YWC-FARA 5-2.1-2022
Supply of Pipes, Fittings, and Valves for Ajloun Projects For second time

وثائق العطاء

2022

-اخر موعد لبيع وثيقة العطاء هو الساعة الثالثة والنصف يوم الاحد الموافق 2022/7/3.

– اخر موعد لتسليم العروض على العنوان المذكور أدناه الساعة الثانية عشر يوم الاحد الموافق 2022/7/10.

شركة مياه اليرموك

مديرية العطاءات والمشتريات

اربد – شارع بغداد

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المحتويات

الجزء الأول

دعوة العطاء

Invitation for Bids

Supply of Pipes, Fittings, and Valves for Ajloun Projects
Contract No: YWC-FARA 5- 2.1 – 2022 For second time

Yarmouk Water Company invites interested bidders to bid for contract No. **YWC-FARA 5- 2.1 - 2022** " Supply of Pipes, Fittings, and Valves for Ajloun Projects " under the following conditions:

1- The scope of work includes but is not limited to the following: Supply and delivery of Pipes, Fittings, and Valves
2- Interested bidders shall provide a valid professional practice certificate, commerce chamber registration, company registration certificate, and a power of attorney.
3- Interested eligible bidders are invited to purchase the full set of the tender documents from YWC offices at Irbid- Baghdad street for the non-refundable fee of (500) Five hundred Jordanian Dinars. During working hours (9:00 a.m. – 3:30 p.m.) Sunday to Thursday. The document should be collected by an authorized representative.
4- The deadline for the tender document purchasing is July 3, 2022, at 3:30 pm.
5- The deadline for submitting bids is July 10, 2022, at 12:00 pm.
6- The procurements, shipping, and all services under this contract should comply with USAID requirements and regulations; the suppliers or any partner shall also comply with USAID geographic code 937.
7- Supply of Pipes, Fittings, and Valves according to USAID code 937.
8- For USAID code #937 (The bidders can download the code details from (USAID Web site):

   https://www.usaid.gov/sites/default/files/documents/1876/310maa.pdf.

   https://www.usaid.gov/sites/default/files/documents/1864/310mac.pdf

9- Tender advertisement costs will be borne by the winning bidder.
10- Inquiries related to the tender documents shall be sent to Yarmouk Water Company, Tenders, and Procurement Director (Eng. Ashraf Bataineh) via Fax, preferably by email, to the address mentioned above, before July 4, 2022. Furthermore, bidders are obliged to follow up on issuing any addenda to the tender documents or answers to inquiries issued by Yarmouk Water Company's official email letter. Inquiries will be answered on July 6, 2022.

    Tenders and Procurement Department Director
    Yarmouk Water Company,
    King Hussein Street (formerly Baghdad Street)

P.O. Box 378
Irbid, Tel Fax: 00962-2-7246859
Eng. Ashraf Bataineh, Tenders and Procurement Director

ashraf_bataineh@yw.com.jo

malak_abo-zaitoun@yw.com.jo

abdelhadi bataineh@yw.com. Jo

11- The Employer will not be responsible for lost and /or undelivered documents sent by mail, Fax, or similar means.

12- The Employer has the right to cancel the tendering process without bearing any financial or legal obligations.

13- The Employer reserves the right to accept or reject any offer and annul the tender and cancel the procurement process at any time, without incurring any liability to Bidders.

14- All information provided/submitted by the tenderers shall be correct, accurate, and duly certified.

15- The bank guarantee (Tender Entry Guarantee) or a certified cheque shall be in the amount and validity stated below. (any proposal submitted without submission of an acceptable Tender Entry Guarantee will be rejected directly) .

Contract Number	Contract Name	Document Price (JOD)	Bank Guarantee (JOD)	Last date for purchasing the tender documents	Last date for delivering the bid documents
YWC-FARA 5-2.1/ 2022 For second time	Supply of Pipes, Fittings, and Valves for Ajloun Projects	500 JOD (Five hundred Jordanian Dinar)	63,000 JOD (Sixty three thousand Jordanian Dinar valid for 120 days)	3/7/2022 3:30 p.m.	10/7/2022 12:00 p.m.

