use rate of truck (Vide item no 3.26)	934.30	hr			
	Rate per cum=Use rate of truck x 10/material carried			Rs	2491.18	
C.	Constuction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
	Rate (A+B+C)				4722.27	
	Add Overhead charge & C.P@15%				708.34	
					5430.62	
						543.06
	Rate per cum	Say Rs		543.10	Per M ³	
7.1.16.1	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in hard rock where blasting needed and staking properly in approved stack size in approved stack yard (beyond 50 m from the edge of the trench in country side) with initial lead of 150 m and initial lifts of 1.5 m all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
A.	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all job	13.00	nos	287.00	3731.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
	Blaster	0.67	nos	477.00	319.59	{S I -54}
B.	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.75	Kg	806.85	2218.84	M-104
	Detonator	18	nos	5.75	103.42	M-094
	Fuse coil	3	nos	15.00	45.00	(0326)
C.	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories	L.S			26.50	

260 (B), y, 26 July 20

	Add Overhead charge & C.P@15%				9743.40	
					1461.51	
					11204.91	
	Rate per cum	Say Rs		1120.50	Per M ³	1120.49
7.1.16.2	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in hard rock where blasting needed and disposal of excavated rock by Truck beyond initial lead of 150 m but up to 1 k.m away from toe of the dam with all lifts including loading, unloading and stacking properly in approved stock size in approved stock yard as well as construction and maintenance of haul roads as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
A.	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all work	10	nos	287.00	2870.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.67	nos	477.00	319.59	{S I-54}
B.	Cost of carriage of 10 cum earth by Truck including loading and unloading					
	Carriage cost of earth for 1 k.m lead					
	Average lead=	575	M			
	Truck capacity 8 MT	6	cum			
	Swell factor	0.67				
	Net capacity=Truck capacity X swell factor	4.02	Cum			
	Cycle time----	16	km/hr			
	(a) Hauling time =Average leadx60x2/1000xAverage speed	4.31	minutes			
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=	64.31	minutes			
	No of trip per working hour = Loading ,unloading ,turning and spolling time / Total hauling time	0.93	trips			
	Material carried=tripsxnet capacity	3.75	M ³			
	Hourly use rate of truck (Vide Item no 3.26)	934.30	hr			
	Rate per cum=Use rate of truck x 10/material carried			Rs	2491.18	
	Constuction and maintenance of haul road @ 5 % of Item (B)			Rs	124.56	
	Materials					
C.	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.75	Kg	806.85	2218.84	M-104
	Detonator	18	nos	5.75	103.42	M-094
	Fuse coil	3	nos	15.00	45.00	{0326}
D.	Tools and Plants					
	Cost of hire charge of compressor, drilling equmnt and other accessories					
		L.S			26.50	
	Add Overhead charge & C.P@15%					
					11498.13	
					1724.72	
					13222.85	
	Rate per cum	Say Rs		1322.30	Per M ³	1322.28
7.1.17.1	Earth work in excavation of the toe drain and heel trench as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same (beyond 50 m away the edge of the trench) with inital lead of 100 m and initial lift of 1.5 m as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting earth	7	nos	287.00	2009.00	{SI-1}
	Unskilled mazdoor for profiling dressing and making edge straight	1	nos	287.00	287.00	{SI-1}
	Unskilled mazdoor for carrying excavated materials	6	nos	287.00	1722.00	{SI-1}
	Mason Gr I	0.25	nos	388.00	97.00	{S II-3}
	Add Overhead charge & C.P@15%					
					4115.00	
					617.25	
					4732.25	
	Rate per cum	Say Rs		167.10	Per M ³	167.10
7.1.17.2	Earth work in excavation of the drain and heel trench as per designed section in soft rock or ordinary rock (vide classification of soil item C) with disposal of the soil (beyond 50 m away from the toe drian in country side) with initial lead of 100 m and initial lifts of 1.5 m all complete as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for cutting	4.00	nos	287.00	1148.00	{SI-1}

261

(Signature)

(Signature)

(Signature)

(Signature)

	Unskilled mazdoor for carrying and stacking	4.50	nos	287.00	1291.50	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.33	nos	477.00	157.41	{S I-54}
	Materials					
	Blasting material including carriage from Gomla to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories	L.S			26.50	
					5268.12	
	Add Overhead charge & C.P@15%				790.22	
					6058.34	
						605.83
	Rate per cum	Say Rs		605.80	Per M ³	
7.1.17.3	Earth work in excavation of the drain and heel trench as per designed section in soft rock or ordinary rock (Where blasting is not required) (vide classification of soil item C) with disposal of the soil (beyond 50 mtr away from the toe drain in country side) with initial lead of 100 m and initial lifts of 1.5 mtr. all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for cutting	7	nos	287.00	2009.00	{SI-1}
	Unskilled mazdoor for carrying and stacking	4.50	nos	287.00	1291.50	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
					4259.04	
	Add Overhead charge & C.P@15%				638.86	
					4897.90	
						489.79
	Rate per cum	Say Rs		489.80	Per M ³	
7.1.17.4	Earth work in excavation of the toe drain and heel trench as per designed section in hard rock where blasting needed and stacking properly in approved stack yard (beyond 50M away from the toe drain in country side) and approved stack size with initial lead of 150 m and initial lifts of 1.5 M all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all work	13	nos	287.00	3731.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.67	nos	477.00	319.59	{S I-54}
	Materials					
	Blasting material including carriage from Gomla to work site, storage etc.					
	Special Gelatin	2.75	Kg	806.85	2218.84	M-104
	Detonator	18	nos	5.75	103.42	M-094
	Fuse coil	3	nos	15.00	45.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories	L.S			26.50	
					9743.39	
	Add Overhead charge & C.P@15%				1461.51	
					11204.90	
						1120.49
	Rate per cum	Say Rs		1120.50	Per M ³	
7.1.17.5	Earth work in excavation of the toe drain and heel trench as per designed section in hard rock with chisel and hammer and stacking properly in approved stack yard (beyond 50 m away from the toe drain with initial lead of 100 m and initial lifts of 1.5 m. all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
	Labour					
	Hammer man	2.25	nos	302.00	679.50	{S II-17}
	Skilled mazdoor for all work	2.25	nos	364.00	819.00	S II-70
	Unskilled mazdoor for collecting the excavated materials and carrying the same beyond 50 m and stacking properly	4	nos	287.00	1148.00	{SI-1}
	Unskilled mazdoor for making edge straight, dressing, profiling and final preparation of surface	3	nos	287.00	861.00	{SI-1}
	Blacksmith	1	nos	345.00	345.00	{S II-10}
	Mate	1	nos	311.00	311.00	{S II-2}
					4163.50	
	Add Overhead charge & C.P@15%				624.53	
					4788.03	

262 (b) y- (a) 2/12/20

		Say Rs		478.80	Per M ³	478.80
7.1.18	Rate per cum Earth work in excavation of foundation trenches in hard rock (non- blasting zone) or dismantling cement concrete (1:2:4) by manual labour with chisel hammer, wedging barring etc. disposal of excavated materials with an initial lead of and initial lifts of 1.5 m including making the edges straight, dressing, profiling and final preparation of surface all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=10 Cum					
	Labour					
	Hammer man	2.25	nos	302.00	679.50	{S II-17}
	Skilled mazdoor for all work	2.25	nos	364.00	819.00	S II-70
	Unskilled mazdoor for collecting the excavated materials and carrying the same beyond 50 m and stacking properly	4	nos	287.00	1148.00	{SI-1}
	Unskilled mazdoor for making edge straight, dressing, profiling and final preparation of surface	3	nos	287.00	861.00	{SI-1}
	Blacksmith	1	nos	345.00	345.00	{S II-10}
	Mate	1	nos	311.00	311.00	{S II-2}
					4183.50	
	Add Overhead charge & C.P@15%				624.53	
					4788.03	
	Rate per cum	Say Rs		478.80	Per M ³	478.80
7.1.19	Earth work in dam fill by head load in semi previous or impervious soil with initial lead of 150 m and initial lift of 1.5 m including breaking clods to maximum 63 mm cubs, placing the earth in layer not exceeding 225 mm thick all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	5	nos	287.00	1435.00	{SI-1}
	Unskilled mazdoor for carriage of earth	14	nos	287.00	4018.00	{SI-1}
	Mate	1	nos	311.00	311.00	{S II-2}
					6194.50	
	Add Overhead charge & C.P@15%				929.18	
					7123.68	
	Rate per cum	Say Rs		251.50	Per M ³	251.54
7.1.20.1	Extra for earth work in all kinds of soil for each additional lead of 25 M or part there of over the initial lead as per specification and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting	1	nos	287.00	287.00	{SI-1}
					287.00	
	Add Overhead charge & C.P@15%				43.05	
					330.05	
	Rate per cum	Say Rs		11.70	Per M ³	11.65
7.1.20.2	Extra for earth work in rock for each additional lead of 25 M or part there of over the initial lead as per specification and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting	1.50	nos	287.00	430.50	{SI-1}
					430.50	
	Add Overhead charge & C.P@15% [^]				64.58	
					495.08	
	Rate per cum	Say Rs		17.50	Per M ³	17.48
7.1.21.1	Extra for earth work in all kinds of soil for each additional lift of 1 M or part there of over the initial lift of 1.50 m as per specification and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting	1	nos	287.00	287.00	{SI-1}
					287.00	
	Add Overhead charge & C.P@15%				43.05	
					330.05	
	Rate per cum	Say Rs		11.70	Per M ³	11.65
7.1.21.2	Extra for earth work in rock each additional lift of 1 M or part there of over the initial lift of 1.50 m as per specification and direction of E/I.					
	Unit:-Per Cum					

283

	Assuming out put=28.32 Cum					
	Unskilled mazdoor for cutting	1.50	nos	287.00	430.50	{SI-1}
					430.50	
	Add Overhead charge & C.P@15%				64.58	
					495.08	
						17.48
	Rate per cum		Say Rs	17.50	Per M ³	
7.1.22	Earth work in dam fill in semi pervious or impervious zone by manual excavation and carriage by Truck including loading, including , making dam in proper design section including earth to be laid in layers of not more than 225 mm thick with all lift and breaking clods to maximum 63 'mm cubs as well as construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
7.1.22.1	Lead beyond 150 m but up to 1/2 K.M					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1	nos	311.00	311.00	{S II-2}
B.	Carriage of earth by 10 M.T capacity Truck					
	Average lead	325	M			
	Truck capacity 8 MT	4.8	Cum			
	Cycle time---					
	(a) Hauling time @ 16 KM (Average)speed per hours	16	k.m/hr			
	=Average leadx60x2/1000xhauling time=	2.44	minutes			
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=(a+b)	62.44	minutes			
	No of trip per working hour = 60 / Total hauling time	0.96	Trips			
	Material carried=TripsxTruck capacity =	4.61	Cum			
	Hourly use rate of truck (Vide item no 3.26)	934.30	hr			P&M-057
	Rate per cum=Use rate of truckx28.32/material carried			Rs	5736.31	
	© Construction and maintenance of haul road @ 5 % of Item (B)			Rs	286.82	
					9491.13	
	Add Overhead charge & C.P@15%				1423.67	
					10914.79	
	Rate per cum		Say Rs	385.40	Per M ³	385.41
7.1.22.2	Lead beyond 1/2 K.M but up to 1 K.M					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	{S II-2}
B.	Carriage of earth by 10 M.T capacity Truck					
	Average lead	750	M			
	Truck capacity 8 MT	4.8	Cum			
	Cycle time---					
	(a) Hauling time @ 16 KM (Average)speed per hours	16	k.m/hr			
	=Average leadx60x2/1000xhauling time=5.63 minutes	5.63	minutes			
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=(a+b)	65.63	minutes			
	No of trip per working hour = 60 / Total hauling time	0.91	Trips			
	Material carried=TripsxTruck capacity =	4.39	Cum			
	Hourly use rate of truck (Vide item no 3.26)	934.30	hr			P&M-057
	Rate per cum=Use rate of truckx28.32/material carried			Rs	6029.15	
	© Construction and maintenance of haul road @ 5 % of Item (B)			Rs	301.46	
					9798.61	
	Add Overhead charge & C.P@15%				1469.7919	
					11268.40	
	Rate per cum		Say Rs	397.90	Per M ³	397.90
7.1.22.3	Lead beyond 1 K.M but up to 2 K.M					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	{S II-2}
B.	Carriage of earth by 10 M.T capacity Truck					
	Average lead	1.5	M			
	Truck capacity 8 MT	4.8	Cum			
	Cycle time---					
	(a) Hauling time @ 17 KM (Average)speed per hours	17	k.m/hr			

Handwritten notes and signatures at the bottom of the page, including the number '264' and various initials.

	=Average leadx60x2/hauling time=5.63 minutes	10.59	minutes			
	(b) Loading unloading turning and spolling time=	60	minutes			
	Total hauling cycle time=(a+b)	70.59	minutes			
	No of trip per working hour = 60 / Total hauling time	0.85	Trips			
	Material carried=TripsxTruck capacity =	4.080	Cum			
	Hourly use rate of truck (Vide item no 3.26)	934.30	hr			P&M-057
	Rate per cum=Use rate of truckx28.32/material carried			Rs	6485.14	
	© Construction and maintenance of haul road @ 5 % of Item (B)			Rs	324.26	
					10277.40	
	Add Overhead charge & C.P.@15%				1541.61	
					11819.01	
						417.34
	Rate per cum			Say Rs	417.30	Per M ³
7.1.22.4	Lead beyond 2 K.M but up to 3 K.M					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	{S II-2}
B.	Carriage of earth by 8 M.T capacity Truck					
	Taking efficiency factor	0.88				
	Job management factor	0.69				
	Out put of shovel per hour 172.48x0.69x0.88 =104.72 Say100 cum					
	Truck capacity	8	M.T			
	Machinery charges					
	i. Ripper with D-9 tractor dozer					
	Out put per working hour =	150	cum			
	Use rate per working hour (Vide item no 3.11 b+3.27c)	591.40				P&M-055
	Cost of ripping per Cum= Use rate / out put				3.94	
	ii.Shovel					
	Use rate per working hour (vide item no 3.10)	#VALUE!				
	Out put per working hour =	100	cum			
	Rate per Cum= Use rate of shovel / out put				#VALUE!	
	iii. Carriage by Truck					
	Truck capacity 8 MT =4.8 cum (compacted earth)	4.8	cum			
	Average lead 2.5 k.m	2.5	k.m			
	Cycle time---					
	(i). Loading time per minute= Body capacityx60/ shovel	2.88	minute			
	(ii) Hauling time @ 17.5 KM (Average)speed per hours	17.50	k.m/hr			
	=Average leadx60x2/hauling time=	17.14	minutes			
	(b) Loading unloading turning and spolling time=	20	minutes			
	Total hauling cycle time=(a+b)	37.14	minutes			
	No of trip per working hour = 60 / Total hauling time	1.62	Trips			
	Material carried=TripsxTruck capacity =	7.75	Cum			
	Hourly use rate of truck (Vide item no 3.26)	934.30	hr			P & M-057
	Rate per cum= use of truckx28.32/material carried			Rs	3412.42	
	© Construction and maintenance of haul road @ 5 % of Item			Rs	170.62	
					#VALUE!	
	Add Overhead charge & C.P.@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
	Rate per cum			Say Rs	#VALUE!	Per M ³
7.1.23	Earth work in dam fill in semi previous or impervious zone fill materials to be loosened and excavated by Ripper and shovel at the borrow area and transported by truck to the dam fill site with all lift as well as spreading leveling by Dozer including construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).					
	Unit:-Per Cum					
	Assuming out put=1.0 Cum					
7.1.23.1	Lead beyond 150 m but up to 1/2 K.M					
	(Ref.Report of committee on cost control of River valley projects vol. II. Jan. 1981 page 89 to 93)					
	Average lead =	325	Metre			
	Diesel Shovel capacity	2	cum			
	Ideal production per hour=196 cum (Bank volume)	196	cum			
	Taking depth of cut and angle of swing factor =0.88	0.88				
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor	172.48	cum			
	Taking efficiency factor	0.88				
	Job management factor	0.69				
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor	104.73	cum			
		Say	100	cum		
	Truck capacity 10 M.T	10	M.T			

265 (Signature)

A	Clearing and grubbing of borrow area		L.S		1.00	
B	Machinery charges					
	i. Ripper with D-9 tractor dozer					
	Out put per working hour =	150	cum			
	Use rate per working hour (Vide item no 3.11 b+3.27c)	591.40				P&M-055
	Cost of ripping per Cum= Use rate / out put				3.94	
	ii. Shovel					
	Use rate per working hour (vide item no 3.10)	#VALUE!				
	Out put per working hour =	100	cum			
	Rate per Cum= Use rate of shovel / out put				#VALUE!	
	iii. Carriage by Truck					
	Truck capacity 8 MT =4.8 cum (compacted earth)	4.8	cum			
	Average lead 325 M	325	M			
	Cycle time---					
	(a). Loading time per minute= Body capacity / shovel out put	2.88	minute			
	(b) Hauling time @ 16 KM (Average)speed per hours	16.00	k.m/hr			
	=Average leadx60x2/1000xhauling time=	2.44	minutes			
	(c) Loading unloading turning and spolling time=	20	minutes			
	Total hauling cycle time=(a+b+c)	25.32	minutes			
	No of trip per working hour of 50 minute = 50 / Total hauling time	1.97	Trips			
	Material carried=TripsxTruck capacity =	9.48	Cum			
	Hourly use rate of truck (Vide item no 3.26)	934.30				P&M-057
	Rate per cum=Use rate of truck / Material carried				98.56	
	(iv). Spreading charge at placement by D-8 Tractor Dozer					
	Out put per working hour =	300	cum			
	Use Rate of D-8 Tractor Dozer	Value				
	Rate per cum =Use rate of D-8 / Out put				#VALUE!	
	Total Machinery charges (i+ii+iii+iv)	#VALUE!			#VALUE!	
c.	Add for					
	i. Construction and maintenance of haul road @ 5 % of machinery charges				#VALUE!	
	ii. Leveling and trimming of waste pile etc. @ 5 % of machinery charges				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
	Rate per cum			Say Rs	#VALUE!	Per M ³
7.1.23.2	Lead beyond 1/2 K.M but up to 1 K.M					
	(Ref.Report of committee on cost control of River valley projects vol. II. Jan. 1981 page 89 to 93)					
	Average lead =	750	Metre			
	Diesel Shovel capacity	2	cum			
	Ideal production per hour=196 cum (Bank volume)	196	cum			
	Taking depth of cut and angle of swing factor =0.88	0.88				
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor	172.48	cum			
	Taking efficiency factor	0.88				
	Job management factor	0.69				
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor	104.73	cum			
	Say	100	cum			
	Truck capacity 10 M.T	10	M.T			
A	Clearing and grubbing of borrow area		L.S		1.00	
B.	Machinery charges					
	i. Ripper with D-9 tractor dozer					
	Out put per working hour =	150	cum			
	Use rate per working hour (Vide item no 3.11 b+3.27c)	591.40				P&M-055
	Cost of ripping per Cum= Use rate / out put				3.94	
	ii. Shovel					
	Use rate per working hour	#VALUE!				
	Out put per working hour =	100	cum			
	Rate per Cum= Use rate of shovel / out put				#VALUE!	
	iii. Carriage by Truck					
	Truck capacity 8 MT =4.8 cum (compacted earth)	4.8	cum			
	Average lead 750 M	750	M			
	Cycle time---					
	(a). Loading time per minute= Body capacity / shovel out put	2.88	minute			
	(b) Hauling time @ 16 KM (Average)speed per hours	16.00	k. m/hr			
	=Average leadx60x2/1000xhauling time=	5.63	minutes			
	(c) Loading unloading turning and spolling time=	20	minutes			
	Total hauling cycle time=(a+b+c)	28.51	minutes			
	No of trip per working hour of 50 minute = 50 / Total hauling time	1.75	Trips			
	Material carried=TripsxTruck capacity =	8.42	Cum			

266 (M) J

	Hourly use rate of truck (Vide item no 3.26)	934.30				P & M-057
	Rate per cum=Use rate of truck / Material carried				110.97	
	(iv). Spreading charge at placement by D- 8 Tractor Dozer					
	Out put per working hour =	300	cum			
	Use Rate of D-8 Tractor Dozer	Value				
	Rate per cum=Use rate of D-8 / Out put				#VALUE!	
	Total Machinery charges (i+ii+iii+iv)				#VALUE!	
C.	Add for					
	i. Constuction and maintenance of haul road @ 5 % of machinery charges				#VALUE!	
	ii. Levelling and trimming of waste pile etc. @ 5 % of machinery charges				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.23.3	Lead beyond 1 K.M but up to 2 K.M					
	(Ref.Report of committee on cost control of River valley projects vol II. Jan. 1981 page 89 to 93)					
	Average lead =	1500	Metre			
	Diesel Shovel capacity	2	cum			
	Ideal production per hour=196 cum (Bank volume)	196	cum			
	Taking depth of cut and angle of swing factor =0.88	0.88				
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor	172.48	cum			
	Taking efficiency factor	0.88				
	Job management factor	0.69				
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor	104.73	cum			
	Say	100	cum			
	Truck capacity 10 M.T	10	M.T			
A	Machinery charges					
	i. Ropper with D-9 tractor dozer					
	Out put per working hour =	150	cum			
	Use rate per working hour (Vide item no 3.11 b+3.27c)	591.40				P & M-055
	Cost of ripping per Cum= Use rate / out put				3.94	
	ii.Shovel					
	Use rate per working hour (Vide item no 3.10)	#VALUE!				
	Out put per working hour =	100	cum			
	Rate per Cum= Use rate of shovel / out put				#VALUE!	
	iii. Carriage by Truck					
	Truck capcity 8 MT =4.8 cum (compacted earth)	4.8	cum			
	Average lead	1500	M			
	Cycle time----					
	(a) Loading time per minute= Body capacity / shovel out put	2.88	minute			
	(b) Hauling time @ 16 KM (Average)speed per hours	16.00	k.m/hr			
	=Average leadx60x2/1000xhauling time=	11.25	minutes			
	(c) Loading unloading turning and spoilting time=	20	minutes			
	Total hauling cycle time=(a+b+c)	34.13	minutes			
	No of trip per working hour of 50 minute = 50 / Total hauling time	1.46	Trips			
	Material carried=TripsxTruck capacity =	7.03	Cum			
	Hourly use rate of truck (Vide item no 3.26)	934.30				P & M-057
	Rate per cum=Use rate of truck / Material carried				132.87	
	(iv). Spreading charge at placement by D- 8 Tractor Dozer					
	Out put per working hour =	300	cum			
	Use Rate of D-8 Tractor Dozer (vide item no 3.11 a)	Value				
	Rate per cumof D-8=Use rate of / Out put				#VALUE!	
	Total Machinery charges (i+ii+iii+iv)				#VALUE!	
B.	Add for					
	i. Constuction and maintenance of haul road @ 5 % of machinery charges				#VALUE!	
	ii. Levelling and trimming of waste pile etc. @ 5 % of machinery charges				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.23.4	Lead beyound 2 K.M but upto 3 K.M					
	(Ref.Report of committee on cost control of River vally projects voi II. Jan. 1981 page 89 to 93)					
	Average lead =	2500	Metre			
	Diesel Shovel capacity	2	cum			