المهـندس منتصر فاضل المومني

مدير عام شركة مياه اليرموك

الجزء الثاني

تعليمات دخول العطاء

الجزء الثاني : تعليمات الدخول في العطاء

تعتبر هذه التعليمات مكملة للشروط العامة والخاصة للتعاقد وتكون لها في التطبيق قوة العقد للشراء وملزمة للمناقصين، وللجنة العطاءات حق استبعاد أي عرض غير ملتزم بكل أو بعض أو أحد بنود هذه التعليمات.

أولا: إعداد وتقديم العروض:

1- لا يسمح بالاشتراك إلا للشركات المعتمدة والمسجلة.

2- ترسل العروض على الأوراق الأصلية وتختم بالختم الرسمي للشركة والتوقيع عليها إضافة الى نسختين طبق الأصل من العروض ولن ينظر في العروض المخالفة لذلك علماً بأن الأوراق الأصلية هي المعتمدة رسمياً في حالة وجود اختلاف.

3- يجب ارفاق صورة الإيصال الدال على شراء نسخة المناقصة مع أوراق العروض المقدمة من المناقص في حال شراء هذه النسخة.

4- مدة سريان العرض (120) يوما من التاريخ المحدد كآخر موعد لايداع العروض.

5- في حال وجود اعتراضات على المواصفات او الشروط او التعليمات الواردة في هذا العطاء فيتوجب على المناقص تقديم اعتراضه خلال خمسة ايام عمل من تاريخ نشرها وقبل الموعد النهائي لتقديم العروض ايهما أسبق .

6- في حال وجود استفسارات على المواصفات او الشروط او التعليمات الواردة في هذا العطاء، فيتوجب على المناقص تقديم استفساره خلال عشرة ايام تبدأ مع نهاية أول يوم للإعلان عن العطاء .

7- لا يجوز لمناقص أن يقدم عرضين مستقلين لنفس المواد سواء بإسمه الشخصي أو بالشراكة مع اسم آخر، وفي مثل هذه الحالة لا ينظر في العرضين وعليه أن يقدم عرضاً واحدا محدداً إلا إذا طلبت الشركة غير ذلك.

أ- في حال تقديم عرض مرادف لنفس المادة، فعلى المناقص أن يذكر على عرضه الأصلي وبالحبر الاحمر أن هناك عرضاً مرادفاً مرفقاً به.

ب- أن يقدم العرض المرادف على نموذج تقديم العروض الأصلي موقعاً ومختوماً من المناقص.

8- يلتزم المناقص بعد الإحالة النهائية عليه بتنفيذ المتطلبات الواردة بالتعاقد وإتمام التوريد .

9- أي غموض أو تشويه في المناقصة يفقد المناقصة قيمتها ويحرم المناقص حق الإشتراك.

10- على المناقص المفوض إحضار المناقصة / المناقصات المقدمة من قبله بحيث تكون كل مناقصة في مغلف مستقل مغلق بإحكام ومختوم ومعنون بإسم :

*** شركة مياه اليرموك-مديرية العقود والمشتريات**

*** العطاء رقم ( )**

*** تاريخ الاغلاق**

*** اسم المناقص ----------**

*** العنوان ----------**

ووضعها شخصياً في الصندوق المخصص لذلك العطاء بحضور ضابط الشراء المكلف واستلام ايصال بذلك، على أن لاتحتوي هذه المغلفات أي عينات أو نشرات.

11- لا تقبل العروض الواردة الى الشركة بالفاكس، البريد المسجل، البريد السريع، او البريد الالكتروني.

12 - يعتبر تقديم عرض المناقص إلتزاماً منه بأنه مطلع ومتفهم لجميع المواد والتعليمات الصادرة بموجب نظام الشراء وتعديلاته ووثائق دعوة العطاء والنماذج المرفقة.

ثانيا: خطاب التغطية :

على المناقص إرفاق خطاب التغطية بالعرض المقدم منه يشمل على المعلومات التالية :

1- إجمالي عدد البنود المناقص عليها وأرقامها.