2.67 (2.67) 2.67

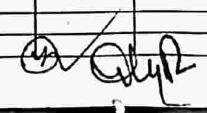
	Ideal production per hour=196 cum (Bank volume)	196	cum		
	Taking depth of cut and angle of swing factor =0.88	0.88			
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor	172.48	cum		
	Taking efficiency factor	0.88			
	Job management factor	0.69			
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor	104.73	cum		
	Say	100	cum		
	Truck capacity 10 M.T	10	M.T		
A.	Machinery charges				
	i. Ripper with D-9 tractor dozer				
	Out put per working hour =	150	cum		
	Use rate per working hour (Vide item no 3.11 b+3.27c)	591.40			P & M-055
	Cost of ripping per Cum= Use rate / out put			3.94	
	ii. Shovel				
	Use rate per working hour (Vide item no 3.10)	#VALUE!			
	Out put per working hour =	100	cum		
	Rate per Cum= Use rate of shovel / out put			#VALUE!	
	iii. Carriage by Truck				
	Truck capacity 8 MT =4.8 cum (compacted earth)	4.8	cum		
	Average lead 750 M	2500	M		
	Cycle time----				
	(a). Loading time per minute= Body capacity / shovel out put	2.88	minute		
	(b) Hauling time @ 16 KM (Average)speed per hours =Average leadx60x2/1000xhauling time=	16.00	k.m/hr		
		18.75	minutes		
	(c) Loading unloading turning and spollting time=	20	minutes		
	Total hauling cycle time=(a+b+c)	41.63	minutes		
	No of trip per working hour of 50 minute = 50 / Total hauling time	1.20	Trips		
	Material carried=TripsxTruck capacity =	5.77	Cum		
	Hourly use rate of truck (Vide item no 3.26)	934.30			P & M-057
	Rate per cum=Use rate of truck / Material carried			162.06	
	(iv). Spreading charge at placement by D- 8 Tractor Dozer				
	Out put per working hour =	300	cum		
	Use Rate of D-8 Tractor Dozer (vide item no 3.11 a)	Value			
	Rate per cumof D-8=Use rate of / Out put			#VALUE!	
	Total Machinery charges (i+ii+iii+iv)			#VALUE!	
B.	Add for				
	i. Constuction and maintenance of haul road @ 5 % of machinery charges			#VALUE!	
	ii. Levelling and triming of waste pile etc. @ 5 % of machinery charges			#VALUE!	
	Add Overhead charge & C.P@15%			#VALUE!	
				#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³
7.1.24	Earth work in dam fill in semi previous or imprevious zone fill materials to be loosened and excavated by Ripper and shovel at the borrow area and transported by Dumper to the dam fill site with all lift as well as spreading levelling by Dozer including construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).				
	Unit:-Per Cum				
	Assuming out put=1.0 Cum				
7.1.24.1	Lead beyond 150 mtr but upto 1/2 K.M				
	(Ref.Report of committee on cost control of River vally projects voi II. Jan. 1981 page 89 to 93)				
	Average lead =	325	Metre		
	Diesel Shovel capacity	2	cum		
	Ideal production per hour=196 cum (Bank volume)	196	cum		
	Taking depth of cut and angle of swing factor =0.88	0.88			
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor	172.48	cum		
	Taking efficiency factor	0.88			
	Job management factor	0.69			
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor	104.73	cum		
	Say	100	cum		
	Dumper 15 M.T	10	M.T		

268

Handwritten signature/initials

	Capacity 8.33 cum	8.33	cum		
	Swell factor= 0.75	0.75			
A	Machinery charges				
	I. Ripper with D-9 tractor dozer				
	Out put per working hour =	150	cum		
	Use rate per working hour (Vide item no 3.11 b+3.27c)	591.40	Per hr		P & M-055
	Cost of ripping per Cum= Use rate / out put			3.94	
	ii.Shovel				
	Use rate per working hour	#VALUE!			
	Out put per working hour =	100	cum		
	Rate per Cum= Use rate of shovel / out put			#VALUE!	
	iii.Dumper				
	Average lead	325	M		
	Body capacity= capacity x Swell factor	6.25	cum (Bank volume)		
	Handling Cycle time---				
	(a). Loading time per minute= Body capacity / shovel out put	3.75	minute		
	(b) spotting time=	0.30	minutes		
	(c). Turning and dumping time	2.00	minutes		
	(d). Empty haul @ 15 K.M per hour =Average Leadx60/15x1000	1.3	minutes		
	(e). Loaded haul @ 10 K.M per hour =Average Leadx60/15x1000	1.95	minutes		
	Total hauling cycle time=(a+b+c+d+e)	9.30	minutes		
	No of dumper trip per working hour of 50 minute = 50 / Total hauling time	5.38	Trips		
	Material carried=TripsxDumper capacity =	33.59	Cum		
	Hourly use rate of Dumper 15 T (vide item no 3.12)	#VALUE!			
	Rate per cum=Use rate of Dumper/ Material carried			#VALUE!	
	(iv). Spreading charge at placement by D- 8 Tractor Dozer				
	Out put per working hour =	300	cum		
	Use Rate of D-8 Tractor Dozer	Value			
	Rate per cum of D-8=Use rate of / Out put			#VALUE!	
	Total Machinery charges (i+ii+iii+iv)			#VALUE!	
B	Add for				
	i. Constuction and maintenance of haul road @ 5 % of machinery charges			#VALUE!	
	ii. Levelling and trimming of waste pile etc. @ 5 % of machinery charges			#VALUE!	
				#VALUE!	
	Add Overhead charge & C.P@15%			#VALUE!	
				#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³
7.1.24.2	Lead beyound 1/2 K.M but upto 1 K.M				
	(Ref.Report of committee on cost control of River vally projects voi II. Jan. 1981 page 89 to 93)				
	Average lead =	750	Metre		
	Diesel Shovel capacity	2	cum		
	Ideal production per hour=196 cum (Bank volume)	196	cum		
	Taking depth of cut and angle of swing factor =0.88	0.88			
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor	172.48	cum		
	Taking efficiency factor	0.88			
	Job management factor	0.69			
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor	104.73	cum		
	Say	100	cum		
	Dumper 15 M.T	10	M T		
	Capacity 8.33 cum	8.33	cum		
	Swell factor= 0.75	0.75			
A.	Machinery charges				
	i. Ripper with D-9 tractor dozer				
	Out put per working hour =	150	cum		
	Use rate per working hour (Vide item no 3.11 b+3.27c)	591.40			P & M-055
	Cost of ripping per Cum= Use rate / out put			3.94	
	ii.Shovel				
	Use rate per working hour	#VALUE!			
	Out put per working hour =	100	cum		
	Rate per Cum= Use rate of shovel / out put			#VALUE!	
	iii.Dumper				
	Average lead	750	M		
	Body capacity= capacity x Swell factor	6.25	(Bank volume)		
	Handling Cycle time---				
	(a). Loading time per minute= Body capacity / shovel out put	3.75	minute		
	(b) spotting time=	0.30	minutes		
	(c). Turning and dumping time	2.00	minutes		

269



	(d). Empty haul @ 25 K.M per hour Leadx60/25x1000	=Average	1.8	minutes		
	(e). Loaded haul @20 K.M per hour Leadx60/20x1000	=Average	2.25	minutes		
	Total hauling cycle time=(a+b+c+d+e)		10.10	minutes		
	No of dumper trip per working hour of 50 minute = 50 / Total hauling time		4.95	Trips		
	Material carried=TripsxDumper capacity =		30.93	Cum		
	Hourly use rate of Dumper		#VALUE!			
	Rate per cum=Use rate of Dumper/ Material carried					#VALUE!
	(iv). Spreading charge at placement by D- 8 Tractor Dozer					
	Out put per working hour =		300	cum		
	Use Rate of D-8 Tractor Dozer (vide item 3.11a)		Value			
	Rate per cumof D-8=Use rate of / Out put					#VALUE!
	Total Machinery charges (i+ii+iii+iv)					#VALUE!
B	Add for					
	i. Constuction and maintenance of haul road @ 5 % of machinery charges					#VALUE!
	ii. Levelling and trimming of waste pile etc. @ 5 % of machinery charges					#VALUE!
						#VALUE!
	Add Overhead charge & C.P@15%					#VALUE!
						#VALUE!
	Rate per cum			Say Rs	#VALUE!	Per M ³
7.1.24.3	Lead beyond 1 K.M but upto 2 K.M					
	(Ref.Report of committee on cost control of River vally projects vol II. Jan. 1981 page 89 to 93)					
	Average lead =		1500	Metre		
	Diesel Shovel capacity		2	cum		
	Ideal production per hour=196 cum (Bank volume)		196	cum		
	Taking depth of cut and angle of swing factor =0.88		0.88			
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor		172.48	cum		
	Taking efficiency factor		0.88			
	Job management factor		0.69			
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor		104.73	cum		
	Say		100	cum		
	Dumper 15 M.T		10	M.T		
	Capacity 8.33 cum		8.33	cum		
	Swell factor= 0.75		0.75			
A.	Machinery charges					
	i. Ripper with D-9 tractor dozer					
	Out put per working hour =		150	cum		
	Use rate per working hour (Vide item no 3.11 b+3.27c)		591.40			P & M-055
	Cost of ripping per Cum= Use rate / out put					3.94
	ii. Shovel					
	Use rate per working hour (vide item 3.10a) =		#VALUE!			
	Out put per working hour =		100	cum		
	Rate per Cum= Use rate of shovel / out put					#VALUE!
	iii. Dumper					
	Average lead		1500	M		
	Body capacity= capacity x Swell factor		6.25	(Bank volume)		
	Handling Cycle time---					
	(a). Loading time per minute= Body capacity / shovel out put		3.75	minute		
	(b) spotting time=		0.30	minutes		
	(c). Turning and dumping time		2.00	minutes		
	(d). Empty haul @ 25 K.M per hour Leadx60/25x1000	=Average	3.6	minutes		
	(e). Loaded haul @20 K.M per hour Leadx60/20x1000	=Average	4.5	minutes		
	Total hauling cycle time=(a+b+c+d+e)		14.15	minutes		
	No of dumper trip per working hour of 50 minute = 50 / Total hauling time		3.53	Trips		
	Material carried=TripsxDumper capacity =		22.08	Cum		
	Hourly use rate of Dumper (Vide item no 3.12c)		#VALUE!			
	Rate per cum=Use rate of Dumper/ Material carried					#VALUE!
	(iv). Spreading charge at placement by D- 8 Tractor Dozer					
	Out put per working hour =		300	cum		
	Use Rate of D-8 Tractor Dozer (vide item 3.11a)		Value			
	Rate per cumof D-8=Use rate of / Out put					#VALUE!
	Total Machinery charges (i+ii+iii+iv)					#VALUE!
B.	Add for					
	i. Constuction and maintenance of haul road @ 5 % of machinery charges					#VALUE!

270

Handwritten signature and initials.

	ii. Levelling and triming of waste pile etc. @ 5 % of machinery charges				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.24.4	Lead beyound 2 K.M but upto 3 K.M					
	(Ref.Report of committee on cost control of River vally projects vol II. Jan. 1981 page 89 to 93)					
	Average lead =	2500	Metre			
	Diesel Shovel capacity	2	cum			
	Ideal production per hour=196 cum (Bank volume)	196	cum			
	Taking depth of cut and angle of swing factor =0.88	0.88				
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor	172.48	cum			
	Taking efficiency factor	0.88				
	Job management factor	0.69				
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor	104.73	cum			
	Say	100	cum			
	Dumper 15 M.T	10	M.T			
	Capacity 8.33 cum	8.33	cum			
	Swell factor= 0.75	0.75				
A.	Machinery charges					
	i. Ripper with D-9 tractor dozer					
	Out put per working hour =	150	cum			
	Use rate per working hour (Vide item no 3.11 b+3.27c)	591.40				P & M-055
	Cost of ripping per Cum= Use rate / out put					3.94
	ii.Shovel					
	Use rate per working hour (vide item 3.10a) =	#VALUE!				
	Out put per working hour =	100	cum			
	Rate per Cum= Use rate of shovel / out put					#VALUE!
	iii.Dumper					
	Average lead	2500	M			
	Body capacity= capacity x Swell factor	6.25	cum (Bank volume)			
	Handling Cycle time----					
	(a). Loading time per minute= Body capacity / shovel out put	3.75	minute			
	(b) spolting time=	0.30	minutes			
	(c). Turning and dumping time	2.00	minutes			
	(d). Empty haul @ 25 K.M per hour =Average Leadx60/25x1000	6	minutes			
	(e). Loaded haul @20 K.M per hour =Average Leadx60/20x1000	7.5	minutes			
	Total hauling cycle time=(a+b+c+d+e)	19.55	minutes			
	No of dumper trip per working hour of 50 minute = 50 / Total hauling time	2.56	Trips			
	Material carried=TripsxDumper capacity =	15.98	Cum			
	Hourly use rate of Dumper (Vide item no 3.12c)	#VALUE!				
	Rate per cum=Use rate of Dumper/ Material carried					#VALUE!
	(iv). Spreading charge at placement by D- 8 Tractor Dozer					
	Out put per working hour =	300	cum			
	Use Rate of D-8 Tractor Dozer (vide item 3.11a)	Value				
	Rate per cumof D-8=Use rate of / Out put					#VALUE!
	Total Machinery charges (i+ii+iii+iv)					#VALUE!
C.	Add for					
	i. Constuction and maintenance of haul road @ 5 % of machinery charges					#VALUE!
	ii. Levelling and triming of waste pile etc. @ 5 % of machinery charges					#VALUE!
	Add Overhead charge & C.P@15%					#VALUE!
						#VALUE!
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.25	Earth work in dam fill in semi previous or imprevious zone fill materials to be loosened and excavated by Dozer and scraper at the borrow area and transported by Scraper itself to the dam fill site with all lift as well as spreading levelling by Dozer including construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurement- sectional measurement of compacted earth).					

Unit:-Per Cum

271

(Handwritten signatures and initials)

7.1.25.1	Lead beyond 150 mtr but upto 1/2 K.M					
	Average lead =	325	Metre			
	Capacity of scraper 9.175 cum (12 cyd) but actually loaded to 7.645 cum (10 cyd) for all practical purpose.	7.645	cum			
	Assuming speed of scraper as 8 km per hr	8	km/hr			
	For average condition (Ref:- Back "construction planing, equipment and methods" by R.L .Peurifey)					
	(a). Loading time	1.00	minute			
	(b) Time of dumping and running	0.50	minutes			
	(c). Time for accelerating and decelerating	0.40	minutes			
	Total time=(a+b+c)	1.90	minutes			
	Operating efficiency of scraper	0.83				
	No of trip per hour = 1000x8efficiency / average leadx2	10.22	Trips			
	Loading and unloading time =Tripsx total time	19.41	minutes			
	Total time taken by scraper in 10.21 trip=1 per 19.41 minutes	1.32	hr			
	Eart work involved per day= Actu.capacityx no of tripsx 8 hr/Total time taken by scraper in no of trips	472.07	cum			
	Time taken by ripper per day @ 15 minutes per 1.32 hr	1.51	hr			
	(i). Cost of 8 hour of scraper (vide Item no 3.23a)	8	hr	#VALUE!	#VALUE!	
	(ii). Cost of 1.51 hour of dozer (vide Item no 3.11a)	1.51	hr	INPUT	#VALUE!	
	Add for					
	i. Constuction and maintenance of haul road @ 5 % of (i+ii)	#VALUE!			#VALUE!	
	ii. Unskilled mazdoor for controlling slope	1.00	nos	287.00	287.00	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.25.2	Lead beyond 1/2 K.M but upto 1 K.M					
	Average lead =500+500/2	750	Metre			
	Capacity of scraper 9.175 cum (12 cyd) but actually loaded to 7.645 cum (10 cyd) for all practical purpose.	7.645	cum			
	Assuming speed of scraper as 8 km per hr	8	km/hr			
	For average condition (Ref:- Back "construction planing, equipment and methods" by R.L .peurifey)					
	(a). Loading time ut	1.00	minute			
	(b) Time of dumping and running	0.50	minutes			
	(c). Time for accelerating and decelerating	0.40	minutes			
	Total time=(a+b+c)	1.90	minutes			
	Operating efficiency of scraper	0.83				
	No of trip per hour = 1000x8efficiency / average leadx2	4.43	Trips			
	Loading and unloading time =Tripsx total time	8.41	minutes			
	Total time taken by scraper in 10.21 trip=1 per 19.41 minutes	1.14	hr			
	Eart work involved per day= Actu.capacityx no of tripsx 8 hr/Total time taken by scraper in no of trips	237.45	cum			
	Time taken by dozer per day @ 8 minutes per 1.14 hr	0.94	hr			
	(i). Cost of 8 hour of scraper (vide Item no 3.23a)	8	hr	Value	#VALUE!	
	(ii). Cost of 0.94 hour of dozer (vide Item no 3.11a)	0.94	hr	INPUT	#VALUE!	
	Add for					
	i. Constuction and maintenance of haul road @ 5 % of (i+ii)	#VALUE!			#VALUE!	
	ii. Unskilled mazdoor for controlling slope	1.00	nos	287.00	287.00	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.25.3	Lead beyond 1 K.M but upto 2 K.M					
	Average lead =	1500	Metre			
	Capacity of scraper 9.175 cum (12 cyd) but actually loaded to 7.645 cum 9 10 cyd 0 for all practical purpose.	7.645	cum			
	Assuming speed of scraper as 8 km per hr	8	km/hr			
	For average condition (Ref:- Back "construction planing, equipment and methods" by R.L .Peurifey)					
	(a). Loading time ut	1.00	minute			
	(b) Time of dumping and running	0.50	minutes			
	(c). Time for accelerating and decelerating	0.40	minutes			
	Total time=(a+b+c)	1.90	minutes			
	Operating efficiency of scraper	0.83				
	No of trip per hour = 1000x8efficiency / average leadx2	2.21	Trips			
	Loading and unloading time =Tripsx total time	4.21	minutes			
	Total time taken by scraper in 10.21 trip=1 per 19.41 minutes	1.07	hr			

Handwritten signatures and initials: "y", "R", "Wly", "a"

	Earth work involved per day= Actv.capacityx no of tripsx 8 hr/Total time taken by scraper in no of trips	126.50	cum				
	Time taken by dozer per day @ 4 minutes per 1.07 hr	0.50	hr				
	(I). Cost of 8 hour of scraper (vide Item no3.23a)	8	hr	Value	#VALUE!		
	(II). Cost of 0.50 hour of dozer (vide Item no 3.11a)	0.50	hr	INPUT	#VALUE!		
	Add for						
	i. Constuction and maintenance of haul road @ 5 % of (i+ii)	#VALUE!			#VALUE!		
	ii. Unskilled mazdoor for controlling slope	1.00	nos	287.00	287.00		
	Add Overhead charge & C.P@15%				#VALUE!		
					#VALUE!		
	Rate per cum		Say Rs	#VALUE!	Per M ³		#VALUE!
7.1.25.4	Lead beyond 2 K.M but upto 3 K.M						
	Average lead =	2500	Metre				
	Capacity of scraper 9.175 cum (12 cyd) but actually loaded to 7.645 cum 9 10 cyd 0 for all practical purpose.	7.645	cum				
	Assuming speed of scraper as 8 km per hr	8	km/hr				
	For average condition (Ref:- Back "construction planing, equipment and methods" by R.L >peurifey)	0.88					
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor						
	(a). Loading time ut	1.00	minute				
	(b) Time of dumping and running	0.50	minutes				
	(c) . Time for accelerating and decelerating	0.40	minutes				
	Total time=(a+b+c)	1.90	minutes				
	Operating efficiency of scraper	0.83					
	No of trip per hour = 1000x8xefficiency / average leadx2	1.33	Trips				
	Loading and unloading time =Tripsx total time	2.52	minutes				
	Total time taken by scraper in 10.21 trip=1 per 19.41 minutes	1.04	hr				
	Earth work involved per day= Actv.capacityx no of tripsx 8 hr/Total time taken by scraper in no of trips	77.94	cum				
	Time taken by dozer per day @ 2.5 minutes per 1.04 hr	0.32	hr				
	(I). Cost of 8 hour of scraper (vide Item no3.23a)	8	hr	Value	#VALUE!		
	(II). Cost of 0.32 hour of dozer (vide Item no 3.11a)	0.32	hr	INPUT	#VALUE!		
	Add for						
	i. Constuction and maintenance of haul road @ 5 % of (i+ii)	#VALUE!			#VALUE!		
	ii. Unskilled mazdoor for controlling slope	0.5	nos	287.00	143.50		
	Add Overhead charge & C.P@15%				#VALUE!		
					#VALUE!		#VALUE!
					#VALUE!		#VALUE!
	Rate per cum		Say Rs	#VALUE!	Per M ³		
7.1.26	Labour for initial Rolling and compacting the ground before forming the embankment with power road roller at O.M.C to achieve minimum 95 % of dry density including sprinkling the required quanting of water, making arrangement for supply and carriage of water with all leads and lifts, finishing the surface with proper grade, camber or superelevation including, hire charges of compaction machine and other tools and plants etc. all complete as per specifications and direction of E/I.						
	Unit:-Per Sqm						
	Assuming out put=93 Sqm						
	Unskilled mazdoor	0.2	nos	287.00	57.40		(SI-1)
	Bhisti for carriage of water and sprinkling	1	nos	285.00	285.00		(S II-13)
	Cost of water	L.S			15.00		
	Hire charge of Roller (Vide item no3.16a)						
	Assuming 2300 sqm. to be rolled in 8 hrs	0.32	hrs	803.00	256.96		P & M-044
	Add Overhead charge & C.P@15%				614.36		
					92.15		
					706.51		
	Rate per sqm		Say Rs	76.00	Per 10 M ²		
7.1.27	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C. by sheep foot roller driven by tractor to achieve minimum 95 % of maximum dry density including sprinkling the required quanting of water by tanker within 1 km. lead and all lifts including cost of water, finishing the surface with proper grade, camber or superelevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)						
	Unit:-Per Cum						
	Assuming out put=100 Cum Fill						
	(A). Watering for compaction						

Handwritten signatures and initials: (S), R, and other marks.