2- قيمة كفالة الدخول المقدمة مع العروض على ان تحسب بناء على اعلى سعر في حال تقديم عرض مرادف.

3- اجمالي قيمة العرض على ان تحسب بناء على اعلى سعر في حال تقديم عرض مرادف.

4- ذكر اي مرفقات اخرى.

ثالثا : الاسعار :

1- الاسعار المقدمة يجب ان تكون بالدينار الاردني بالارقام والاحرف واصل مستودعات شركة مياه اليرموك شامل التخليص والتوريد والنقل الى مستودعات شركة مياه اليرموك.

2- السعر الافرادي بالارقام والاحرف يكون للوحدة (المعروضة) من قبل المناقص.

3- على المناقص تقديم سعر لكل مادة (ليشمل السعر الافرادي والسعر الاجماليDAP) على ان يكون السعر سعر التسليم والتنزيل في المستودع.

4- على المناقص تقديم اسعاره لكل مادة تسليم مستودعات شركة مياه اليرموك غير شاملة الرسوم الجمركية والضريبة العامة على المبيعات فقط ومعفى من الرسوم الجامعية والطوابع (حسب قرار مجلس الوزراء رقم (4247) وتاريخ 2009/3/3).

5- اسعار تسليم المستودع تعني قيام المتعهد بالتخليص على البضائع من الموانئ وتسليمها ارض المستودعات شركة مياه اليرموك (وحسب ما تحدده شركة مياه اليرموك) دون اي تكفلة اضافية او رسوم على شركة مياه اليرموك عدا ماذكر في (4) اعلاه.

6- بيان رقم التسجيل في شبكة الضريبة العامة على المبيعات من قبل المناقص وضرورة تثبيتها على الفواتير وذكر الاسم بشكل واضح ورقم صندوق البريد ورقم الفاكس والهاتف وتحديد المنطقة والرمز البريدي.

7- في حال تم تقديم العرض بالعملة الاجنبية سيتم تحويل اسعار العروض الى الدينار الاردني وذلك باستخدام سعر الصرف الصادر عن البنك المركزي في يوم اخر موعد لتقديم العروض لغاية مقارنة عروض الاسعار

رابعا : طريقة الدفع :

1- يتم دفع قيمة المواد الموردة من خلال شركة مياه اليرموك بعد التسليم النهائي (أي تسليم البضائع في المستودعات وقبولها بصفة نهائية من قبل لجنة الاستلام المختصة حسب النظام المعمول به في شركة مياه اليرموك) وذلك بعد 60-70 يوم.

2- الدفع بالدينار الاردني وحسب قرار الاحالة.

خامسا: الكفالات والضمانات :

1- على المناقص أن يرفق في عرضه تأميناً مالياً على شكل كفالة بنكية **غير مشروطة** أو شيك مصدق صادر عن أحد البنوك العاملة في المملكة الأرنية الهاشمية لأمر شركة مياه اليرموك وحسب الشروط العامة وبنسبة (3%) ثلاثة بالمائة من القيمة الاجمالية للعرض المقدم من المناقص وفي حال وجود اكثر من بديل واحد لاي مادة يحتسب سعر البديل الاعلى سعرا لاغراض الكفالة وصالحة لمدة (120) يوم من آخر موعد لتقديم العروض لذلك العطاء لامر شركة مياه اليرموك وحسب الشروط العامة والنموذج وبخلاف ذلك لا يقبل العرض.

2- على المتعهد الذي يحال عليه العطاء أو جزء منه مراجعة مديرية العطاءات والمشتريات لاستكمال تقديم كفالة حسن تنفيذ بقيمة 10% من قيمة المواد المحالة عليه خلال 10 أيام من تاريخ قرار الاحالة ،على ان يتوجب على المتعهدين توقيع العقد المنبثق عن هذا القرار استكمالا لاجراءات التعاقد في موعد اقصاه اول يوم عمل رسمي يلي تاريخ استيفاء المتطلبات السابقة الذكر، وذلك تجنبا لمصادرة تأمين دخول العطاء.