	Assuming additional moisture required 7 % including 1 % loss. Quantity of water required = 100 x 62.5x 35.3x7/10x100 =1544.38 gal for 100 cum fill	1544.38	Gal for 100 cm fill			
	One Imp gail = 10 lbs	10	lbs			
	Bound trip time for 8000 gail tankar					
	Filling time + hauling (1 km) 16 km / hr+ Return @ 24 kmh					
	Sprinkling at 500 gpm+ lost time=16+3.75+2.5-16+6=44.25 mts.	44.25	mts			
	Quantity hauled per hour (50 mts)= 50 x 8000/44.25=90.40 gallon	9040	gallon			
	Use Rate of tanker with tractor (vide item 3.29b)	733.10				P&M-053 +P&M-060
	Cost of water per gallon (cost of water per kl x4.546/1000)	1.180	Per gallon			M-189
	Rate per 100 cum fill=1544.38x Use rate of tanker/9040 gallon+cost of water per gallonx1544.38				1947.61	
	(B). Hire charge of sheep foot roller for 100 cum					
	Assuming 1450 cum to be rolled in 8 hrs (Vide item no 3.16 d)	0.55	hrs	#VALUE!	#VALUE!	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.28	Labour for Rolling and compacting the earth in layers of 225 mm thicl at O.M.C. by road roller to achieve minimum 95 % of maximum dry density including sprinkling the required quanting of water by tanker within 1 km. lead and all lifts including cost of water, finishing the surface with proper grade, camber or superelevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. .(Mode of measurement - Sectional measurement of compacted earth)					
	Unit:-Per Cum					
	Assuming out put=100 Cum					
	(A). Watering for compaction					
	Assuming additional moisture required 7 % including 1 % loss. Quantity of water required = 100 x 62.5x 35.3x7/10x100 =1544.38 gal for 100 cum fill	1544.38	Gal for 100 cm fill			
	One Imp gail = 10 lbs					
	capacity of tanker	8000	gallon			
	Bound trip time for 8000 gal tankar =					
	Filling time	16	mts			
	Hauling (1 km) 16 km / hr	3.75	mts			
	Returning Time @ 24 kmh	2.5	mts			
	Sprinkling Time at 500 gpm	16	mts			
	lost time	6	mts			
	Total time	44.25	mts			
	Quantity hauled per hour (50 mts)= 50 x 8000/44.25=9040 gallon	9040	gallon			
	Use Rate of tanker with Tractor (vide item 3.29b)	733.10				P&M-053 +P&M 060
	Cost of water per gallon (cost of water per kl x4.546/1000)	1.18	Per gallon			M-189
	Rate per 100 cum fill=1544.38x Use rate of tanker/9040 gallon+cost of water per gallonx1544.38				1947.62	
	(B). Hire charge of Road roller for 100 cum					
	Assuming 566 cum to be rolled in 8 hrs (Vide item no3.16a)	1.413	hrs	803.00	1134.98	P & M-044
					3082.60	
	Add Overhead charge & C.P@15%				462.39	
					3544.99	
	Rate per cum		Say Rs	35.40	Per M ³	35.45
7.1.29	Labour for Rolling and compacting the earth in layers of 225 mm thicl at O.M.C. by sheep foot roller driven by tractor to achieve minimum 90 % of maximum dry density including sprinkling the required quanting of water by tanker within 1 km. lead and all lifts including cost of water, finishing the surface with proper grade, camber or superelevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. .(Mode of measurement - Sectional measurement of compacted earth)					
	Unit:-Per Cum					
	Assuming out put=100 Cum fill					
	(A). Watering for compaction					
	Assuming additional moisture required 7 % including 1 % loss. Quantity of water required = 100 x 62.5x 35.3x7/10x100 =1544.38 gal for 100 cum fill	1544.38	for 100 cm fill			
	One Imp gail = 10 lbs					
	capacity of tanker	8000	gallon			
	Bound trip time for 8000 gal tankar =					
	Filling time	16	mts			
	Hauling (1 km) 16 km / hr	3.75	mts			
	Returning Time @ 24 kmh	2.5	mts			

274

Sham

y

City R

	Sprinkling Timeat 500 gpm	16	mts			
	lost time	6	mts			
	Total time	44.25	mts			
	Quantity hauled per hour (50 mts)= 50 x 8000/44.25=9040 gallon	9040	gallon			
	Use Rate of tanker with tractor(vide item 3.29b)	733.10				P&M-053+060
	Cost of water per gallon (cost of water per kl x4.546/1000)	1.18	Per gallon			M-189
	Rate per 100 cum fill=1544.38x Use rate of tanker/9040 gallon+cost of water per gallonx1544.38					1947.62
	(B). Hire charge of sheep foot roller for 100 cum					
	Assuming 1755 cum to be rolled in 8 hrs (Vide item no 3.16 d)	0.46	hrs	#VALUE!	#VALUE!	
						#VALUE!
	Add Overhead charge & C.P@15%					#VALUE!
						#VALUE!
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.30	Labour for Rolling and compacting the earth in layers of 225 mm thicl at O.M.C. by road roller to achieve minimum 90 % of maximum dry density including sprinkling the required quanting of water by tanker within 1 km. lead and all lifts including cost of water, finishing the surface with proper grade, camber or superelevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)					
	Unit:-Per Cum					
	Assuming out put=100 Cum fill					
	(A). Watering for compaction					
	Assuming additional moisture required 7 % including 1 % loss. Quantity of water required = 100 x 62.5x 35.3x7/10x100 =1544.38 gal for 100 cum fill	1544.38				
	One Imp gail = 10 lbs					
	capacity of tanker	8000	gallon			
	Bound trip time for 8000 gal tankar =					
	Filling time	16	mts			
	Hauling (1 km) 16 km / hr	3.75	mts			
	Returning Time @ 24 kmh	2.5	mts			
	Sprinkling Timeat 500 gpm	16	mts			
	lost time	6	mts			
	Total time	44.25	mts			
	Quantity hauled per hour (50 mts)= 50 x 8000/44.25=9040 gallon	9039.55	gallon			
	Use Rate of tanker (vide item 3.29b)	733.10				P&M-053 +P&M 060
	Cost of water = Rs 500 / gallon	1.18	Per gallon			M-189
	Rate per 100 cum fill=1544.38x Use rate of tanker/9040 gallon+cost of water per gallonx1544.38					1947.62
	(B). Hire charge of Road roller for 100 cum					
	Assuming 623 cum to be rolled in 8 hrs (Vide item no 4.16a)	1.28	hrs	803.00	1027.84	P & M-044
						2975.46
	Add Overhead charge & C.P@15%					446.32
						3421.77
	Rate per cum		Say Rs	34.20	Per M ³	34.22
7.1.31	Labour for Rolling and compacting the earth in layers of 225 mm thick at O.M.C by sheep foot roller driven by tractor to achieve minnum 95 % of dry density including sprinkling the required quanting of water making arragement for supply and carriage of water with all leads and lifts, finishing the surfaceas plan and drawing including hire charge of compaction, machine and other tools and plants etc. for lined canal all complete as per specifications and direction of E/I. (mode of measurement-sectional measurement of compacted earth)					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Bhisti for carriage of water and sprikling	3	nos	285.00	855.00	(S II-13)
	Cost of water					15.00
	Hire charge of sheep foot roller assuming 1450 cum to be rolled in 8 hr (vide item no 4.16 d)	0.16	hr	#VALUE!	#VALUE!	
						#VALUE!
	Add Overhead charge & C.P@15%					#VALUE!
						#VALUE!
	Rate per cum		Say Rs	#VALUE!	Per M ³	#VALUE!

275

(Signature)

(Signature) a

7.1.32	Labour for Rolling and compacting the earth in layers of 225 mm thicl at O.M.C. by road roller to achieve minimum 95 % of maximum dry density including sprinkling the required quanting of water making arrangement for supply and carriage of water with all leads and lift finishing the surface with proper grade, camber or superelevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Bhisti for carriage of water and sprikling	3.0	nos	285.00	855.00	{S II-13}
	Cost of water				15.00	
	(B). Hire charge of road roller for 100 cum					
	Assuming 566 cum to be rolled in 8 hrs (Vide item no 4.16a)	0.40	hrs	803.00	321.43	P & M-044
					1191.43	
	Add Overhead charge & C.P@15%				178.71	
					1370.14	
						48.40
	Rate per cum			Say Rs 48.40	Per M ³	
7.1.33	Labour for Rolling and compacting the earth in layers of 225 mm thicl at O.M.C. by sheep foot roller driven by tractor to achieve minimum 90 % of maximum dry density including sprinkling the required quanting of water making arrangement for supply and carriage of water with all leads and lift finishing the surface with proper grade, camber or superelevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Bhisti for carriage of water and sprikling	3.0	nos	285.00	855.00	{S II-13}
	Cost of water				15.00	
	(B). Hire charge of sheep foot roller for 100 cum					
	Assuming 1755 cum to be rolled in 8 hrs (Vide item no 4.16 d)	0.13	hrs	#VALUE!	#VALUE!	
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
						#VALUE!
	Rate per cum			Say Rs #VALUE!	Per M ³	
7.1.34	Labour for Rolling and compacting the earth in layers of 225 mm thicl at O.M.C. by road roller to achieve minimum 90 % of maximum dry density including sprinkling the required quanting of water making arrangement for supply and carriage of water with all leads and lift finishing the surface with proper grade, camber or superelevation including, hire charges of compaction machine tanker and other tools and plants etc. all complete as per specifications and direction of E/I. (Mode of measurement - Sectional measurement of compacted earth)					
	Unit:-Per Cum					
	Assuming out put=28.32 Cum					
	Bhisti for carriage of water and sprikling	3.0	nos	285.00	855.00	{S II-13}
	Cost of water				15.00	
	(B). Hire charge of road roller for 100 cum					
	Assuming 623 cum to be rolled in 8 hrs (Vide item no 4.16a)	0.36	hrs	803.00	289.08	P & M-044
					1159.08	
	Add Overhead charge & C.P@15%				173.86	
					1332.94	
						47.07
	Rate per cum			Say Rs 47.10	Per M ³	
7.1.35	Close timbering in trenches including shuttering, shoring and packing cavities (wherever required) depth not exceeding 1.5 metre all complete as per specifications and direction of E/I. (Measurement to be taken of the face area timbered)					
	Unit:-Per Sqm					
	Assuming out put=90 Sqm					
	Assuming trench 30 metre long 1.5 metre deep Area=2x30x1.5= 90 sqm.					
	Piling boards					
	Local wood 90x0.038	3.42	cum	26000.00	88920.00	BCD-1197
	Walings 100 mm x 100 mm					
	Local wood4 x30 x0.1 x0.1	1.2	cum	26000.00	31200.00	BCD-1197
	Ball struts					
	Sal ballah (125 mm dia 1.5 metre long)					
	2 x17 x 1.5	51	metre	53.99	2753.49	WRD
	Carriage					
	Cost of carriage of material including loading, unloading and stacking 1 % of total cot of materials				1228.73	
					124102.22	

276

(Handwritten signatures and initials)

	Deduct credit for materials 75 % of the cost of materials. This can be used four times (Ax0.75)			(-)	93076.669	
					31025.56	B
	Therefore cost of use =B/4				7756.39	
	Labour					
	Carpenter Gr II	0.5	nos	345.00	172.50	{SI I -8}
	Unskilled mazdoor	1	nos	287.00	287.00	{SI-1}
					8215.89	
	Add Overhead charge & C.P@15%				1232.38	
					9448.27	
						104.98
	Rate per sqm		Say Rs	105.00	Per M ²	
7.1.36	Close timbering in trenches including shuttering, shoring and packing cavities (wherever required) depth not exceeding 1.5 metre but upto 3.0 metre all complete as per specifications and direction of E/I. (Measurement to be taken of the face area timbered)					
	Unit:-Per Sqm					
	Assuming out put=90 Sqm					
	Assuming trench 30 metre long 1.5 metre deep					
	Area=2x30x1.5= 90 sqm.					
	Piling boards					
	Local wood 90x0.038	3.42	cum	26000.00	88920.00	BCD-1197
	Walings 100 mm x 100 mm					
	Local wood 4 x30 x0.1 x0.1	1.2	cum	26000.00	31200.00	BCD-1197
	Ball struts					
	Sal ballah (125 mm dia 1.5 metre long)					
	2 x17 x 1.5	51	metre	53.99	2753.49	WRD
	Carriage					
	Cost of carriage of material including loading, unloading and stacking 1 % of total cot of materials				1228.73	
					124102.22	A
	Deduct credit for materials 75 % of the cost of materials. This can be used four times			(-)	93076.669	
					31025.56	B
	Therefore cost of use =B/4				7756.39	
	Labour					
	Carpenter Gr II	0.75	nos	345.00	258.75	{S II -8}
	Unskilled mazdoor	2	nos	287.00	574.00	{SI-1}
					8589.14	
	Add Overhead charge & C.P@15%				1288.37	
					9877.51	
						109.75
	Rate per sqm		Say Rs	109.80	Per M ²	
7.1.37	Supply and laying 300 mm thick humous earth layer on slopes of dam with manual compaction and turfing the surface with approved dub grass with 1 k.m lead including watering and ramming till growth of grass all complete as per specifications and direction of E/I.					
	Unit:-Per Sqm					
	Assuming out put=100 Sqm					
	Unskilled mazdoor for cutting humous earth and dub grass	6	nos	287.00	1722.00	{SI-1}
	Unskilled mazdoor for carrying earth to drn slope and laying in layers	8	nos	287.00	2296.00	{SI-1}
	Carriage of earth by truck with 1 km lead	28.32	cum	input	#VALUE!	
	Unskilled mazdoor for ramming for proper consolidation	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for watering the surface including carriage of water	1	nos	287.00	287.00	{SI-1}
	Unskilled mazdoor for or carriage of grass sides on slope	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for watering the planted grass till gramination	2	nos	287.00	574.00	{SI-1}
	Mate	0.5	nos	311.00	155.50	{S II-2}
					#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
	Rate per sqm		Say Rs	#VALUE!	Per M ²	
7.1.38	Trimming an dressing the side slope of dam to proper section with all lead and lifts as per drawing specifications and direction of E/I.					
	Unit:-Per Sqm					
	Assuming out put=100 Sqm					
	Mason Gr II	0.25	nos	345.00	86.25	{S II -4}
	Unskilled mazdoor for cutting slope	4	nos	287.00	1148.00	{SI-1}
	Unskilled mazdoor for carrying the spoils	4	nos	287.00	1148.00	{SI-1}
	Unskilled mazdoor for dressing the slope	1	nos	287.00	287.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	{S II-2}
					2747.00	
	Add Overhead charge & C.P@15%				412.05	

277

Handwritten signatures and initials, including a large 'A' and 'SACHIN'.

					3159.05	
	Rate per sqm		Say Rs	31.60	Per M ²	31.59
7.1.39	Earth work in foundation excavation as per designed section in ordinary or soft rock (vide classification of soil item C) by shovel and its disposal upto 1 k.m by dumper with all lift including construction and maintenance of haul roads, all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=1.0 Cum					
	Assuming Per cum					
	Average lead =	500	Metre			
	Diesel Shovel capacity	2	cum			
	Ideal production per hour=196 cum (Bank volume)	196	cum			
	Taking depth of cut and angle of swing factor =0.88	0.88				
	Production per hour=Ideal production per hour X depth of cut and angle of swing factor	172.48	cum			
	Taking efficiency factor	0.88				
	Job management factor	0.69				
	Out put of shovel per hour=Production per hr x efficiency factor x Job management factor	104.73	cum			
	Say	100	cum			
A.	Machinery charges					
	I. D-9 tractor dozer					
	Assuming that one Dozer will work one shovel out put of Tractor Dozer output of shovel per working hour =					
	Use rate per working hour	100	cum			
	(vide item 3.11b)					
	Rate per Cum= Use rate / out put					#VALUE!
	II.Shovel					
	Use rate per working hour	#VALUE!				
	(vide item 3.10a)					
	Out put per working hour =	100	cum			
	Rate per Cum= Use rate of shovel / out put					#VALUE!
	III.Dumper 15 M.T					
	Average lead	500	M			
	Swell factor	0.67				
	Capacity	8.33				
	Body capacity= capacity x Swell factor	5.58	cum (compacted volume)			
	Handling Cycle time---					
	(a). Loading time per minute= Body capacity / shovel out put	3.35	minute			
	(b) spotting time=	0.30	minutes			
	(c). Turning and dumping time	2.00	minutes			
	(d). Empty haul @ 25 K.M per hour =Average	1.2	minutes			
	Leadx60/25x1000					
	(e). Loaded haul @20 K.M per hour =Average	1.5	minutes			
	Leadx60/20x1000					
	Total hauling cycle time=(a+b+c+d+e)	8.35	minutes			
	No of dumper trip per working hour of 50 minute = 50 / Total hauling time	5.99	Trips			
	Material carried=TripsxDumper capacity =	33.43	Cum			
	Hourly use rate of Dumper (Vide item no 4.12c)	#VALUE!				
	Rate per cum=Use rate of Dumper/ Material carried					#VALUE!
	Total Machinery charges (i+ii+iii)					#VALUE! A
B.	Add for					
	I. Constuction and maintenance of haul road @ 5 % of machinery charges					
	Total(A+B)					#VALUE! B
	Add Overhead charge & C.P@15%		%			#VALUE!
						#VALUE!
	Rate per cum			Say Rs	#VALUE!	Per M ³ #VALUE!
7.1.40	Earth work in foundation excavation as per designed section in hard rock where blasting is needed and disposal of excavated rock with the combination of machines shovel, Dumper and Tractor - Dozer within one k.m with all lift including stacking properly in approved stack yard as well as construction and maintenance of haul roads, all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=100 Cum					
A.	Drilling and blasting					
	(a). Drilling charges					
	Rock drilling for excavation will be carried out br jack hammers on the basis of the following table(Construction, planing, equipment and methods by R.L.Peuniry page 259) Considering 1 ft hole sufficient for blasting 0.92 cu.yd (0.92 cum) of rock.					
	(Ref.Report of committee on cost control of River vally projects vol II. Jan. 1981)					

278

(Handwritten signatures and initials)

	Size of hole in mm	Hole patten meter	Area per hole cum	Quantity of rock per linear m. of hole cum	Kg. Of explosives per linear m. of hole	Kg of explosive per cum of rock @ of hole filled
						100%
	1	2	3	4	5	6
	38	1.52x1.52	2.31	2.31	1.34	0.58
	Depth of drilling per 100 cum of rock=100/2.31=43.29 m	43.29	M			
	Horizontal drilling and pull effect @ 50 %	21.65	M			
	Total drilling per 100 cum of rock	64.94	M			
	Say	65.00	M			
	Cost of drilling					
	Rate of drilling per hour 2.3 m	2.3	M			
	Hourly use rate (vide item 3.19)	436.00			12321.74	
	Cost of compracsseed air= Total drilling per 100 cum of rockx hourly use rate (vide item 4.19)/rate of drilling per hour					
	Hourly use rate (vide item 3.2)	483.70				P&M-001
	Cost of drilling by Jack hammer=Total drilling per 100 cum of rockx hourly use rate (vide item 4.2)/rate of drilling per hour				13669.78	
B.	Use rate of drilling steel per mt (Vide item no 4.2 a)	#VALUE!				
	Cost of drill steel 65 m	65	mtr		#VALUE!	
C.	Blasting materials including Carriage from Gomia to worksite, storage etc.					
	(I). Cost of Gelatine					
	Assuming that the drill holes can be filled with dynamite upto 75 % of thick capacity. The quantity of explosive required per 100 cum of rock=0.43x100	43	Kg			
	Cost of Gelatine	43	Kg	806.85	34694.55	
	(ii). Cost of Detonators					
	Average depth of hole	1.75	M			
	Quantity of rock per linear metre of hole	2.31	M			
	Quantity of rock per 1.75 m deep hole=	4.04				
	No of holes per 100 cum=	24.74				
	Say	25				
	Using one detenator per hole					
	Nos of detonators per 100 cum	25	nos	5.75	143.65	
	(iii). Blasting batteries, primer, primac rod and loading wire etc. per 100 cum @ 50 % of the cost of detonators				71.82	
	(iv). Stemming @ 40 % of the cost of detonators				57.46	
	Total (A+B+C)				#VALUE!	
	Add Overhead charge & C.P.@15%				#VALUE!	
					#VALUE!	
					#VALUE!	
	Rate per cum				#VALUE!	
	Carriage of blasted rock upto 1 km.lead (vide Item no 7.1.39)				Input	
					#VALUE!	
	Rate per cum		Say Rs	#VALUE!	Per M ³	
7.1.41	Earth work in foundation excavation as per designed section in sand and slushes soil in river bed and disposal of the same upto 1/2 k.m with the combination of machines Dragline Dumper and Tractor - Dozer complete job including construction and maintenance of haul roads, all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Assuming out put=1.0 Cum					
	Average lead =	250	Metre			
	Tata P and H , Dragline capacity	2	cum			
	Net output of Dragline/hr	115	cum			
	Dumper 15 M.T	15	M.T			
	Capacity 8.33 cum	8.33	cum			
	Swell factor= 0.75	0.75				
(A).	Machinery charges					
	I. Use rate of Dragline/hr (Vide item 3.37a)	INPUT				
	Rate Per cum=Use rate / out put	Rs	#VALUE!	a		
	ii.Dumper 15 T					
	Average lead	250	M			
	Body capacity= capacity x Swell factor	6.25	(Bank volume)			
	Handling Cycle time---					
	(a). Loading time per minute= Body capacity / Dragline out put/minutes	3.26	minute			
	(b) spotting time=	0.30	minutes			
	(c). Turning and dumping time	2.00	minutes			
	(d). Empty haul @ 15 K.M per hour	=Average				
	Leadx60/15x1000	1	minutes			

279

(Signature)

(Signature)

	(e). Loaded haul @10 K.M per hour Leadx60/10x1000	=Average	1.5	minutes			
	Total hauling cycle time=(a+b+c+d+e)		8.06	minutes			
	No of dumper trip per working hour of 50 minute = 50 / Total hauling time		6.20	Trips			
	Material carried=TripsxDumper capacity =		38.76	Cum			
	Hourly use rate of Dumper (Vide item no 3.12c)		#VALUE!				
	Rate per cum=Use rate of Dumper/ Material carried		#VALUE!	b			
	(iii). D- 8 Tractor Dozer						
	Assuming that one Dozer will work with one Draglines						
	Therefore out put of D-8 Tractor Dozer =		230	cum			
	Use Rate of D-8 Tractor Dozer (vide item 3.11a)		5011.38				
	Rate per cum of D-8=Use rate of / Out put		21.79	c			
	Total Machinery charges (a+b+c)		#VALUE!			#VALUE!	
B	Add for						
	I. Construction and maintenance of haul road @ 5 % of machinery charges		#VALUE!			#VALUE!	
	Add Overhead charge & C.P@15%					#VALUE!	
						#VALUE!	
	Rate per cum			Say Rs	#VALUE!	Per M ³	#VALUE!
7.1.42	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond initial lead of 150 mtr but within 1.00 K.M and all lifts by Tipper and loading by Front end loader,including unloading and maintenance of haul roads as per specifications and direction of E/I.						
	Unit:-Per Cum						
	Assuming out put=28.32 Cum						
A.	Labour						
	Unskilled mazdoor for dagbelling	0.50	nos	287.00	143.50	{SI-1}	
	Unskilled mazdoor for cutting earth as well as removing organic materials etc.	6	nos	287.00	1722.00	{SI-1}	
	Unskilled mazdoor for preparation of sheet	1	nos	287.00	287.00	{SI-1}	
	Mate	0.25	nos	311.00	77.75	(S II-2)	
					2230.25		
	Add Overhead charge & C.P@15%				334.5375		
					2564.79	90.56	
B.	Carriage of earth by 5.5 cum capacity Tipper						
	Taking output = 1 cum.km						
	Loading of earth by Front end loader (Vide item no 4.1)	1	cum	168.80	168.80		
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ca}	
					205.20	205.20	
					295.76	295.76	
	Rate per cum		Say Rs	295.80	Per M ³		
7.1.43	Earth work in stripping in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same along with all organic materials in country side beyond 1.00 K.M but up to 2 K.M away with all lifts by Tipper and loading by Front end loader,including unloading and maintenance of haul roads as per specifications and direction of E/I.						
	Unit:-Per Cum						
	Assuming out put=28.32 Cum						
A.	Labour						
	Unskilled mazdoor for dagbelling	0.50	nos	287.00	143.50	{SI-1}	
	Unskilled mazdoor for cutting earth as well as removing organic materials etc.	6	nos	287.00	1722.00	{SI-1}	
	Unskilled mazdoor for preparation of sheet	1	nos	287.00	287.00	{SI-1}	
	Mate	0.25	nos	311.00	77.75	(S II-2)	
					2230.25		
	Add Overhead charge & C.P@15%				334.5375		
					2564.79	90.56	
B.	Carriage of earth by 5.5 cum capacity Tipper						
	Taking output = 1 cum.km						
	Loading of earth by Front end loader (Vide item no 4.1)	1	cum	168.80	168.80		
	Cost of Haulage vide item no 4.4(c)	2	cum.km	36.40	72.80	Lead x H _{ca}	
					241.60	241.60	
					332.16	332.16	
	Rate per cum		Say Rs	332.10	Per M ³		

280 R

280 R

280 R

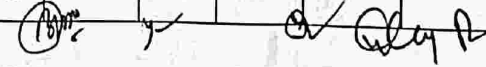
280 R

280 R

7.1.44	Earth work in excavation of cut-off trenches as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same in country side beyond initial lead of 150 mtr but up to 1 K.M away with all lifts by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
		Unit:-Per Cum				
		Assuming out put=28.32 Cum				
A.	Labour					
	Unskilled mazdoor for cutting earth	7.00	nos	287.00	2009.00	{SI-1}
	Unskilled mazdoor for profiling dressing and making edge straight	1.00	nos	287.00	287.00	{SI-1}
	Mason Gr I	0.25	nos	388.00	97.00	{S II- 3}
	Add Overhead charge & C.P@15%				2393.00	
					358.95	
					2751.95	97.17
B.	Carriage of earth by 5.5 cum capacity Tipper and loading by front end loader					
	Taking output = 1 cum.km					
	Loading of earth by Front end loader (Vide item no 4.1)	1	cum	168.80	168.80	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ea}
					205.20	205.20
	Rate (A+B)					302.37
						302.37
	Rate per cum	Say Rs		302.40		Per M ³
7.1.45.1*	Earth work in excavation of cut-off trenches as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil beyond 150 mtr from the Toe of the dam but within 1 k.m with all lifts by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
		Assuming 10cum				
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
	Blaster	0.33	nos	477.00	157.41	{S I-54}
	Blasting material including carriage from Gomla to work site, storage etc.					
	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				15.00	
					3965.11	
	Add Overhead charge & C.P@15%				594.77	
					4559.87	455.99
B.	Carriage of earth by 5.5 cum capacity Tipper and loading by front end loader					
	Taking output = 1 cum.km					
	Loading of earth by Front end loader (Vide item no 4.1)	1	cum	168.80	168.80	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ea}
					205.20	205.20
	Rate (A+B)					661.19
						661.19
	Rate per cum	Say Rs		661.20		Per M ³
7.1.45.2	Earth work in excavation of cut-off trenches as per designed section in soft rock or ordinary rock, (Where blasting is not required) (vide classification of soil item C) with disposal of soil beyond 150 mtr from the Toe of the dam but within 1 k.m with all lifts by Tipper and loading by Front end loader, including unloading, construction and maintenance of haul roads as per specifications and direction of E/I					
		Assuming 10cum				
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II- 3}
	Add Overhead charge & C.P@15%				2106.54	
					315.98	
					2422.52	242.25
B.	Carriage of earth by 5.5 cum capacity Tipper and loading by front end loader					
	Taking output = 1 cum.km					
	Loading of earth by Front end loader	1	cum	168.80	168.80	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ea}

R 281 *AMK* *y* *Aditya* *R*

	Rate (A+B)				205.20	205.20
						447.45
	Rate per cum	Say Rs		447.50	Per M ³	447.45
7.1.46	Earth work in excavation of cut-off trenches as per designed section in hard rock and stacking properly in approved stack size in approved stack yard beyond initial lead of 150 mtr but upto 1 k.m in country side with all lifts by Tipper and loading by Front end loader,including unloading, stacking properly in approved stack yards,construction and maintenance of haul roads as per specifications and direction of E/I.					
	Taking out put=10 Cum					
A.	For Excavation					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all work	10.00	nos	287.00	2870.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.67	nos	477.00	319.59	{S I-54}
	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.75	Kg	806.85	2218.84	M-104
	Detonator	18	nos	5.75	103.42	M-094
	Fuse coil	3	nos	15.00	45.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				26.50	
					8882.39	
	Add Overhead charge & C.P.@15%				1332.36	
					10214.75	1021.48
B.	Carriage of earth by 5.5 cum capacity Tipper and loading by front end loader					
	Taking output = 1 cum.km					
	Loading of earth by Front end loader (Vide item no 4.1)	1	cum	168.80	168.80	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ka}
					205.20	205.20
	Rate (A+B)					1226.68
						1226.68
	Rate per cum	Say Rs		1226.70	Per M ³	
7.1.47	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in all kinds of soil including moorum soil, soil mixed with kanker, pebbles, and boulder upto 300 mm size and disposal of the same in country side beyond initial lead of 150 mtr but up to 1 K.M away with all lifts by Tipper and loading by Front end loader,including unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Assuming 28.32 cum					
A.	Labour					
	Unskilled mazdoor for cutting foundation	7.00	nos	287.00	2009.00	{SI-1}
	Unskilled mazdoor for forming spoil	1.00	nos	287.00	287.00	{SI-1}
	Mason Gr I	0.25	nos	388.00	97.00	{S II-3}
					2393.00	
	Add Overhead charge & C.P.@15%				358.95	
					2751.95	97.17
B.	Carriage of earth by 5.5 cum capacity Tipper and loading by front end loader					
	Taking output = 1 cum.km					
	Loading of earth by Front end loader (Vide item no 4.1)	1	cum	168.80	168.80	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ka}
					205.20	205.20
	Rate (A+B)					302.37
						302.37
	Rate per cum	Say Rs		302.40	Per M ³	
7.1.48.1	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock (vide classification of soil item C) disposal of soil beyond 150 mtr but upto 1 k.m away from toe of the dam with all lifts by Tipper and loading by Front end loader,including unloading, construction and maintenance of haul roads as per specifications and direction of E/I. (Soft rock where blasting is required and approved by concerned Chief Engineer)					
	Assuming 10cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.33	nos	477.00	157.41	{S I-54}
	Blasting material Including carriage from Gomia to work site, storage etc.					

A 282 

	Special Gelatin	2.00	Kg	806.85	1613.70	M-104
	Detonator	10	nos	5.75	57.46	M-094
	Fuse coil	1	nos	15.00	15.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				15.00	
					3965.11	
	Add Overhead charge & C.P@15%				594.77	
					4559.87	455.99
B.	Carriage of earth by 5.5 cum capacity Tipper and loading by front end loader					
	Taking output = 1 cum.km					
	Loading of earth by Front end loader (Vide item no 4.1)	1	cum	168.80	168.80	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ka}
					205.20	205.20
	Rate (A+B)					661.19
						661.19
	Rate per cum	Say Rs		661.20	Per M ³	
7.1.48.2	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in soft rock or ordinary rock(Where blasting is not required) (vide classification of soil item C) disposal of soil beyond 150 mtr but upto 1 k.m away from toe of the dam with all lifts by Tipper and loading by Front end loader,including unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Assuming 10cum					
A.	Labour					
	Hammer man	2.75	nos	302.00	830.50	{S II-17}
	Unskilled mazdoor for all work	4.00	nos	287.00	1148.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
					2106.54	
	Add Overhead charge & C.P@15%				315.98	
					2422.52	242.25
B.	Carriage of earth by 5.5 cum capacity Tipper and loading by front end loader					
	Taking output = 1 cum.km					
	Loading of earth by Front end loader	1	cum	168.80	168.80	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ka}
					205.20	205.20
	Rate (A+B)					447.45
						447.45
	Rate per cum	Say Rs		447.50	Per M ³	
7.1.49	Earth work in excavation of foundation trenches of toe wall, spillway, head regulators, outlets, intake wells etc as per designed section in hard rock where blasting needed and disposal of excavated rock by Tipper and loading by Front end loader,including beyond initial lead of 150 mtr but upto 1 k.m away from toe of the dam with all lifts including loading, unloading, construction and maintenance of haul roads as per specifications and direction of E/I.					
	Assuming 10cum					
A.	Labour					
	Hammer man	10.50	nos	302.00	3171.00	{S II-17}
	Unskilled mazdoor for all work	10.00	nos	287.00	2870.00	{SI-1}
	Mason Gr I	0.33	nos	388.00	128.04	{S II-3}
	Blaster	0.67	nos	477.00	319.59	{S I-54}
	Blasting material including carriage from Gomia to work site, storage etc.					
	Special Gelatin	2.75	Kg	806.85	2218.84	M-104
	Detonator	18	nos	5.75	103.42	M-094
	Fuse coil	3	nos	15.00	45.00	{0326}
	Tools and Plants					
	Cost of hire charge of compressor, drilling equipment and other accessories				26.50	
					8882.39	
	Add Overhead charge & C.P@15%				1332.36	
					10214.75	1021.48
B.	Carriage of earth by 5.5 cum capacity Tipper and loading by front end loader					
	Taking output = 1 cum.km					
	Loading of earth by Front end loader	1	cum	168.80	168.80	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ka}
					205.20	205.20
	Rate (A+B)					1226.68
						1226.68
	Rate per cum	Say Rs		1226.70	Per M ³	

283 Y [Signature] [Signature]

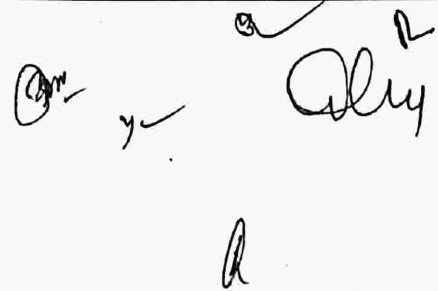
7.1.50	Earth work in dam fill in semi previous or impervious zone by manual excavation and carriage by Tipper and loading by manual labours including , making dam in proper design section including earth to be laid in layers of not more than 225 mm thick with all lift and breaking clods to maximum 63 mm cubsas well as construction and maintenance of haul roads, all complete as per specifications and direction of E/I. (Mode of measurment- sectional measurement of compacted earth).					
		Assuming 28.32cum				
7.1.50.1	Lead beyound 150 mtr but upto 1/2 K.M					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borppw area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	(S II-2)
					3468.00	
	Add Overhead charge & C.P@15%				520.20	
					3988.20	140.83
B.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means					
	Vide item no 4.2.	1	cum	215.70	215.70	
	Cost of Haulage vide item no 4.4(c)	0.5	cum.km	36.40	18.20	Lead x H _{ka}
					233.90	
	Rate (A+B)					374.73
						374.73
	Rate per cum	Say	Rs	374.70	Per M ³	
7.1.50.2	Lead beyound 1/2 K.M but upto 1 K.M					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borppw area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	(S II-2)
					3468.00	
	Add Overhead charge & C.P@15%				520.20	
					3988.20	140.83
B.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means					
	Vide item no 4.2.	1	cum	215.70	215.70	
	Cost of Haulage vide item no 4.4(c)	1	cum.km	36.40	36.40	Lead x H _{ka}
					252.10	252.10
	Rate (A+B)					392.93
						392.93
	Rate per cum	Say	Rs	392.90	Per M ³	
7.1.50.3	Lead beyound 1 K.M but upto 2 K.M					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borppw area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	(S II-2)
					3468.00	
	Add Overhead charge & C.P@15%				520.20	
					3988.20	140.83
B.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means					
	Vide item no 4.2.	1	cum	215.70	215.70	
	Cost of Haulage vide item no 4.4(c)	2	cum.km	36.40	72.80	Lead x H _{ka}
					288.50	288.50
	Rate (A+B)					429.33
						429.33
	Rate per cum	Say	Rs	429.30	Per M ³	
7.1.50.4	Lead beyound 2 K.M but upto 3 K.M					
A.	Labour					
	Unskilled mazdoor for stripping the borrow area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for throwing the stripped earth from borppw area	0.75	nos	287.00	215.25	{SI-1}
	Unskilled mazdoor for cutting earth	9.50	nos	287.00	2726.50	{SI-1}
	Mate	1.00	nos	311.00	311.00	(S II-2)
					3468.00	
	Add Overhead charge & C.P@15%				520.20	
					3988.20	140.83

284

(Signature)

(Signature)

B.	Carriage of earth by 5.5 cum capacity Tipper					
	Taking output = 1 cum.km					
	Loading and Unloading of Earth By manuals means					
	Vide item no 4.2.	1	cum	215.70	215.70	
	Cost of Haulage vide item no 4.4(c)	3	cum.km	36.40	109.20	Lead x H _{ka}
					324.90	324.90
	Rate (A+B)					465.73
						465.73
	Rate per cum	Say	Rs	465.70	Per M ³	



 The table above shows the calculation for the carriage of earth. The final rate per cum is 465.70 Rs.

7.2 DRILLING WORK

Sr.No	Item	Rate	Unit
7.2.1.1	Core drilling of N x (53 mm To 75 mm) (Internal dia To External dia) size by Rotary core drilling machine upto 20 meters depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.	#VALUE!	Per M
7.2.1.2	Core drilling of N x (Internal dia To External dia) (53 mm To 75 mm) (Internal dia To External dia) size by Rotary core drilling machine upto 20 meters depth and upto 30 meters depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.	#VALUE!	Per M
7.2.2	Core drilling of 41mm To 75 mm (Internal dia To External dia) size by Rotary core drilling machine with T.C drill bit in all kinds of soil mixed with boulder, pebbles, shingles etc. including reamina (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction maintenance of core and sludge for foundation exploration only complete as per specifications and direction of E/I.	#VALUE!	Per M
7.2.3.1	Core drilling of B x (41 mm To 59 mm)(Internal dia To External dia) size by Rotary core drilling machine upto 20 meters depth and upto 30 meters depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.	#VALUE!	Per M
7.2.3.2	Core drilling of B x (Internal dia To External dia) (41 mm To 59 mm) size by Rotary core drilling machine upto 20 meters depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.	#VALUE!	Per M
7.2.4.	Drilling by Rotary core drilling machine of size 41 mm To 75 mm dia (Internal dia To External dia) with T.C drill bit for grout and test holes in all kinds of soil including moorum, hard soil mixed with pebbles, shingles and compacted soil upto 20 meter depth including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction finishing etc. till operation is completed as per specifications and direction of E/I.	#VALUE!	Per M
7.2.5	Drilling by Rotary drill machine of size 41 mm To 75 mm dia (Internal dia To External dia) with T.C drill BUT for grout and test holes in clay soft and decomposed rock upto 20 meter depth including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction finishing etc. till grouting, complete as per specifications and direction of E/I.	#VALUE!	Per M
7.2.6	Drilling B x (41 mm To 59 mm) (Internal dia To External dia) size dia test and grout holes in all kinds of hard rock including finishing etc. till grouting operation is completed as per specifications and direction of E/I.	#VALUE!	Per M

a

286

②

②

7.2.7	Drilling N x (53 mm To 75 mm) size dia test and grout holes in all kinds of hard rock including finishing etc. till grouting operation is completed as per specifications and direction of E/I.	#VALUE!	Per M
7.2.8.	Drilling Jack Hammer in hard of all kinds for grout holes upto 5 meter depth (for contact grouting) all complete including washing of holes for period not exceeding 10 minutes per hole as per specifications and direction of E/I.	#VALUE!	Per M
7.2.9	Drilling by wagon drill machine in hard of all kinds for grout holes upto 5 meter depth (for consolidation grouting) all complete including washing of holes for period not exceeding 10 minutes per hole as per specifications and direction of E/I.	#VALUE!	Per M

✓ (P) ✓
 Qly²
 a

7.2 DRILLING WORK

Sl.No.	Description	Quantity	Unit	Rate	amount	Ref.
7.2.1.1	Core drilling of N x (53 mm to 75 mm) (Internal dia To External dia) size by Rotary core drilling machine upto 20 metres depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.					Analysis same as Item 6.2.1.1
7.2.1.2	Core drilling of N x (Internal dia To External dia) (53 mm to 75 mm) (Internal dia To External dia) size by Rotary core drilling machine upto 20 metres depth and upto 30 metres depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.					Analysis same as Item 6.2.1.2
7.2.2	Core drilling of 41mm To 75 mm (Internal dia To External dia) size by Rotary core drilling machine with T.C drill bit in all kinds of soil mixed with boulder, pebbles, shingles etc. including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction maintenance of core and sludge for foundation exploration only complete as per specifications and direction of E/I.					Analysis same as Item 6.2.2
7.2.3.1	Core drilling of B x (41 mm To 59 mm) (Internal dia To External dia) size by Rotary core drilling machine upto 20 metres depth and upto 30 metres depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.					Analysis same as Item 6.2.3.1
7.2.3.2	Core drilling of B x (Internal dia to External dia) (41 mm to 59 mm) size by Rotary core drilling machine upto 20 M depth in all kinds of hard rock including finishing and maintenance of core (minimum 80 % core recovery in hard rock is essential) and sludge etc. for foundation exploration only complete as per specifications and direction of E/I.					Analysis same as Item 6.2.3.2
7.2.4.	Drilling by Rotary core drilling machine of size 41 mm To 75 mm dia (Internal dia To External dia) with T.C drill bit for grout and test holes in all kinds of soil including moorum, hard soil mixed with pabbles, shingles and compacted soil upto 20 metre depth including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction finishing etc. till operation is completed as per specifications and direction of E/I.					Analysis same as Item 6.2.4
7.2.5	Drilling by Rotary drill machine of size 41 mm To 75 mm dia (Internal dia To External dia) with T.C drill BUT for grout and test holes in clay soft and decomposed rock upto 20 metre depth including reaming (to facilitate smooth lowering of casing pipe) lowering of casing pipes and its extraction finishing etc. till grouting, complete as per specifications and direction of E/I.					Analysis same as Item 6.2.5
7.2.6	Drilling B x (41 mm To 59 mm) (Internal dia To External dia) size dia test and grout holes in all kinds of hard rock including finishing etc. till grouting operation is completed as per specifications and direction of E/I.					Analysis same as Item 6.2.6
7.2.7	Drilling N x (53 mm To 75 mm) size dia test and grout holes in all kinds of hard rock including finishing etc. till grouting operation is completed as per specifications and direction of E/I.					Analysis same as Item 6.2.7
7.2.8	Drilling Jack Hammer in hard of all kinds for grout holes upto 5 metre depth (for contact grouting) all complete including washing of holes for period not exceeding 10 minutes per hole as per specifications and direction of E/I.					Analysis same as Item 6.2.8
7.2.9	Drilling by wagon drill machine in hard of all kinds for grout holes upto 5 metre depth (for consolidation grouting) all complete including washing of holes for period not exceeding 10 minutes per hole as per specifications and direction of E/I.					Analysis same as Item 6.2.9