3- تأمين الصيانة : وتكون على شكل كفالة بنكية أو شيك مصدق صادر عن بنك أو مؤسسة مرخصة وعاملة في المملكة بنسبة لا تقل عن (5%) من قيمة اللوازم المكفولة، ويعاد هذا التأمين إلى المتعهد بعد أن يقدم براءة ذمة من الجهة المستفيدة في الشركة.

4- ضمانة سوء المصنعية : يقدم المتعهد ضمانة خطية من سوء المصنعية مصدقة من طرف ثالث ومصادق على صحة التواقيع من بنك معتمد او من كاتب العدل بكامل قيمة اللوازم المضمونة مضافاً

إليها (15%) خمسة عشر بالمائة من قيمتها، وللمدة المحددة في دعوة العطاء ، إلا إذا ورد خلاف ذلك في دعوة العطاء .

سادسا: الغرامات :

يطبق ما ورد في الشروط العامة للعطاء فيما يخص المخالفات والتغريم.

سابعا : تقديم العروض :

يجب تقديم العروض والوثائق الداعمة لها باليد في مغلف مغلق ومختوم على العنوان التالي:

شركة مياه اليرموك

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الجزء الثالث

الشروط العامة

الشروط العامة للدخول في العطاءات و التعاقد مع المتعهدين

(توريد اللوازم وتقديم الخدمات)

أولاً : تأمينات وضمانات العطاءات :-

(1) : تأمينات الدخول في العطاءات : على المناقص أن يرفق في عرضه تأميناً مالياً على شكل كفالة بنكية أو شيك مصدق صادر عن أحد البنوك أو المؤسسات المالية المرخصة والعاملة في المملكة لحساب الشركة وبنسبة لا تقل عن (3%) ثلاثة بالمائة من قيمة اللوازم الواردة في عرضه أو بالقيمة المحددة بدعوة العطاء صالحاً لمدة (120) يوماً من تاريخ آخر موعد لتقديم العروض ، إلا إذا ورد خلاف ذلك بدعوة العطاء صراحة.

(2) :- أ. تعاد تأمينات الدخول في العطاء إلى مقدميها من المناقصين وفقاً لما يلي :-

1- إلى الذين انتهت مدة سريان عروضهم ولم يرغبوا بتمديدها بناء على طلبهم الخطي .

2- إلى الذين جرت الإحالة عليهم بعد تقديم تأمين حسن التنفيذ .

3- يتم الافراج عن كفالة الدخول للمتقدمين الذين لم يقع عليهم الاختيار بعد إصدار قرار الاحالة ، علما بأنه يجوز الافراج عن كفالات الدخول العطاءات للمناقصين الذي يقع ترتيب سعرهم من الرابع فما فوق بعد صدور قرار الإحالة.

ب. إذا إستنكف المناقص عن الإلتزام بعرضه، أو لم يقم بإتمام المتطلبات اللازمة للتعاقد، وتوقيع الاتفاقيه، أو ما يقوم مقامه خلال المدة المحددة في هذة السياسة ، تصادر لجنة العطاءات قيمة تأمين الدخول إيراداً للشركة بما يتناسب وقيمة المادة أو المواد التي استنكف عنها و بما لا يقل عن (3%) من قيمتها .

(3) : تأمينات حسن التنفيذ : يعتبر المناقص ملزماً بتقديم تأمين حسن التنفيذ للعطاء المحال عليه على شكل كفالة بنكية أو شيك مصدق صادر من أحد البنوك أو المؤسسات المالية المرخصة والعاملة في المملكة بمبلغ لا يقل عن (10%) عشرة بالمائة من القيمة الإجمالية لأمر الاحالة .

(4) : يلتزم المناقص بتقديم تأمين حسن التنفيذ خلال خلال (10) عشرة أيام عمل من تبلغيه بإشعار الإحالة .

(5) :

أ- يعاد تأمين حسن التنفيذ إلى المتعهد بعد تنفيذه كافة شروط العقد بموجب طلب خطي بالإفراج عن التأمين من الشركة بعد التاكد من الوثائق الأصولية التالية، (ضبط الاستلام، مستند إدخالات أو شهادة تقديم الخدمة) وتقديم تأمين الصيانة والضمانة من سوء المصنعية إذا تضمنتها شروط العقد.