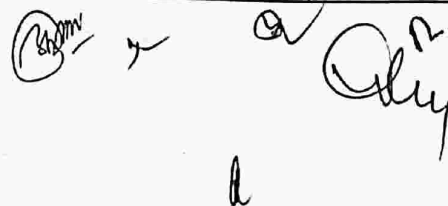
A

7.3. CONCRETE WORK

Sr.No	Item	Rate	Unit
7.3.1	Providing and laying mass concrete of M-100 with nominal mix of (1:3:6) in flow and non-over flow of dam section with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well as royalty .but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates Gr IV Taken)	#VALUE!	Per M ³
7.3.2	Providing and laying mass concrete of M-150 with nominal mix of (1:2:4) in over flow and non-over flow sectopm of dry intake, structures and bridges etc with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. . as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.(Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	#VALUE!	Per M ³
7.3.3	Providing and laying mass concrete of M-200 with nominal mix of (1:1.5 :3) in Dam and Spillways with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	#VALUE!	Per M ³
7.3.4	Providing and laying mass concrete of M-200 with nominal mix of (1:1:2) in Dam , Spillways and Head works with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	#VALUE!	Per M ³
7.3.5	Providing and laying P.C.C M-100 with nominal mix of (1: 3 : 6) in various components of dam foundation with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc... as well as royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing royalty etc. all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design))(Rate of Coarse aggregates Gr IV Taken)	3884.10	Per M ³

At

7.3.6	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1:2:4) in various components of dam foundation with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.. as well as royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, royalty etc. all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	4642.00	Per M ³
7.3.7	Providing and laying P.C.C or R.C.C M-200 with nominal mix of (1:1.5:3) in various components of dam foundation with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well as royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing royalty etc. all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	5161.40	Per M ³
7.3.8	Providing and laying P.C.C or R.C.C M-250 with nominal mix of (1:1 : 2) in various components of dam foundation with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc..but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing. royalty etc. all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	6380.70	Per M ³
7.3.9	Providing and laying P.C.CM-100 with nominal mix of (1: 3 : 6) in various components of dam superstructure with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.. as well as royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing royalty etc. all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design))(Rate of Coarse aggregates Gr IV Taken)	3919.10	Per M ³
7.3.10	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1: 2 :4) in various components of dam superstructure with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well as royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, royalty etc. all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	4642.00	Per M ³
7.3.11	Providing and laying P.C.C or R.C.C M-200 with nominal mix of (1: 1.5:3) in various components of dam superstructure with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well as royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing royalty etc. all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	5196.40	Per M ³



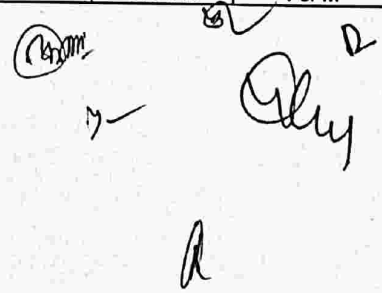
 a
 d

290

7.3.12	Providing and laying P.C.C or R.C.C M-250 with nominal mix of (1: 1 : 2) in various components of dam superstructure with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc as well as royalty .but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing royalty etc. all complete as per specifications and direction of E/I. (Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	6415.70	Per M ³
7.3.13	Grouting for Dam foundation per bags of cement all complete as per specifications and direction of E/I.	345.90	Per Bags of cement
7.3.14	Providing M.S reinforcement(Plain steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.		
	(a).Dia of bar 6 mm	56869.70	Per M.T
	(B).Dia of bar above 6 mm to 12 mm	56869.70	Per M.T
	(B).Dia of bar above 14 mm to 50 mm	56869.70	Per M.T
7.3.15	Providing M.S reinforcement (Tor steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.		
(a)	T.M.T. Fe-415- 8 mm	#VALUE!	Per M.T
(b).	T.M.T. Fe-415- 10 mm	#VALUE!	Per M.T
(c).	T.M.T. Fe-415- 12 mm	#VALUE!	Per M.T
(d).	T.M.T. Fe-415- 16 mm	#VALUE!	Per M.T
(e).	T.M.T. Fe-415- 20 mm	#VALUE!	Per M.T
(f).	T.M.T. Fe-415- 25 mm	#VALUE!	Per M.T
(g).	T.M.T. Fe-415- 28 mm	#VALUE!	Per M.T
(h).	T.M.T. Fe-415- 32 mm	#VALUE!	Per M.T
(i).	T.M.T. Fe-500- 8 mm	54877.30	Per M.T
(j).	T.M.T. Fe-500- 10 mm	53669.80	Per M.T
(k).	T.M.T. Fe-500- 12 mm	53066.10	Per M.T
(l).	T.M.T. Fe-500- 16 mm	53066.10	Per M.T
(m).	T.M.T. Fe-500- 20 mm	53066.10	Per M.T
(n).	T.M.T. Fe-500- 25 mm	53066.10	Per M.T
(o).	T.M.T. Fe-500- 28 mm	57395.00	Per M.T
(p).	T.M.T. Fe-500- 32 mm	53066.10	Per M.T
(q).	T.M.T. Fe-500- 36 mm	#VALUE!	Per M.T
7.3.16	Centering and shuttering in major dam work involving mass concrete including cost of form work, their carriage from work shop to work site, erection with the help of suitable crane and stripping etc. complete job as per specifications and direction of E/I.	#VALUE!	Per M ²
7.3.17	Providing shuttering including strutting. Propping etc. and its removal after use in foundation work as per specifications and direction of E/I.	506.00	Per M ²
7.3.18	Providing shuttering including strutting. Propping etc. and its removal after use in superstructure portion of various components of dam work as per specifications and direction of E/I.	506.00	Per M ²
7.3.19	Providing centering including strutting. Propping etc. and removing after use in deck slab as per specifications and direction of E/I.	657.50	Per M ²

(Handwritten signatures and initials)

7.3.20	Providing and laying mass concrete of M-100 with nominal mix of (1:3:6) in flow and non-over flow of dam section with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I. (With Batching Plant, Transit Mixer Lead up to 1 K.M And Concrete Pump) (Taking Rate of approved quality of aggregate as per Design)) (Rate of Coarse aggregates Gr IV Taken)	2733.60	Per M ³
7.3.21	Providing and laying mass concrete of M-150 with nominal mix of (1:2 :4) in over flow and non-over flow sectopm of dry intake, structures and bridges etc with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete including royalty as per specifications and direction of E/I. (With Batching Plant, Transit Mixer And Concrete Pump)(Taking Rate of approved quality of aggregate as per Design))(Rate of Coarse aggregates 20 mm To 10 mm Taken)	3486.80	Per M ³
7.3.22	Providing and laying mass concrete of M-200 with nominal mix of (1:1.5 :3) in Dam and Spillways with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc..but excluding cost of form work etc. wherever provided and removed after use, all complete including royalty as per specifications and direction of E/I. (With Batching Plant, Transit Mixer And Concrete Pump)(Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20 mm To 10 mm Taken)	4007.60	Per M ³
7.3.23	Providing and laying mass concrete of M-250 with nominal mix of (1:1:2) in Dam , Spillways and Head works with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well as royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I. (With Batching Plant, Transit Mixer And Concrete Pump)(Taking Rate of approved quality of aggregate as per Design)(Rate of Coarse aggregates 20mm To 10 mm Taken)	5184.40	Per M ³



 (Signature)

 (Signature)

 (Signature)

7.3. CONCRETE WORK

Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
7.3.1	Providing and laying mass concrete of M-100 with nominal mix of (1:3:6) in flow and non-over flow of dam section with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating, precooling etc. as well royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					Analysis same as Item 6.3.13
7.3.2	Providing and laying mass concrete of M-150 with nominal mix of (1:2:4) in over flow and non-over flow sectopm of dry intake, structures and bridges etc with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					Analysis same as Item 6.3.14
7.3.3	Providing and laying mass concrete of M-200 with nominal mix of (1:1.5:3) in Dam and Spillways with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.as well royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					Analysis same as Item 6.3.15
7.3.4	Providing and laying mass concrete of M-200 with nominal mix of (1:1:2) in Dam, Spillways and Head works with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well royalty but excluding cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.					Analysis same as Item 6.3.16
7.3.5	Providing and laying P.C.C M-100 with nominal mix of (1: 3 : 6) in various components of dam foundation with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating, precooling etc. as well royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, etc. all complete as per specifications and direction of E/I.					Analysis same as Item 5.3.3
7.3.6	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1: 2 : 4) in various components of dam foundation with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, etc. all complete as per specifications and direction of E/I.					Analysis same as Item 5.3.4
7.3.7	Providing and laying P.C.C or R.C.C M-200 with nominal mix of (1: 1.5 : 3) in various components of dam foundation with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, etc. all complete as per specifications and direction of E/I.					Analysis same as Item 5.3.5
7.3.8	Providing and laying P.C.C or R.C.C M-250 with nominal mix of (1: 1 : 2) in various components of dam foundation with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc. as well royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, etc. all complete as per specifications and direction of E/I.					Analysis same as Item 5.3.6
7.3.9	Providing and laying P.C.C or R.C.C M-100 with nominal mix of (1: 3 : 6) in various components of dam superstructure with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating,precooling etc.as well royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, etc. all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Taking Out put=2.832 Cum					
MATERIALS						
	Coarse aggregates Gr IV (Rate of approved quality of aggregate as per Design)	2.66	M ³	532.52	1416.50	M-048
	Sand	1.330	M ³	175.80	233.81	M-004
	Cement	0.443	M ³	7811.80	3460.63	M-1 P
	Total				5110.94	
Labour						
	Head mason	0.5	nos	388.00	194.00	{S II -3}
	Mason Gr II	1.25	nos	345.00	431.25	{S II- 4}
	Unskilled mazdoor	12	nos	287.00	3444.00	{SI-1}
	Bhisti	1	nos	285.00	285.00	S II-13
	Total				4354.25	

293

Handwritten signatures and initials, including a circled signature and other scribbles.

HIRE CHARGES OF MACHINE					
(i) Concrete mixer (10 H.P.) for 2.832 cum consists on the basis of mixer production capacity 1.98 M ³ per hour. (vide item 3.25)	86.30				P&M-009
= Used rate per hour x 2.832/1.98	1.43	hr	86.30	123.41	
(ii) Vibrator 1no. To vibrate 2.832 cum on the basis of vibrator capacity 1.98 cum per hour. (Vide item no 3.22)	1.43	hr	43.75	62.563	BCD-4.1.1
= Used rate per hour x 2.832/1.98				185.97	
				9651.17	
Add Overhead charge & C.P@15%				1447.67	
				11098.84	
				3919.08	
Rate per cum	Say Rs		3919.10	Per M ³	
7.3.10	Providing and laying P.C.C or R.C.C M-150 with nominal mix of (1: 2 : 4) in various components of dam superstructure with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating, precooling etc. as well royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, etc. all complete as per specifications and direction of E/I.				Analysis same as Item 5.3.9
7.3.11	Providing and laying P.C.C or R.C.C M-200 with nominal mix of (1: 1.5 : 3) in various components of dam superstructure with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating, precooling etc. as well royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, etc. all complete as per specifications and direction of E/I.				Analysis same as Item 5.3.13
7.3.12	Providing and laying P.C.C or R.C.C M-250 with nominal mix of (1: 1 : 2) in various components of dam superstructure with approved quality of graded coarse aggregate and approved quality sand of requisite F.M washed and screened including vibrating, precooling etc. as well royalty but excluding cost of form work as well as of reinforcement, its cutting, bending, and placing but including necessary tools, plants and vibrating, curing, etc. all complete as per specifications and direction of E/I.				Analysis same as Item 6.3.10
7.3.13	Grouting for Dam foundation per bags of cement all complete as per specifications and direction of E/I.				Analysis same as Item 6.3.25
7.3.14	Providing M.S reinforcement(Plain steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.				Analysis same as Item 5.3.21
7.3.15	Providing M.S reinforcement (Tor steel) as per approved design , drawing, removal of rust, cutting, bending, binding, including supplying annealed wire, placing M.S rods in position complete job as per specifications and direction of E/I.				Analysis same as Item 5.3.22
7.3.16	Centering and shuttering in major dam work involving mass concrete including cost of form work, their carriage from work shop to work site, erection with the help of suitable crane and stripping etc. complete job as per specifications and direction of E/I.				Analysis same as Item 6.3.19
7.3.17	Providing shuttering including structting. Proping etc. and its removal after use in foundation work as per specifications and direction of E/I.				Analysis same as Item 5.3.18
7.3.18	Providing shuttering including structting. Proping etc. and its removal after use in superstructure portion of various components of dam work including GST, labour cess & other taxes etc. as per specifications and direction of E/I.				Analysis same as Item 5.3.19
7.3.19	Providing centering including structting. Proping etc. and removing after use in deck slab as per specifications and direction of E/I.				Analysis same as Item 6.3.22
7.3.20	Providing and laying mass concrete of M-100 with nominal mix of (1:3:6) in Barrage with approved quality of raded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc. as well royalty but excluding the cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.				Analysis same as Item 6.3.26
7.3.21	Providing and laying mass concrete of M-150 with nominal mix of (1:2:4) in Barrage with approved quality of raded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc. as well royalty but excluding the cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.				Analysis same as Item 6.3.27
7.3.22	Providing and laying mass concrete of M-200 with nominal mix of (1:1.5:3) in Barrage with approved quality of raded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc. as well royalty but excluding the cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.				Analysis same as Item 6.3.28
7.3.23	Providing and laying mass concrete of M-250 with nominal mix of (1:1:2) in Barrage with approved quality of raded coarse aggregate of required grades as per design and approved quality sand of requisite F.M washed and screened including vibrating, curing etc. as well royalty but excluding the cost of form work etc. wherever provided and removed after use, all complete as per specifications and direction of E/I.				Analysis same as Item 6.3.29

294

(Signature)

(Signature)

(Signature)

(Signature)

7.4 MASONARY WORK

Sr.No	Item	Rate	Unit
7.4.1	Brick work in designation 100 A Brick with cement motar (1 : 3) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4940.30	Per M ³
7.4.2	Brick work in designation 100 A Brick with cement motar (1 : 4) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4787.40	Per M ³
7.4.3	Brick work in designation 100 A Brick with cement motar (1 : 5) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4662.70	Per M ³
7.4.4	Brick work in designation 100 A Brick with cement motar (1:3) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required complete job as per specification and direction of E / I.	5056.90	Per M ³
7.4.5	Brick work in designation 100 A Brick with cement motar (1 : 4) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	4904.00	Per M ³
7.4.6	Brick work in designation 100 A Brick with cement motar (1 : 5) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curing, scaffolding and its removal wherever required including royalty etc. . complete job as per specification and direction of E / I.	4779.20	Per M ³
7.4.7	Providing rough dressed random rubble stone masonry in cement mortar (1:3) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. all complete job as per specification and direction of E / I.	2517.30	Per M ³
7.4.8	Providing rough dressed random rubble stone masonry in cement mortar (1:4) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. .complete job as per specification and direction of E/I.	2300.30	Per M ³
7.4.9	Providing rough dressed random rubble stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal, wherever required including royalty etc. all complete job as per specification and direction of E / I.	2165.00	Per M ³

295

7.4.10	Providing rough dressed random rubble/coursed stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	2663.00	Per M ³
7.4.11	Providing rough dressed random rubble/coursed stone masonry in cement mortar (1 : 4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal, wherever required .complete job including royalty as per specification and direction of E / I.	2445.90	Per M ³
7.4.12	Providing rough dressed random rubble/coursed stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curing, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.	2310.60	Per M ³
7.4.13	Providing rough dressed coarse rubble stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2663.00	Per M3
7.4.14	Providing rough dressed coarse rubble stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2445.90	Per M3
7.4.15	Providing rough dressed coarse stone masonry in cement mortar (1:5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	2310.60	Per M3



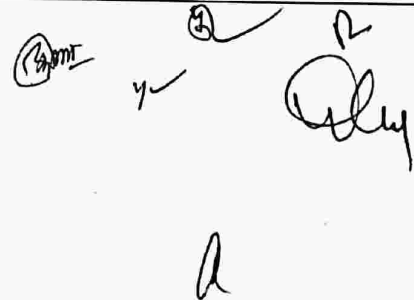
 (Signature) ✓

a

7.4 MASONARY WORK						
Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
7.4.1	Brick work in designation 100 A Brick with cement motar (1 : 3) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.1
7.4.2	Brick work in designation 100 A Brick with cement motar (1 : 4) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.2
7.4.3	Brick work in designation 100 A Brick with cement motar (1 : 5) in foundation with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curring, scaffolding and its removal wherever required including royalty etc.complete job as per specification and direction of E / I.					Analysis same as Item 5.4.3
7.4.4	Brick work in designation 100 A Brick with cement motar (1 : 3) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.5
7.4.5	Brick work in designation 100 A Brick with cement motar(1 : 4) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curring, scaffolding and its removal wherever required complete job including royalty as per specification and direction of E / I.					Analysis same as Item 5.4.6
7.4.6	Brick work in designation 100 A Brick with cement motar (1 : 5) in superstructure with approved quality coarse sand of requisite F.M. washed and screened with raking out joints to 12 mm depth, curring, scaffolding and its removal wherever required including royalty etc.complete job as per specification and direction of E / I.					Analysis same as Item 5.4.7
7.4.7	Providing rough dressed random rubble stone masonry in cement mortar (1:3) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.9
7.4.8	Providing rough dressed random rubble stone masonry in cement mortar (1:4) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.10
7.4.9	Providing rough dressed random rubble stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc.complete job as per specification and direction of E / I.					Analysis same as Item 5.4.11
7.4.10	Providing rough dressed random rubble/coursed stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.12
7.4.11	Providing rough dressed random rubble/coursed stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.13
7.4.12	Providing rough dressed random rubble/coursed stone masonry in cement mortar (1:5) in foundation with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.4.14
7.4.13	Providing rough dressed coarse rubble stone masonry in cement mortar (1:3) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.					Analysis same as Item 5.4.15

297

7.4.14	Providing rough dressed coarse rubble stone masonry in cement mortar (1:4) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	Analysis same as Item 5.4.16
7.4.15	Providing rough dressed coarse stone masonry in cement mortar (1:5) in superstructure with approved quality of coarse sand of requisite F.M. washed and screened with raking out joints, curring, scaffolding and its removal wherever required including royalty complete job as per specification and direction of E / I.	Analysis same as Item 5.4.17


 A collection of handwritten marks including a circled signature, a checkmark, a scribble, and a lowercase letter 'd'.

7.5. PLASTER WORK

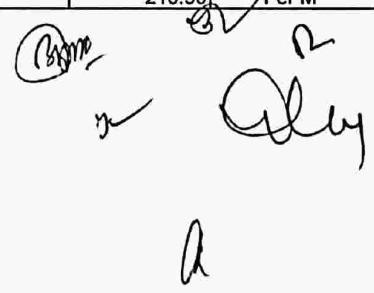
Sr.No	Item	Rate	Unit
7.5.1	Providing 12 mm thick cement plaster (1:3) with approved quality sand of requisite F.M ,washed and screened including curing, scaffolding, wherever required, and its removal,royalty etc. complete job as per specification and direction of E / I.	157.90	Per M ²
7.5.2	Providing 12 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal ,royalty etc.complete job as per specification and direction of E / I.	149.30	Per M ²
7.5.3	Providing 12 mm thick cement plaster (1: 5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal ,royalty etc. complete job as per specification and direction of E / I.	143.60	Per M ²
7.5.4	Providing 25 mm thick cement plaster (1: 3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal ,royalty etc. complete job as per specification and direction of E / I.	257.90	Per M ²
7.5.5	Providing 25 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal ,royalty etc. complete job as per specification and direction of E / I.	241.90	Per M ²
7.5.6	Providing 25 mm thick cement plaster (1: 5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal ,royalty etc. complete job as per specification and direction of E / I.	228.80	Per M ²
7.5.7	Providing 12 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal ,royalty etc.complete job as per specification and direction of E / I.	168.20	Per M ²
7.5.8	Providing 25 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal. ,royalty etc.complete job as per specification and direction of E / I.	278.70	Per M ²
7.5.9	Providing 25 mm thick water proof cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, ,royalty etc. complete job as per specification and direction of E / I.	262.70	Per M ²

②
③
A
A

299

299

7.5.10	Providing 1.5 mm thick cement punning including curing, ,royalty etc.. complete job as per specification and direction of E / I.	46.70	Per M ²
7.5.11	Providing cement ruled pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal complete job including royalty as per specification and direction of E / I.	149.30	Per M ²
7.5.12	Providing cement flush pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required complete job including royalty as per specification and direction of E / I.	110.20	Per M ²
7.5.13	Providing cement truck pointing (1:3) on Brick work with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required <i>and their re moval</i> , ,royalty etc.complete job as per specification and direction of E / I.	162.50	Per M ²
7.5.14	Providing cement truck pointing (1:3) on stone masonry with approved quality sand of requisite F.M , washed and screened and stander water proofing compound including curing, scaffolding wherever required, and their removal, ,royalty etc.. complete job as per specification and direction of E / I.	210.50	Per M ²



 (B)

 m

 R

 Qly

 A

300

7.5 PLASTER WORK

Sl.No	Description	Quantity	Unit	Rate	Amount	Ref
7.5.1	Providing 12 mm thick cement plaster (1: 3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc.complete job as per specification and direction of E / I.					Analysis same as Item 5.5.1
7.5.2	Providing 12 mm thick cement plaster (1: 4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.2
7.5.3	Providing 12 mm thick cement plaster (1:5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal,royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.3
7.5.4	Providing 25 mm thick cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever required and its removal, royalty etc.complete job as per specification and direction of E / I.					Analysis same as Item 5.5.4
7.5.5	Providing 25 mm thick cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.5
7.5.6	Providing 25 mm thick cement plaster (1:5) with approved quality sand of requisite F.M . Washed and screened including curing, scaffolding wherever and its removal,royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.6
7.5.7	Providing 12 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.7
7.5.8	Providing 25 mm thick water proof cement plaster (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.8
7.5.9	Providing 25 mm thick water proof cement plaster (1:4) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.9
7.5.10	Providing 1.5 mm thick cement punning including curing, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.10
7.5.11	Providing cement ruled pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.11
7.5.12	Providing cement flush pointing (1:3) with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.12
7.5.13	Providing cement truck pointing (1:3) on Brick work with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.13
7.5.14	Providing cement truck pointing (1:3) on stone masonry with approved quality sand of requisite F.M . Washed and screened and stander water proofing compound including curing, scaffolding wherever required and their removal, royalty etc. complete job as per specification and direction of E / I.					Analysis same as Item 5.5.14

301

7.6 PITCHING AND PILING

Sr.No	Item	Rate	Unit
7.6.1	Supplying and laying and filter blanketing in horizontal portion of the dam as per design and drawing with watering, compaction including cost of sand,royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E / I.	874.70	Per M ³
7.6.2	Supplying and laying gravel filter (size 5 mm to 15 mm) in filter blanket in the toe drain (in horizontal portion) of the dam as per design and drawing including cost of materials.,royalty etc.but excluding the cost of carriage all complete job as per specification and direction of E / I.	1358.70	Per M ³
7.6.3	Supplying and laying good quality of stone filter (size 20 mm to 63 mm size) in rock toe, heal trench, toe drain as per design and drawing including the cost of material.,royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E / I.	969.40	Per M ³
7.6.4	Supplying and laying boulder in rock toe heal trench of the dam as per design and drawing including the cost of materials ,royalty etc. but excluding the cost of carriage, all complete job as per	1058.30	Per M ³
7.6.5	Supplying and laying sand filter on slope of the dam as per design and drawing, with watering and compaction including the cost of materials ,royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E/I.	1049.50	Per M ³
7.6.6	Supplying and laying gravel filter (size 5 mm to 15 mm)on slope of the dam as per design and drawing including cost of materials, royalty etc. but excluding the cost of carriage all complete job as per specification and direction of E / I.	1650.10	Per M ³
7.6.7	Supplying and laying good quality of stone filter (size 20 mm to 63 mm size) on slope of the dam as per design and drawing including the cost of materials. but excluding the cost of carriage, all complete job including royalty as per specification and direction of E / I.	1260.70	Per M ³
7.6.8	Supplying and laying (properly as per design and drawing) riprap with good quality of boulder duly packed including the cost of materials,royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E/I.	1291.40	Per M ³

302

7.6 PITCHING AND PILING

Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref
7.6.1	Supplying and laying and filter blanketing in horizontal portion of the dam as per design and drawing with watering, compaction including cost of sand, royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E / I.					
	Unit:-Per Cum					
	Taking Out put=2.832 Cum					
	Materials					
	Sand	2.832	cum	175.80	497.87	M004
	Labour					
	Unskilled mazdoor for placing	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for spreading	1.5	nos	287.00	430.50	{SI-1}
	Unskilled mazdoor for watering and ramming	2	nos	287.00	574.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	(S II-2)
					2154.12	584.83
	Add Overhead charge & C.P@15%				323.12	
					2477.23	
						874.73
	Rate per cum	Say Rs		874.70	Per M ³	
7.6.2	Supplying and laying gravel filter (size 5 mm to 15 mm) in filter blanket in the toe drian (in horizontal portion) of the dam as per design and drawing including cost of materials,royalty etc. but excluding the cost of carriage all complete job as per specification and direction of E / I.					
	Unit:-Per Cum					
	Taking Out put=2.832 Cum					
	Materials					
	Cost of gravel filter (5 mm to 15 mm)	2.832	cum	850.00	2407.20	SI 281 7754
	Labour					
	Unskilled mazdoor for placing	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for spreading	0.5	nos	287.00	143.50	{SI-1}
	Unskilled mazdoor for loght compaction	0.5	nos	287.00	143.50	{SI-1}
	Mate	0.25	nos	311.00	77.75	(S II-2)
					3345.95	331.48
	Add Overhead charge & C.P@15%				501.89	
					3847.84	
						1358.70
	Rate per cum	Say Rs		1358.70	Per M ³	
7.6.3	Supplying and laying good quality of stone filter (size 20 mm to 63 mm size) in rock toe, heal trench, toe drian as per design and drawing including the cost of materials, royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E / I.					
	Unit:-Per Cum					
	Taking Out put=2.832 Cum					
	Materials					
	Cost of stone metal (20 mm to 63 mm)	2.832	cum	511.44	1448.40	M036
	Labour					
	Unskilled mazdoor for placing	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for spreading	0.5	nos	287.00	143.50	{SI-1}
	Unskilled mazdoor for loght compaction	0.5	nos	287.00	143.50	{SI-1}
	Mate	0.25	nos	311.00	77.75	(S II-2)
					2387.15	
	Add Overhead charge & C.P15%				358.07	
					2745.22	
						969.36
	Rate per cum	Say Rs		969.40	Per M ³	
7.6.4	Supplying and laying boulder in rock toe heal trench of the dam as per design and drawing including the cost of materials, royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E / I.					
	Unit:-Per Cum					
	Taking Out put=2.832 Cum					
	Materials					
	Cost of boulder	2.832	cum	355.68	1007.29	M001
	Labour					
	Mason Gr II	0.25	nos	345.00	86.25	(S II- 4)
	Unskilled mazdoor	5	nos	287.00	1435.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	(S II-2)
					2606.29	564.62
	Add Overhead charge & C.P@15%				390.94	

308

(Handwritten signatures and initials)

					2997.23	
						1058.34
	Rate per cum	Say Rs		1058.30	Per M ³	
7.6.5	Supplying and laying sand filter on slope of the dam as per design and drawing, with watering and compaction including the cost of materials,royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E/I.					
	Unit:-Per Cum Taking Out put=2.832 Cum					
	Materials					
	Cost of sand	2.832	cum	175.80	497.87	M004
	Labour					
	Unskilled mazdoor for carrying	3	nos	287.00	861.00	{SI-1}
	Unskilled mazdoor for spreading	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for watering and ramming	2	nos	287.00	574.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	{S II-2}
					2584.62	
	Add Overhead charge & C.P@15%				387.69	
					2972.31	
	Rate per cum	Say Rs		1049.50	Per M ³	1049.54
7.6.6	Supplying and laying gravel filter (size 5 mm to 15 mm)on slope of the dam as per design and drawing including cost of materials, royalty etc. but excluding the cost of carriage all complete jobas per specification and direction of E / I.					
	Unit:-Per Cum Taking Out put=2.832 Cum					
	Materials					
	Cost of gravel filter (5 mm to 15 mm)	2.832	cum	850.00	2407.20	BCD-7754
	Labour					
	Unskilled mazdoor for carrying	3	nos	287.00	861.00	{SI-1}
	Unskilled mazdoor for spreading	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for loght compaction	0.5	nos	287.00	143.50	{SI-1}
	Mate	0.25	nos	311.00	77.75	{S II-2}
					4063.45	
	Add Overhead charge & C.P@15%				609.52	
					4672.97	
	Rate per cum	Say Rs		1650.10	Per M ³	1650.06
7.6.7	Supplying and laying good quality of stone filter (size 20 mm to 63 mm size) on slope of the dam as per design and drawing including the cost of materials,royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E / I.					
	Unit:-Per Cum Taking Out put=2.832 Cum					
	Materials					
	Cost of stone metal (20 mm to 63 mm)	2.832	cum	511.44	1448.40	M036
	Labour					
	Unskilled mazdoor for placing	3	nos	287.00	861.00	{SI-1}
	Unskilled mazdoor for spreading	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for loght compaction	0.5	nos	287.00	143.50	{SI-1}
	Mate	0.25	nos	311.00	77.75	{S II-2}
					3104.65	
	Add Overhead charge & C.P@15%				465.70	
					3570.35	
	Rate per cum	Say Rs		1260.70	Per M ³	1260.72
7.6.8	Supplying and laying (properly as per design and drawing) riprap with good quality of boulder duly packed including the cost of materials,royalty etc. but excluding the cost of carriage, all complete job as per specification and direction of E / I.					
	Unit:-Per Cum Taking Out put=2.832 Cum					
	Materials					
	Cost of boulder	2.832	cum	355.68	1007.29	M-001
	Labour					
	Mason Gr II	0.25	nos	345.00	86.25	{S II- 4}
	Unskilled mazdoor	7	nos	287.00	2009.00	{SI-1}
	Mate	0.25	nos	311.00	77.75	{S II-2}
					3180.29	
	Add Overhead charge & C.P@15%				477.04	
					3657.33	
	Rate per cum	Say Rs		1291.40	Per M ³	1291.43

304

(Handwritten signatures and initials)

7.7 TUNNEL WORK

Sr.No	Item	Rate	Unit
7.7.1	Excavation of Tunnel portion in hard rock by blasting with all lead and lift, including dressing providing temporary support (steel or timber) wherever necessary, removal of spoil to dump site by truck within 1 km. lead from portal face all complete as per specifications and direction of E/I.	#VALUE!	Per M ³
7.7.2	Providing shot crete in arch portion of tunnel including cost of wire mesh (150 mm x 150 mm) all complete as per specifications and direction of E/I.	#VALUE!	Per M ³
7.7.3	Providing arrangement by pumping and disposal of surface water from the area of under ground excavation all complete as per specifications and direction of E/I.	#VALUE!	Per H.P Per Hour
7.7.4	Supplying, fabricating and erection of steel portal including steel lagging in concrete in live and grade all complete as per specifications and direction of E/I.	68916.70	Per M.T
7.7.5	Grouting in tunnel per bag cement consumption all complete as per specifications and direction of E/I.	354.30	per bag of cement
7.7.6	Excavation of vertical shaft for (Intake structure) in hard rock with all lift and disposal of the same by truck upto 1 Km lead from shaft face all complete as per specifications and direction of E/I.	#VALUE!	Per M ³
7.7.7	Drilling holes upto 38 mm dia rock including supplying and fixing 25 mm dia rock bolts slotted at one end and threaded at the other and with bearing plates, bolts, nuts etc. complete including clearing holes before fixing rods as per drawing, specifications and direction of E/I.	#VALUE!	Per M ²

18/10/20
y-
Dhy

a

305

7.7 TUNNEL WORK

Sl.No	Description	Quantity	Unit	Rate	Amount	Ref.
7.7.1	Excavation of Tunnel portion in hard rock by blasting with all lead and lift, including dressing providing temporary support (steel or timber) wherever necessary, removal of spoil to dump site by truck within 1 km. lead from portal face all complete as per specifications and direction of E/I.					
	Unit:-Per Cum					
	Taking Out put=1.0 Cum					
	Assuming					
	Formate for tunnel diameter	7	metre			
	Thickness of linings	0.5	metre			
	Length of Tunnel= as per requirement		metre			
	Excavated dia of tunnel =Finished dia of tunnel+2 x thickness of lining+2x Aistance of pay lines =7.00+2x0.5+2x0.15 = 8.30 metre	8.3	metre			
	Sectional area of tunnel =22d ² /(7 x4) = 22/7 x(8.3) ² /4	54.13	sqm			
	Add for over break @ 20 %	10.83	sqm			
	Cross sectional area of tunnel	64.95	sqm			
	Quantity of excavation per metre length of tunnel	64.95	cum			
	Say	65	cum			
	Assume progress per face (This Includes drilling, blasting, mucking, riboing and packing etc. 0= 3 Metre per day	3	Mtr/day			
	Hence Quantity of excavation per day	195	cum			
	No of working shift of 8 hours.					
	Each.....	3	nos			
	Quantity of excavation	65	Cum (Borrow measure)			
	Cycle of operations					
	Drilling and shifting working platform	6	hours			
	Charging and blasting	1	hours			
	Defusing	1	hours			
	Mucking	4	hours			
	Rock bolting, rib eraction and concreting	12	hours			
	(A).Direct labour					
	Junior formen	1	nos/shift	434.00	434.00	(SII 55)
	Sr. Formen Spl. Drilling	1	nos/shift	488.00	488.00	(SII 54)
	Supervisor (Diploma holder)	1	nos/shift	468.00	468.00	(SII 62)
	Electrician Gr I	1	nos/shift	367.00	367.00	(SII 57)
	Blaster	2	nos/shift	477.00	954.00	(SI -54)
	Hole cleaner	2	nos/shift	294.00	588.00	(SII 30)
	Helper to Electrician	1	nos/shift	302.00	302.00	(SII 16)
	Unskilled mazdoor	12	nos/shift	287.00	3444.00	(SI-1)
	Semi skilled mazdoor	12	nos/shift	364.00	4368.00	(SII 70)
	Wiremen for Blasting	1	nos/shift	333.00	333.00	(SII 42)
	Rate of labour per cum = Total wage/Quantity of excavation per day				11746.00	
	(B). Machinery charges				60.24	A
	SL no Equipment Nos Working hr/ day	Total Working hr/ day	Use rate per hr vide item no	Rate		
1	Drill jumbo	1	6	6	3.1	#VALUE!
2.	Trolley	16	4	64	3.31	input #VALUE!
3.	Jack hammer (48 nos)	10	5	50	3.2	INPUT #VALUE!
4.	Scalling hammer	2	4	8	3.3	#VALUE! #VALUE!
5.	Drill excavattors	2	1	2	3.32a	#VALUE! #VALUE!
6.	Grinder	2	1	2	3.33	#VALUE! #VALUE!
7.	Convey muckers (1 cyd)	1	5	5	3.9	#VALUE! #VALUE!
8.	Battery Locomotive	4	5	20	3.17b	#VALUE! #VALUE!
9.	D.8 Tractor Dozer	1	6	6	3.11a	#VALUE! #VALUE!
	Total Machinery charges					#VALUE!
	Rate per cum = Total Machinery charges/Quantity of excavation per day					#VALUE! B
	(C). Material charges					
	1. DRILLING AND BLASTING					
	(a) It is proposed that to obtain 3 mtr progress per day face metre deep holes will be drilled .					
	Gross section area of tunnel	54.11	Sqm			
	Assuming average spacing of hole 0.75 m c/ c					
	Area of rock Gross section per face = 54.11/0.562	96	nos			
	Total depth of drilling 96 x 3.3 = 316.80 metre					
	Cost of drill steel for 316.80 metre =	#VALUE!				
	Quantity of rock excavated per day	195	cum			
	Rate for drill steel per cum= Total cost of drill steel / Quantity of rock excavated					#VALUE!

306

306

306

306

306

(b). Explosives					
(i) Gelatine required per cum	1				
(ii). Detonators @ one per hole per face	96	Kg	806.85	806.85	
(iii). Fuse coils @ one per hole per face	96	nos	5.75	551.60	
		nos	15.00	1440.00	
Quantity of rock excavated per day	195	cum			
Hence Rate of explosive per cum= Cost of detonators+Fuse coils /Quantity of rock excavated					
(iii). Other consumable petty stores such as blasting batteries, galvano metres and blasting wires etc. 50 % of item (i)				14.35	
Total explosive charge =i+ii+iii				403.43	
Total Drilling and blasting charge (a+b)				1224.63	
(D). Charge for ventilator blowers.				#VALUE!	C
Use rate of ventilation blower vide item 3.14	#VALUE!				
Total blower charge/ shift= use rate/8	#VALUE!				
Rock excavated per shift=	65	cum			
Rate per cum=Total blower charge per shif / Rock excavated per shift	#VALUE!			#VALUE!	D
(E). Shop charge					
(i).Machine shop including foundary and smithy structural shop, steel metal shop, Air and water shop and foundary @ 40 % of machinary charges (B)				#VALUE!	E
(F).Electrical materials charges @ 10 % of item (C)				#VALUE!	F
G). Compressed air charge @ 20 % of item ©				#VALUE!	G
(H). Water charge @ 4 % of item (C)				#VALUE!	H
(I). Carriage of excavated rocks by truck upto 1 km from portal face					
Average lead=575 M	575	M			
Truck capicity 8 MT =6 cum (swell factor0.67)	6	Cum			
Net capacity 6 x 0.67 = 4.02 cum	4.02	cum			
Cycle time---	16	k.m/hr			
(a) Hauling time @ 16 KM (Average)speed per hours =575x60x2/1000x16=4.31 minutes	4.31	minutes			
(b) Loading unloading turning and spolting time=60 minutes	60	minutes			
Total hauling cycle time=64.31 minutes	64.31	minutes			
No of trip per working hour = 60 / 64.31=0.93 trips	0.93	Trips			
Material carried=0.93x4.02 =3.74M ³	3.74	Cum			
Hourly use rate of truck (vide item no 3.26)	934.3	hr			
Rate per cum=Use rate of truck/3.74 =192.60 /3.74	249.81		Rs	249.81	P&M-057
Constuction and maintenance of haul road Add @ 5 % of Item (b)			Rs	12.49	
Add 2 % for electric charge				5.00	
				267.30	
Total of A+B+C+D+E+F+G+H+I+J				#VALUE!	
Add Overhead charge & C.P@15%				#VALUE!	
				#VALUE!	
				#VALUE!	
Rate per cum	Say Rs		#VALUE!	Per M ³	
7.7.2	Providing shot crete in arch portion of tunnel including cost of wire mesh (150 mm x 150 mm) all complete including royalty as per specifications and direction of E/I.				
	Unit:-Per Cum				
	Taking Out put=1.0 Cum				
A.Materials					
Cement	0.034	cum	7811.80	265.60	M-1 P
Coarse aggregate	0.033	cum	532.52	17.57	
Sand	0.1	cum	175.80	17.58	M004
				300.75	A
(B) B. Batching and mixing charge per bag					
Use rate of Batching and mixing plant (vide item 3.13a)	2981.00				P&M-002
Batching and mixing plant capacity 26.76 cum (35 cuyd)	26.76	cum			
(Taking job management factor as 0.69)	0.69				
Rate of mass concrete per cum= Use rate/(26.76*0.69)	76.86				
Charge for mixing of materials per bag= Rate of mass concrete per cum/7.5				10.25	B
(C) Transport of concrete by 3.06 cum (4 cuyd) buckets hauled by 5 T Diesel Locomotive from batching and mixing plant to pick up point					
Average lead= 1.0 Km	1.00	Km			
Hauling Cycle time					
Ideal production at Batching plant=57.34 cum (75 cuyd)	57.34	cum			
Actual production with 0.69 x 57.34=39.56 cum	39.56	cum			
i.Loading time of a Train =3.06 x2 x60/39.56 =9.28 minutes	9.28	minute			
ii.spolting time and waiting time =	1.50	minutes			
iii.Turning and unloading time	9.28	minutes			
iv.Empty haul @6.00 K.M per hour =Average Leadx60/6	10.00	minutes			

307

① y

②

a

	v.Loaded haul @ 6.00 K.M per hour =Average Leadx60/6	10.00	minutes			
	Total hauling cycle time=(i +ii+iii+iv+v)	40.06	minutes			
	No of trips in 50 cum in working	1.25				
	Output of one trian with 2 buckets per hr	7.65	cum			
	Use rate of Diesel Locomotive (Vide item no 3.17a)	#VALUE!				
	Use rate of concrete buckets 2.nos (Vide Item no 3.30a)	24.30				P&M-008
	Total use rate	#VALUE!				
	Transport rate off mass concrete per cum = Total use rate/7.65	#VALUE!				
	Charge for transport of mix to site per bag= Transport Rate of mass concrete per cum / 7.5				#VALUE!	C
	(D). Placement charges					
	Use rate of shot crete Machine (vide item no 3.8)	input				
	Capacity	1	cum			
	Considering no of shots by shot creting Machine per hr	6				
	Output of per hr	6	cum			
	Use rate of shot crete Machine per bag of cement consumption with 80 % efficiency = Use rate of short crete machine per hour / 0.8 x 6 x7.5				#VALUE!	D
	(E). Lighting, work shop charge and other miscelleneous item @ 100 % of use rate of shout crete machine per bag				#VALUE!	E
	Rate per bag of cement constructed=A+B+C+D+E				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per cum	Say Rs		#VALUE!		#VALUE!
7.7.3	Providing arrangement by pumping and disposal of surface water from the area of under ground excavation all complete as per specifications and direction of E/I.					Per M ³
		Unit:-	H.P. Per Hour			
	(A) Pump charge					
	Use rate of --- H.P pump per hour (vide item no3.15c)	15	H.P		#VALUE!	A
	(B). Pipe and Accessories					
	(a). Depreciation charge					
	i. 250 mm dia pipe	3	Mtr	#VALUE!	#VALUE!	
	ii. M.S Bends	5	nos	#VALUE!	#VALUE!	
	iii. Foot valve	1	nos	#VALUE!	#VALUE!	
	iv. Sluice valve	1	nos	#VALUE!	#VALUE!	
	v. Vacaum pumping set 5 H.P (vide Item no 3.15n)	1	nos	#VALUE!	#VALUE!	
	vi. Reflex valve	1	nos	#VALUE!	#VALUE!	
	Total				#VALUE!	
	Rated lift = 20000hrs					
	Depreciation charge per hr = 0.734 x total cost of material/(0.75x20000)					
	(REF Report of committee on cost control of River vally project, Voi II Jan. 81)				#VALUE!	a
	(b).Repair and maintenance charge					
	Total repair provision @ 50 % of Depreciation					
	.Repair and maintenance charge per hour=				#VALUE!	b
	(c). P.O.L. charge					
	Engergy consumed in 5 H.P vacum pumping set kwh = 5 x 0.746= 3.73					
	Cost of 3.73 kwh @ Rs	3.73	kwh	#VALUE!	#VALUE!	c
	(d). Labour charge					
	Plumber	1	nos	367.00	367.00	(SII- 32)
	Helper	1	nos	302.00	302.00	(SII 16)
	Mechanic Gr II	0.5	nos	413.00	206.50	(SII-44)
	Total				875.50	
	Labour charge per hr=Total labour charge/8				109.44	d
	Total charge of Pipe and Accessories=a+b+c+d				#VALUE!	B
	(C). Making sumps for placing pipe					
	Labour					
	Semi skilled mazdoor	4	nos	364.00	1456.00	(SII 70)
	Labour charge per hr= Labour charge/8				182.00	c
	(D). Misc. charge and making platform etc. for pumps					
	Add @ 10 % of the total charges A+B+C				#VALUE!	D
					#VALUE!	
	Rate per H.P per Hr=(A+B+C+D)/15				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per H.P per hour	Say Rs		#VALUE!		#VALUE!

308

Y (30)

Handwritten signatures and initials.

7.7.4	Supplying, fabricating and erection of steel portal including steel lagging in concrete in live and grade all complete as per specifications and direction of E/I.					
	Unit:-Per M.T Taking Out put=1.0 M.T (REF Report of committee on cost control of River vally project, Voi II Jan. 81 page)					
	A. Materials					
	1.025 M.T. cost of structural steel at project store (2.5 % wastage and incidental to work)	1.025	M.T	37842.00	38788.05	A(M-179)
	B. Fabrication					
	i. Making roller section 2.5 % of the cost of stock A. above				969.70	
	ii. Cutting 3 % Of A.above				1163.6415	
	iii. Bending of rolled section @ 6% of A above				2327.28	
	iv. Welding					
	a. Cost of electricity including 20% reject @ 8 % of A. above				3103.04	
	b. Labour and electric charge @ 10 % of A				3878.805	
	c. Handling of material during fabrication @ 5 % of A				1939.4025	
	d. Temporary fixture @ 8 % of A				3103.04	
	Total welding charge				12024.30	
	Total of fabrication i to iv				16484.92	B
	C. Erection					
	Transport of material out of work shop operation, handling final matching and field welding etc. @ 12 % of A				4654.57	C
	Total cost A+B+C				59927.54	
	Add Overhead charge & C.P@15%				8989.13	
					68916.67	
						68916.67
	Rate per M.T	Say Rs		68916.70		per M.T
7.7.5	Grouting in tunnel per bag cement consumption all complete as per specifications and direction of E/I.					
	Unit:- Bag of cement Taking Out put:- 1 Bags					
	(A). Cost of 1.05 bag of cement at site including 5 % wastage and incidental charge	0.0357	Cum	7811.80	278.88	
	(B). Grouting					
	I. Hourly use rate of grouting machine	175.00				P&M-078
	Taking progress of grouting 6 bags of cement per hour	6	Bags			
	Cost of Grouting= use rate/ 6				29.17	
					308.05	
	Add Overhead charge & C.P@15%				46.21	
					354.26	
						354.26
		Say Rs		354.30		Per Bag of cement
7.7.6	Excavation of vertical shaft for (Intake structure) in hard rock with all lift and disposal of the same by truck upto 1 Km lead from shaft face all complete as per specifications and direction of E/I.					
	Unit:-Per Cum Taking Out put=1.0 Cum					
	Assuming					
	Formate diameter of shaft	13	metre			
	Av.Thickness of linings (Taking 1.5 mtr at bottom land 0.5 mtr at top as thickness of lining)Including pay line of 0.15 mtr	1.15	metre			
	Excavated dia of vertical shaft =Finished dia of shaft +2 x thickness of lining+2x Aistance of pay lines =13.00+2x(1+0.15) = 15.30 metre	15.3	metre			
	Sectional area of shaft =22d ² /(7 x4) = 22/7 x(8.3) ² /4	183.93	sqm			
	Add for over break @ 10 %	18.39	sqm			
	Cross sectional area of shaft	202.32	sqm			
	Quantity of excavation per metre height of shaft	202.32	cum			
	Say	202	cum			
	Assume progress per face (This includes drilling, blasting, mucking, ribbing and packing etc. 0= 1 Metre per day	1	Mtr/day			
	Hence Quantity of excavation per day	202	cum			
	No of working shift of 8 hours.					
	Each.....	3	nos			
	Quantity of excavation	67.33	Borrow measure)			
	Cycle of operations					
	Drilling and shifting working platform	2.5	hours			
	Charging and blasting	0.5	hours			
	Defusing	0.5	hours			
	Mucking	3	hours			
	Rock bolting, rib eraction and concreting	1.5	hours			
	Total	8	hours			

309

a

[Handwritten signature]

(A).Direct labour						
Sr. Formen Spl. Drilling	1	nos	488.00	488.00	(SII 54)	
Supervisor (Diploma holder)	1	nos	468.00	468.00	(SII 62)	
Electrician Gr II	2	nos	345.00	690.00	(SII 58)	
Blaster	3	nos	477.00	1431.00	(S I -54)	
Hole cleaner	5	nos	294.00	1470.00	(SII 30)	
Helper to Electrician	3	nos	302.00	906.00	(SII 16)	
Unskilled mazdoor	24	nos	287.00	6888.00	(SI-1)	
Semi skilled mazdoor	24	nos	364.00	8736.00	(SII 70)	
Wiremen for Blasting	5	nos	333.00	1665.00	(SII 42)	
Stone men	1	nos	294.00	294.00	(SII 37)	
Total labour				23036.00		
Rate of labour per cum = Total wage/Quantity of excavation per day				342.12	A	
(B). Machinery charges						
SL no	Equipment	Nos	Working hr/ day	Total Working hr/ day	Use rate per hr vide item no	Rate
1	D.8 Tractor Dozer	1	1	1	3.11a	input
2	Convey mucker	20	3	60	3.9	#VALUE!
3	Jack hammer (52 lb)	24	2.5	60	3.2	input
4	Scalling hammer	3	1	3	3.3	#VALUE!
5.	Drill excavators	2	1/2	1	3.32	#VALUE!
6.	Grinder	1	1	1	3.33	#VALUE!
7.	30.T.Holst	1	3	3	3.7b	1161.00
8.	Loader	1	3	3	3.35 a	1199.00
Total Machinery charges						#VALUE!
Rate per cum = Total Machinery charges/Quantity of excavation per day						#VALUE!
(C). Material charges						
1. DRILLING AND BLASTING						
(a) It is proposed that to obtain 1 mtr progress per day 1.25mtr. deep holes will be drilled Gross section area of shaft 22x4 (13+1.25) ² /(7x4)				177	Sqm	
Assuming average spacing of hole 0.80 m c/ c						
Area of Cross section per hole =0.8x0.8				0.64	sqm	
No of hole required=Gross section area of shaft/Area of Cross section per hole				274.00		175.04
Total depth of drilling				342.50		
Cost of drill steel for per metre =				#INPUT		
Cost of drill steel for 342.5 metre =				#VALUE!		
Quantity of rock excavated per day				202.0	cum	
Rate for drill steel per cum= Total cost of drill steel / Quantity of rock excavated				#VALUE!		#VALUE!
(b). Explosives						a
(i) Gelatine required per cum				1	Kg	806.85
(ii). Detonators @ one per hole per face				274	nos	5.75
Fuse coils @ one per hole per face				274	nos	15.00
Quantity of rock excavated per day				202	cum	
Hence Rate of explosive per cum= Cost of detonators+Fuse coils /Quantity of rock excavated						28.14
(iii). Other consumable petty stores such as blasting batteries, galvano metres and blasting wires etc. 50 % of item (i)						403.43
Total explosive charge =i+ii+iii						1238.42
1.Total explosive charge and blasting charge (a+b)						#VALUE!
2.Provision of pipe lines for air and water for wet drilling rate per cum@ 4 % of 1						#VALUE!
3. Timber for supports packing rate per cum @ 5 % of 1						#VALUE!
4. Miscellaneous supplies such as safety hales, gunboots, rain coats, wire ropes, manila rops, v-clampes, rubber gloves, shackles and artifical respirators rate per cum @ 4 % of 1						#VALUE!
Total material charge 1+2.+3+4						#VALUE!
(D). Charge for ventilator blowers.						
Use rate of ventilation blower vide item 3.14				#VALUE!		
Total blower charge/ shift= use ratex8				#VALUE!		
Rock excavated per shift=				67.33	cum	
Rate per cum=Total blower charge per shif / Rock excavated per shift				#VALUE!		#VALUE!
(E). Shop charge						
(i).Machine shop including foundary and smithy structural shop, steel metal shop, Air and water shop and foundary @ 40 % of machinery charges (B)						#VALUE!
(F).Electrical materials charges @ 10 % of item (C)						#VALUE!
(G) Trolly Track charge Per M3 @ 5% of (C)						#VALUE!
(H). Compressed air charge @ 20 % of item C						#VALUE!

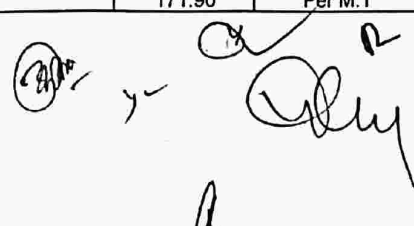
310 y (30) 50 R. J. J.

(I). Water charge @ 4 % of item (C)				#VALUE!	I
(J). Carriage of excavated rocks by truck upto 1 km from portal face					
Average lead=575 M	575				
Truck capacity 8 MT =6 cum (swell factor0.67)	6				
Net capacity 6 x 0.67 = 4.02 cum	4.02				
Cycle time----	16				
(a) Hauling time @ 16 KM (Average)speed per hours =575x60x2/1000x16=4.31 minutes	4.31				
(b) Loading unloading turning and spolling time=60 minutes	60				
Total hauling cycle time=64.31 minutes	64.31				
No of trip per working hour = 60 / 64.31=0.93 trips	0.93				
Material carried=0.93x4.02 =3.74M ³	3.75				
Hourly use rate of truck	934.3				P&M-057
Total Rate per cum=Use rate of truck/3.74 =192.60 /3.74			Rs	249.12	
Constuction and maintenance of haul road Add @ 5 % of Item (b)	5	%	Rs	0.50	
Add 2 % for electric charge	2	%		4.98	
				254.60	J
Total of A+B+C+D+E+F+G+H+I+J+K				#VALUE!	
Add Overhead charge & C.P@15%				#VALUE!	
				#VALUE!	
				#VALUE!	
Rate per cum	Say Rs			#VALUE!	per cum
7.7.7 Drilling holes upto 38 mm dia rock including supplying and fixing 25 mm dia rock bolts slotted at one end and threaded at the other and with bearing plates, bolts, nuts etc. complete including clearing holes before fixing rods as per drawing, specifications and direction of E/L.					
	Unit:-Per M				
	Taking Out put=1.0 M				
A. Drilling					
i. Cost of drilling use rate of Jack hammer	INPUT				
average rate of drilling 35 mm dia metre hole per hour	2.3	mtr			
Hence rate of drilling per metre= Use rate of Jack hammer/2.3	#VALUE!				
ii. Cost of drill rod per mtr of drilling	1	mtr	#VALUE!	#VALUE!	
B. Supply and making the bolts					
i. Rock bolt 25 mm dia metre	1	mtr	#VALUE!	#VALUE!	
ii. Wastage in cutting 2.5 % of B (i)	2.5	%		#VALUE!	
	Sub-Total			#VALUE!	
Grand Total				#VALUE!	
Add Overhead charge & C.P@15%				#VALUE!	
				#VALUE!	
				#VALUE!	
				#VALUE!	
Rate per metre	Say Rs			#VALUE!	per metre

a

7.8 MISCELLANEOUS

Sr.No	Item	Unit	Rate
7.8.1	Supplying, fitting and fixing in position mild steel trash rack and trash rack covering wherever needed in dam and allied works complete job as per drawing, specifications and direction of E/I.	#VALUE!	Per M.T
7.8.2	Supplying, fitting and fixing in position mild steel stop leg gates wherever needed in dam and allied works complete job as per drawing, specifications and direction of E/I.	#VALUE!	Per M.T
7.8.3	Supplying, fitting and fixing copper strip of 16 gauge of approved quality (with 99 % purity) in expansion joints complete job as per drawing, specifications and direction of E/I.	870.60	Per kg
7.8.4	Supplying, fitting and fixing rubber seal of (water stop) of approved quality for construction joints expansion joints complete job as per drawing, specifications and direction of E/I.	#VALUE!	Per Meter
7.8.5	Supplying, and fixing in position 25 mm thick Bituminous board (Shalitex or equivalent) in expansion or construction joint in dam and its allied works all complete as per approved design, specifications and direction of E/I	#VALUE!	Per M ²
7.8.6	Supplying, and fixing Bitumen filter (Bitumen, cement and sand) in construction joints in dam and its allied works all complete as per approved design, specifications and direction of E/I	147.10	Per cm width Per cm depth Per 100 mtr length
7.8.7	Providing slope drain with boulder duly cement grouted in (1 : 10) over layers of sand, gravel filter as per approved design, specifications and direction of E/I	836.80	Per Meter
7.8.8	Construction slope drain and cross drain and berm drain with cement plaster (1 : 3) including the cost of all materials as per specifications and direction of E/I	14912.00	Per Meter
7.8.9.1	Providing and driving steel sheet piles on specified alignment and upto designed levels including painting the sheet piles with two coats of anti-corrosive bitumen paint (portion of sheet pile inside concrete shell not be painted) including cost of sheet piles and hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I . (For the purpose of payment of sheet pile driving, measurement of sheet pile duly driven shall be taken only)	#VALUE!	Per M.T
7.8.9.2	Labour rate for extracting steel sheet piles on specified alignment with hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I . (For the purpose of payment of sheet pile extracting, measurement of sheet pile duly extracted shall be taken only)	#VALUE!	Per M.T
7.8.10	Unloading cement , light stacking materials steel materials from Railway wagon and stacking the same in Railway yard for verification within a distance of 150 mtr. From Railway track all complete job as per direction of E/I	137.50	Per M.T
7.8.11	Unloading heavy structural steel materials of all categories (Not required the use of crane) from Railway wagon and stacking the same in Railway yard for verification within a distance of 150 mtr. From Railway track all complete job as per direction of E/I	171.90	Per M.T



312

7.8.12	Carriage of cement, steel and other materials from departmental godown to site or vice-versa by head load and stacking the same beyond 45 M and upto 165 M including the cost of all labours all complete as per direction of E/I.	206.30	Per M.T
7.8.13	Extra for each additional lead of 45 M or a part there of beyond the initial lead of 165 M as per direction of E/I.	61.90	Per M.T
7.8.14	Labour rate for reshuffling and restacking of cement bage including restacking in Godaown as per direction of E/I	8.30	Per bag

(2) ✓ a R
 ✓ Wdy
 R

313

7.8 MISCELLANEOUS

Sl.No.	Description	Quantity	Unit	Rate	Amount	Ref.
7.8.1	Supplying, fitting and fixing in position mild steel trash rack and trash rack covering wherever needed in dam and allied works complete job as per drawing, specifications and direction of E/I.					
	Unit:-Per M.T					
	Taking Out put=1.0 M.T					
	(REF Report of committee on cost control of River vally project, Vol II Jan. 81)					
	A.Materials					
	i.Mild steel in shape of structurals such as beams, angle, flate, rods and plates(adopt average effective rate of all structurals)	1	M.T			
	Add wastage (During various operation and handling) @ 2.5 %	0.025	M.T			
	Sub-Total	1.025	M.T	37842.00	38788.05	M-179
	ii.Acetylene	3.8	cum	input	#VALUE!	
	iii. Oxygen	16	cum	#VALUE!	#VALUE!	
	iv. M.S Electrodes	330	nos	input	#VALUE!	
	v. Miscellaneous items like oil and paints @ 2 % of the cost of mild steel /M.T				775.76	
	Sub-Total (A)				#VALUE!	A
	B.Labour					
	i.Fabrication including cutting, welding and making @ 40 % of the cost of mild steel /				15515.22	
	ii. Straightening and black smithy charges @ 15 % of the cost of mils steel / M.T				5818.21	
	iii. Miscellaneous labour charges I.e handling of job to different shops @ 3 % of cost of mild steel /M.T				1163.64	
	Sub-Total(B)				22497.07	B
	C.Transportation and erection charge					
	i.Transportrtation and positioning of the trash rack at site of work @ 10 % of cost of mild steel /M.T				3878.81	
	ii. Erection of embaded parts and trash rack @ 40 % of cost of mild steel /M.T				15515.22	
	Sub-Total©				19394.03	C
	Grand Total				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	
					#VALUE!	
	Rate per MT	Say Rs		#VALUE!	Per MT	#VALUE!
7.8.2	Supplying, fitting and fixing in position mild steel stop log gates wherever needed in dam and allied works complete job as per drawing, specifications and direction of E/I.					
	Unit:-Per M.T					
	Taking Out put=1.0 M.T					
	(REF Report of committee on cost control of River vally project, Voi II Jan. 81)					
	A.Materials					
	i.Mild steel in shape of structurals such as beams, angle, flate, rods and plates(adopt average effective rate of all structurals)	1	M.T			
	Add wastage (During various operation and handling) @ 2.5 %	0.025	M.T			
		1.025	M.T	Input	#VALUE!	
	ii.Acetylene	3.8	cum	input	#VALUE!	
	iii. Oxygen	8.6	cum	#VALUE!	#VALUE!	
	iv. M.S Electrodes	200	nos	input	#VALUE!	
	v. Gun metal in gate	12	Kg	#VALUE!	#VALUE!	
	vi. Rubber seal	2.5	metre	#VALUE!	#VALUE!	
	vii. Miscellaneous materials as screw bolts, paints, black leads, crucible pattern wood and hard coke paints @ 5 % of the cost of mild steel /M.T				#VALUE!	
	Sub-Total (A)				#VALUE!	A
	B.Labour					
	i.Fabrication including cutting, welding and making @ 30 % of the cost of mild steel /				#VALUE!	
	ii.Maching including Eurning, drilling, threading, boring and teeth cutting @ 20 % of cost of mild steel / M.T				#VALUE!	
	iii. Casting @ 20 % of the cost of mils steel / M.T				#VALUE!	
	iv. Black smithyand forging charges @ 15 % of the cost of mils steel / M.T				#VALUE!	
	v. Miscellaneous labour charges I.e handling of job to different shops @ 5 % of cost of mild steel /M.T				#VALUE!	
	Sub-Total(B)				#VALUE!	B
	C.Transportation and erection charge					
	i.Transportrtation and positioning of the trash rack at site of work @ 10 % of cost of mild steel /M.T				#VALUE!	
	ii. Erection of embaded parts and trash rack @ 15 % of cost of mild steel /M.T				#VALUE!	
	Sub-Total©				#VALUE!	C
	Grand Total				#VALUE!	
	Add Overhead charge & C.P@15%				#VALUE!	

314 a

(Handwritten signatures and initials)

				#VALUE!	#VALUE!
Rate per MT		Say Rs		#VALUE!	Per MT
7.8.3	Supplying, fitting and fixing copper strip of 16 gauge of approved quality (with 99 % purity) in expansion joints complete job as per drawing, specifications and direction of E/I.	Analysis same as Item 5.8.1			
7.8.4	Supplying, fitting and fixing rubber seal of (water stop) of approved quality for construction joints expansion joints complete job as per drawing, specifications and direction of E/I.	Analysis same as Item 5.8.2			
7.8.5	Supplying, and fixing in position 25 mm thick Bituminous board (Shalitec or equivalent) in expansion or construction joint in dam and its allied works all complete as per approved design, specifications and direction of E/I	Analysis same as Item 5.8.3			
7.8.6	Supplying, and fixing Bitumen filter (Bitumen, cement and sand) in construction joints in dam and its allied works all complete including royalty as per approved design, specifications and direction of E/I	Analysis same as Item 5.8.4			
7.8.7	Providing slope drain with boulder duly cement grouted in (1 : 10) over layers of sand, gravel filter including royalty as per approved design, specifications and direction of E/I				
		Unit:-Per M			
		Taking Out put=15.24 M			
Taking 15.24 mtr length of drain		15.24	mtr		
Materials					
Sand for filter 1.98 cum+ for Grouting 1.42 cum		3.4	cum	175.80	597.72 M004
Gravel		1.98		355.68	704.25 M-002
Boulder		4.39		355.68	1561.44 M-001
Cement		0.142		7811.80	1109.28 M-1 P
					3972.68 (A)
Labour					
ii. Labour for sand filter (vide Item no 7.6.1) (Labour For 2.832 cum)		1.98	cum	584.83	1157.97 (B)
Unskilled mazdoor for placing		2	nos	287.00	574.00 (SI-1)
Unskilled mazdoor for spreading		1.5	nos	287.00	430.50 (SI-1)
Unskilled mazdoor for watering and ramming		2	nos	287.00	574.00 (SI-1)
Mate		0.25	nos	311.00	77.75 (S II-2)
					1656.25 584.83
ii. Labour for Gravel filter (vide Item no 7.6.2) (Labour For 2.832 cum)		1.98	cum	331.48	656.33 (C)
Unskilled mazdoor for placing		2	nos	287.00	574.00 (SI-1)
Unskilled mazdoor for spreading		0.5	nos	287.00	143.50 (SI-1)
Unskilled mazdoor for loght compaction		0.5	nos	287.00	143.50 (SI-1)
Mate		0.25	nos	311.00	77.75 (S II-2)
					938.75 331.48
iii. Labour for boulder laying (vide Item no 7.6.4) (Labour For 2.832 cum)		4.39	cum	564.62	2478.68 (D)
Mason Gr II		0.25	nos	345.00	86.25 (S II- 4)
Unskilled mazdoor		5	nos	287.00	1435.00 (SI-1)
Mate		0.25	nos	311.00	77.75 (S II-2)
					1599.00 564.62
iv. Labour for Earth work In foundation (vide item no 5.1.27)		22.65	cum	114.90	2602.51 (E)
v. Labour for grouting					
Unskilled mazdoor for carrying the soil		0.25	nos	287.00	71.75 (SI-1)
Unskilled mazdoor for dressing the slope		0.25	nos	287.00	71.75 (SI-1)
Mate		0.25	nos	311.00	77.75 (S II-2)
					221.25 (F)
Total (A+B+C+D+E+F)					11089.41
Add Overhead charge & C.P On(A+B+C+D+F)@15%					1663.41
					12752.83
Rate per cum		Say Rs		836.80	Per M
7.8.8	Construction slope drain and cross drain and berm drain with cement plaster (1 : 3) including the cost of all materials including royalty as per specifications and direction of E/I				
		Unit:-Per M			
		Taking Out put=1.0 M			
1. Earth work (vide item no 5.1.27)		100	cum	132.10	13210.00
2. Supply and placing gravel or stone chips (20 mm to 40 mm)		0.42	cum	1285.00	539.70
3. Supply and placing of sand (vide item 7.6.5)		0.42	cum	1049.50	440.79
4. Supply and placing of Stone boulder(vide item 7.6.4)		0.46	cum	1058.30	486.82
5. Cement plaster (1 : 3) (vide item 7.5.4)		0.91	sqm	257.90	234.69

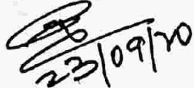
AS 315 (B) 7-2 Q/R
 (Signature)

	Rate per meter				14912.00	14912.00
		Say Rs		14912.00	Per mtr	
Note:-	Rate analysis for Supply and placing gravel or stone chips (20 mm to 40 mm) (Assuming 2.832 cum)					
	Materials					
	Cost of stone metal (20 mm to 40 mm)	2.832	cum	532.52	1508.10	
	Labour					
	Unskilled mazdoor for placing	3	nos	287.00	861.00	{SI-1}
	Unskilled mazdoor for spreading	2	nos	287.00	574.00	{SI-1}
	Unskilled mazdoor for light compaction	0.5	nos	287.00	143.50	{SI-1}
	Mate	0.25	nos	311.00	77.75	{S II-2}
	Add Overhead charge & C.P@15%				3164.35	
					474.65	
					3639.00	
						1284.96
				say, Rs	1285.00	per Cum
7.8.9.1	Providing and driving steel sheet piles on specified alignment and upto designed levels including painting the sheet piles with two coats of anti- corrosive bitumen paint (portion of sheet pile inside concrete shell not be painted) including cost of sheet piles and hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I . (For the purpose of payment of sheet pile driving, measurement of sheet pile duly driven shall be taken only)					Analysis same as item 5.8.5.1
7.8.9.2	Labour rate for extracting steel sheet piles on specified alignment with hire charges of sheet pile driving plant etc. all complete as per specifications and direction of E/I . (For the purpose of payment of sheet pile extracting, measurement of sheet pile duly extraced shall be taken only)					Analysis same as item 5.8.5.2
7.8.10	Unloading cement , light stacking materials steel materials from Railway wagon and stacking the same in Railway yard for verification within a distance of 150 mtr. From Railway track all complete job as per direction of E/I					
	Vide T.E.C no 54E dated 12.12.89					
	Unit:-Per M.T					
	Taking Out put=48.0 M.T					
	(Assuming unloading one wagon Load 48.0 M.T)					
	Unskilled mazdoor	20.00	nos	287.00	5740.00	{SI-1}
	Add Overhead charge & C.P@15%				5740.00	
					861.00	
					6601.00	
	Rate per MT			Say Rs	137.50	Per M.T
7.8.11	Unloading heavy structural steel materials of all categories (Not required the use of crane) from Railway wagon and stacking the same in Railway yard for verification within a distance of 150 mtr. From Railway track all complete job as per direction of E/I					
	Vide T.E.C no 54E dated 12.12.89					
	Unit:-Per M.T					
	Taking Out put=48.0 M.T					
	(Assuming unloading one wagon Load 48.00 M.T)					
	Unskilled mazdoor	25.00	nos	287.00	7175.00	{SI-1}
	Add Overhead charge & C.P@15%				7175.00	
					1076.25	
					8251.25	
	Rate per MT			Say Rs	171.90	Per M.T
7.8.12	Carriage of cement, steel and other materials from departmental godown to site or vice-versa by head load and stacking the same beyond 45 M and upto 165 M including the cost of all labours all complete as per direction of E/I.					
	Vide T.E.C no 104E dated 24.10.90					
	Unit:-Per M.T					
	Taking Out put=4.0 M.T					
	(Applicable only for departmental work not for general contract work)					
	Considering 4 M.T					
	Unskilled mazdoor	2.50	nos	287.00	717.50	{SI-1}
	Add Overhead charge & C.P@15%				717.50	
					107.63	
					825.13	
	Rate per MT			Say Rs	206.30	Per M.T
7.8.13	Extra for each additional lead of 45 M or a part there of beyond the initial lead of 165 M as per direction of E/I.					
	Vide T.E.C no 104E dated 24.10.90					
	Unit:-Per M.T					
	Taking Out put=4.0 M.T					

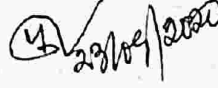
316

(Handwritten signatures and initials)

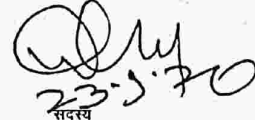
(Applicable only for departmental work not for general contract work)					
Considering 4 M.T					
Unskilled mazdoor	0.75	nos	287.00	215.25	(SI-1)
				215.25	
Add Overhead charge & C.P@15%				32.29	
				247.54	
					61.88
Rate per MT			Say Rs	61.90	Per M.T
7.8.14	Labour rate for reshuffling and restacking of cement bage including restacking in Godaown as per direction of E/I				
	Vide T.E.C no 104E dated 24.10.90				
	Unit:-Per Bag				
	Taking Out put=100 Bags				
(Applicable only for departmental work not for general contract work)					
Consider 100 bags (5 M.T)					
Unskilled labour for taking out cement bags, reshuffling properly in order to brock lumps and restacking the same in proper place	2.50	nos	287.00	717.50	
				717.50	
Add Overhead charge & C.P@15%				107.63	
				825.13	
					8.25
			Say Rs	8.30	Per bag


23/09/20

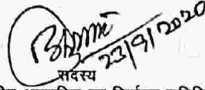
सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
भवन निर्माण विभाग, विहार, पटना


23/09/2020

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
प्रागोण कार्य विभाग, विहार, पटना

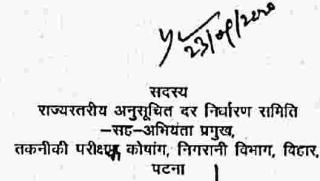

23.9.20

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
लघु जल संसाधन विभाग, विहार, पटना

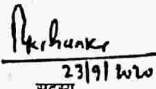

23/9/2020

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अभियंता,(अरौं),
विहार स्टेट पावर होल्डिंग कंपनी लि0,
विहार, पटना

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-मुख्य अभियंता, (विद्युत)
भवन निर्माण विभाग, विहार, पटना

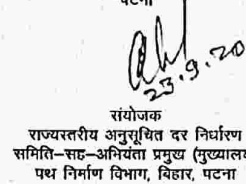

23/09/2020

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
तकनीकी परीक्षण कोषांग, निगरानी विभाग, विहार,
पटना


23/9/20

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,
लोक स्वास्थ्य अभियंत्रण विभाग,
विहार, पटना

सदस्य
राज्यस्तरीय अनुसूचित दर निर्धारण समिति
-सह-अभियंता प्रमुख,(मुख्यालय),
जल संसाधन विभाग, विहार, पटना


23.9.20

संयोजक
राज्यस्तरीय अनुसूचित दर निर्धारण
समिति-सह-अभियंता प्रमुख (मुख्यालय)
पथ निर्माण विभाग, विहार, पटना

317

317

SPECIFICATION

जल संसाधन विभाग, बिहार द्वारा अनुशासित विभिन्न सामग्रियों का दर अनुमोदन

अभियंता प्रमुख (मुख्यालय)-सह-अध्यक्ष, विभागीय अनुसूचित दर निर्धारण समिति-जल संसाधन विभाग, बिहार, पटना के पत्रांक-संचिका संख्या-02 क्रय-08-01/2012 (खण्ड-VI)-261 (अनु0) पटना दिनांक-16.05.2019 द्वारा जल संसाधन विभाग के विभागीय अनुसूचित दर निर्धारण समिति द्वारा निम्नलिखित सामग्रियों यथा-खाली बोरा (Empty Cement Bag), Nylon Crate (1m×1m×1m), Mega Geo Bag (2.0m×1.50m), P.P. Rope gabion (1.80m×1.8m×0.5), P.P. Rope gabion (1.8m×1.20m×0.5), बांस (Bamboo), Sal Ballah इत्यादि का निर्धारित किये गये दर एवं विशिष्टियों को राज्य स्तरीय अनुसूचित दर निर्धारण समिति से अनुमोदन कराने हेतु अनुरोध किया गया है।

उपरोक्त सामग्रियों का अनुमोदित दर एवं विशिष्टियाँ (Specification), इस प्रकार है :-

A. खाली सीमेंट बोरा (Empty Cement Bag)

S.N.	Item	Specification	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित दर (Exclusive GST, CP & overhead charge) in ₹
A.	खाली सीमेंट बोरा (Empty Cement Bag)	Empty Cement Bag (Synthetic) should be old but in good condition of 1.20 cft Capacity.	2.92/Per bag दो रुपये बिरानवे पैसे मात्र

B. Nylon Crate (1m x 1m x 1m)

S.N.	Item	Specification	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित दर (Exclusive GST, CP & overhead charge) in ₹
B.	Nylon Crate (1m x 1m x 1m)	Nylon Crate of Size 1 cubic meter (1m×1m×1m) with 20 cms mesh of specification 1260/3/4/2 (ie having 24 nos of threads) of weight 165± 5 grams	39.85/each उनचासीस रुपये पिचासी पैसे मात्र

(36/11/19) -319-

4

Handwritten signatures and marks.

C. Non-Woven Mega Geo Bag (2.0m × 1.5m)

Type of polymer : Type of polymer Shall be Polypropylene/ Polyester.
 Quality of Polymer : The virgin fibres with more than 70% UV resistance Shall be used as raw material for making Fabric and Geo bags. No recycled fiber Shall be allowed for making Geo Textile bags.
 Type of Fiber: Staple Fiber
 Bonding Mechanism- Needle-Punching

SL No	Properties	Unit	Requirements of Nonwoven Geo-Textile bags	राज्य स्तरीय अनुसूचित निर्धारण द्वारा अनुमोदित दर (Exclusive GST, CP & overhead charge) in ₹ (प्रति जीओ बैग)
1	Wide width Tensile Strength, Min. (MD/CD)	kN/m	24 24	Rs. 620.96/- (छ: सौ बीस रुपये छियानब्ये पैसे मात्र)
2	Elongation, Min. MD/CD	Percent	50	
3	Seam Strength, Percent of Original Fabric Strength, Min	Percent	≥65	
4	Abrasion Resistance, Retained Tensile strength in Machine direction and Cross Machine direction Min.		50%	
5	Trapezoidal tear strength, Min. MD/CD	N	600	
6	CBR Puncture Resistance, Min	N	4700	
7	Water Permeability at 100 mm Water Head, Min.	(l/m ² /s)	30	
8	Apparent Opening Size (AOS), Max	Um	75	
9	Permittivity, Min	S	1.00	
10	Thickness under 2kPa, Min	Mm	4.0	
11	Polymer Type, Polyester (PES) or Polypropylene (PP)		Polyester (PES) Virgin type or Polypropylene (PP)	
12	Mass, Min.	g/m ²	600	
13	Volume of Filled Bag	M ³	0.75	
14	Weight of Filled Bag	Kg	1350	
15	UV Resistance after 500 h, Min	Percent	80	

Stitching : Ring Spun Yarn Stitches with=5000-6000 denier (PES/PP); double line chain stitch with overlap stitches along the edges @minimum 15 stitches/100mm

D. P.P. Rope gabbian (1.8m×1.8m×0.5m)

S.N.	Item	Specification	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित दर (Exclusive GST, CP & overhead charge) in ₹
D.	P.P. Rope Gabion (1.8m×1.8m×0.5m)	<p>Properties-9mm×4 Strand PP Gabbion±1mm, 150mm×150mm mesh Size</p> <p>Size of Gabbion-1.80×1.80×0.5m with lid and slings.</p> <p>Size of the body & border Rope-9mm×4strand having a weight of 42 gm/m ±8% as per IS 5175:1992 (Reaffirmed 1997)</p> <p>Material of Rope-Poly-propylene (with adequate UV Stabiliser)</p> <p>Mesh opening-150mm×150mm</p> <p>Tensile strength-A-Rope-1560 kg breaking Strength (Min). as per IS 7071/(PART 4) : 1986 Reaffirmed-1999</p> <p>B-Rope NET 10000 kg/m breaking strength</p> <p>Structure of Rope-Four Strand shroud Laid</p> <p>Construction of Rope Net-Woven Joint at intersection of Ropes.</p>	<p>1780.00/each</p> <p>एक हजार सात सौ अस्सी रुपये मात्र</p>

[Handwritten signatures and initials]

E. P.P. Rope gabion (1.8m×1.2m×0.5m)

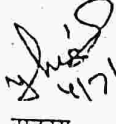
S.N.	Item	Specification	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित दर (Exclusive GST, CP & overhead charge) in ₹
E.	P.P. Rope gabion (1.8m×1.2m×0.5m)	<p>Properties-9mm×4 Strand PP Gabion±1mm, 150mm×150mm mesh Size</p> <p>Size of Gabion-1.8m ×1.2×0.5m with lid and slings.</p> <p>Size of the body & border Rope- 9mm×4strand having a weight of 42 gm/m ±8% as per IS 5175:1992 (Reaffirmed 1997)</p> <p>Material of Rope-Poly-propylene (with adequate UV Stabiliser)</p> <p>Mesh opening-150mm×150mm</p> <p>Tensile strength-A-Rope- 1560 kg breaking Strength (Min). as per IS 7071/(PART 4) : 1986 Reaffirmed-1999</p> <p>B-Rope NET 10000 kg/m breaking strength.</p> <p>Structure of Rope-Four Strand shroud Laid</p> <p>Construction of Rope Net-Woven Joint at intersection of Ropes.</p>	<p>1385.00/each</p> <p>एक हजार तीन सौ पचासी रुपये मात्र</p>

F. बाँस (Bamboo)

S.N.	Item	Specification	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित दर (Exclusive GST, CP & overhead charge) in ₹
F.	बाँस (Bamboo)	विभागीय अनुसूचित दर निर्धारण समिति द्वारा किए गए अनुशंसा पर आधारित।	
1.	75 mm size 6m to 8m Long-		141.50/each
2.	100 mm dia. 6m to 8m Long-		151.00/each
3.	50mm dia. hill Bamboo-		94.35/each

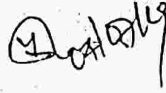
G. Sal Ballah

S.N.	Item	Specification	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित दर (Exclusive GST, CP & overhead charge) in ₹
G.	Sal Ballah-	विभागीय अनुसूचित दर निर्धारण समिति द्वारा झारखंड सरकार के राज्यस्तरीय अनुसूचित दर निर्धारण समिति के वर्ष 2018-19 के लिए अनुमोदित दर पर आधारित अनुशंसा।	
	1. 100 mm dia-		30.59 Per metre
	2. 125 mm dia-		53.99 Per metre
	3. 150 mm dia-		67.02 Per metre


4/7/19

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना।



सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, ग्रामीण कार्य विभाग, बिहार, पटना

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना


04.7.19

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (असैनिक) बिहार स्टेट पावर होल्डिंग कंपनी लि0, बिहार, पटना

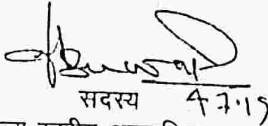

04/7/19

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता, (विद्युत) भवन निर्माण विभाग, बिहार, पटना

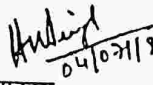
सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग, निगरानी विभाग, बिहार, पटना


4.7.19

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना


04/07/19

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, मुख्यालय जल संसाधन विभाग, बिहार, पटना।

संयोजक

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, पथ निर्माण विभाग, बिहार, पटना।

- 323 -

Non-Woven Geo-Textile bag of size 1M×0.7M का राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा दर-अनुमोदन

अभियंता प्रमुख (मुख्यालय)-सह-अध्यक्ष, विभागीय अनुसूचित दर निर्धारण समिति, जल संसाधन विभाग, बिहार, पटना के पत्र संख्या-2/क्रय-08-01-2012 (खंड-7)-414 दिनांक-25.06.2020 द्वारा जल संसाधन विभाग के विभागीय अनुसूचित दर निर्धारण समिति द्वारा निर्धारित जिओं बैग (1M×0.7M) के दर को राज्यस्तरीय अनुसूचित दर निर्धारण समिति से अनुमोदन कराने हेतु अनुरोध किया गया है।

राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा Non-Woven Geo Bag (1.0M×0.7M) की अनुमोदित दर एवं विशिष्टियाँ इस प्रकार है :-

Geo Bag of Size (1M×0.7M)

Type of polymer : Type of polymer Shall be Polypropylene/ Polyester.

Quality of Polymer : The virgin fibres with more than 70% UV resistance Shall be used as raw material for making Fabric and Geo bags. No recycled fiber Shall be allowed for making Geo Textile bags.

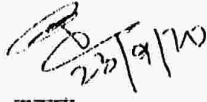
Type of Fiber: Staple Fiber

Bonding Mechanism- Needle-Punching

SL No	Properties	Unit	Requirements of Nonwoven Geo-Textile bags	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित दर (exclusive GST, CP& overhead charge)
1	Wide width Tensile Strength, Min. (MD/CD)	kN/m	15	Rs. 81.00/-Per Bag इक्विकारी रूपए मात्र
2	Elongation, Min. MD/CD	Percent	50	
3	Seam Strength, Percent of Original Fabric Strength, Min	Percent	≥65	
4	Abrasion Resistance, Retained Tensile strength in Machine direction and Cross Machine direction Min.		50%	
5	Trapezoidal tear strength, Min. MD/CD	N	340	
6	CBR-Puncture Resistance, Min.	N	3000	
7	Water Permeability at 100 mm Water Head, Min.	(l/m ² /s)	60	
8	Apparent Opening Size (AOS), Max	Um	75	

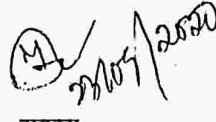
9.	Permittivity, Min	S	1.25
10	Thickness under 2kPa, Min	Mm	3.0
11	Polymer Type, Polyester (PES) or Polypropylene (PP)		Polyester (PES) Virgin type or Polypropylene (PP)
12	Mass, Min.	g/m2	300
13	Volume of Filled Bag	M3	0.07
14	Weight of Filled Bag	Kg	126
15	UV Resistance after 500 h, Min	Percent	80

Stitching : Ring Spun Yarn Stitches with=2500-3500 denier(PES/PP); double line chain stitch with overlap stitches along the edges @minimum 15 stitches/100mm


22/9/20

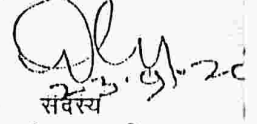
सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना।


22/9/2020

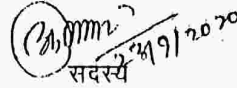
सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, ग्रामीण कार्य विभाग, बिहार, पटना।


22/9/20

सदस्य

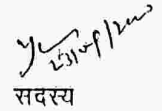
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना।


22/9/2020

सदस्य

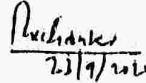
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (असैनिक) बिहार स्टेट पावर होल्डिंग कंपनी लि0, बिहार, पटना।

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (विद्युत), भवन निर्माण विभाग, बिहार, पटना।


22/9/2020

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग, निर्गमनी विभाग, बिहार, पटना।


23/9/2020

सदस्य

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लोक स्वार्थ्य अभियंत्रण विभाग, बिहार, पटना।

राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख मुख्यालय जल संसाधन विभाग, बिहार, पटना।


23/9/20

संयोजक

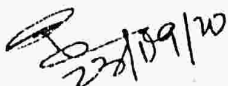
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना।


New Empty Cement Bag (Conforming to IS 11652:2000) का राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा दर-अनुमोदन

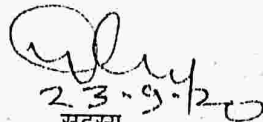
अभियंता प्रमुख (मुख्यालय)-सह-अध्यक्ष, विभागीय अनुसूचित दर निर्धारण समिति, जल संसाधन विभाग, बिहार, पटना के पत्र संख्या-2/क्रय-08-01-2012 (खंड-7)-414 दिनांक-25.06.2020 द्वारा जल संसाधन विभाग के विभागीय अनुसूचित दर निर्धारण समिति द्वारा निर्धारित New Empty Cement Bag (HDPE/PP) के दर को राज्य स्तरीय अनुसूचित दर निर्धारण समिति से अनुमोदन कराने हेतु अनुरोध किया गया है।

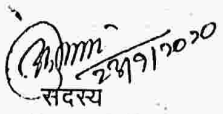
अनुमोदित दर एवं विशिष्टियाँ इस प्रकार है :-

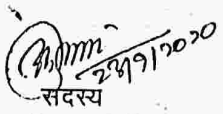
SL No	Item	राज्य स्तरीय अनुसूचित दर निर्धारण समिति द्वारा अनुमोदित दर (exclusive GST, CP& overhead charge)
1	New Empty Cement Bags (High-density Polyethylene/Polypropylene) Conforming to IS 11652:2000 specifications	Rs. 7.72/-Per Bag सात रुपए बहत्तर पैसे मात्र

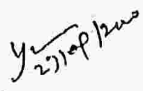

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, भवन निर्माण विभाग, बिहार, पटना।

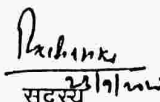

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, ग्रामीण कार्य विभाग, बिहार, पटना।

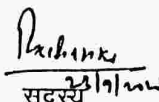

सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लघु जल संसाधन विभाग, बिहार, पटना।



सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (असैनिक) बिहार स्टेट पावर होल्डिंग कंपनी लि0, बिहार, पटना।


सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-मुख्य अभियंता (विद्युत), भवन निर्माण विभाग, बिहार, पटना।


सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, तकनीकी परीक्षण कोषांग, निगरानी विभाग, बिहार, पटना।


सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख, लोक स्वास्थ्य अभियंत्रण विभाग, बिहार, पटना।


सदस्य
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख मुख्यालय जल संसाधन विभाग, बिहार, पटना।


संयोजक
राज्य स्तरीय अनुसूचित दर निर्धारण समिति-सह-अभियंता प्रमुख (मुख्यालय), पथ निर्माण विभाग, बिहार, पटना।