ب- على لجنة الشراء التي احالت العطاء مصادرة قيمة تأمين حسن التنفيذ او اي جزء منه بشكل يتناسب مع قيمة اللوازم غير الموردة او غير المستبدلة على ان لا يقل ذلك عن 10% عشر في المائة من قيمة اللوازم غير الموردة او غير المستبدلة ويعتبر هذا المبلغ ايرادا للخزينة.

(6) : تأمين الصيانة : أ. يقدم تأمين الصيانة على شكل كفالة بنكية أو شيك مصدق صادر عن بنك أو مؤسسة مرخصة وعاملة في المملكة بنسبة لا تقل عن (5%) من قيمة اللوازم المكفولة، ويعاد هذا التأمين إلى المتعهد بعد أن يقدم براءة ذمة من الجهة المستفيدة في الشركة.

ب. إذا أخل المتعهد بتقديم الصيانة المطلوبة، فيحق للجنة العطاءات مصادرة قيمة التأمين وإجراء الصيانة على حساب المتعهد وتحميله فروق الأسعار ، علما بانة لا يطلب تأمين صيانة للوازم التي ليست بحاجة إلى صيانة، وعلى ان يتم تحديد ذلك صراحة في دعوة العطاء.

ج. عند انتهاء مدة الصيانة المجانية الواردة بقرار الإحالة، تعتبر كفالة الصيانة المقدمة من المتعهد مفرجاً عنها حكماً بعد مضي (120) مائة وعشرون يوماً من تاريخ انتهائها في حالة عدم ورود أي إشعار خطي من الجهة المستفيدة .

(7) : ضمانة سوء المصنعية : أ. يقدم المتعهد ضمانة خطية من سوء المصنعية مصدقة من طرف ثالث ومصادق على صحة التواقيع من بنك معتمد او من كاتب العدل بكامل قيمة اللوازم المضمونة مضافاً إليها (15%) خمسة عشر بالمائة من قيمتها، وللمدة المحددة في دعوة العطاء ، إلا إذا ورد خلاف ذلك في دعوة العطاء .

ب. يلتزم المتعهد باستبدال اللوازم التي ثبت سوء مصنعيتها خلال فترة الضمانة الواردة بقرار الإحالة بناءً على تقرير لجنة فنية من الشركة و / أو لجنة فنية تشكلها لجنة العطاءات، باستبدالها بلوازم جديدة على نفقته بموجب إقرار خطي موقع منه بذلك، وفي جميع الأحوال يجب أن يتم استبدالها خلال شهرين كحد أقصى من تاريخ إشعاره بذلك من لجنة العطاءات، وللجنة العطاءات فرض غرامة تتناسب مع مدة استبدال اللوازم والضرر والنفقات الناتجة عن ذلك، ويعاد احتساب مدة الضمانة من تاريخ تقديم اللوازم الجديدة.

ثانياً : شراء دعوة العطاء وإعداد وتقديم العروض من قبل المناقصين :

(8) : شراء وتقديم وثائق العطاء يقدم المناقص الذي يرغب بشراء دعوة العطاء نسخة مصدقة عن رخصة مهن سارية المفعول تخوله صناعة أو بيع أو توريد اللوازم المطلوبة أو الاتجار بها، والسجل التجاري الصادر عن وزارة الصناعة والتجارة.

(9) : يدفع المناقص ثمن دعوة العطاء (الورقية) المقررة (غير المستردة) مقابل وصول مقبوضات حسب الأصول ويتسلم كافة وثائق دعوة العطاء ومرفقاتها ، ويتم منح المناقص النسخة الالكترونية مجانا في حال توفرها مع دعوة العطاء كما يجوز منحة نسخة الكترونية للاطلاع قبل شراء نسخة العطاء .

(10) : يعد المناقص عرضه وفقاً لوثائق دعوة العطاء بعد أن يقرأ هذه الوثائق ويتفهم جميع ما ورد فيها، وإذا لم تكن الوثائق كاملة أو وجد نقصاً فيها فعليه طلب الوثيقة الناقصة من الشركة التي طرحت العطاء، ويتحمل النتائج المترتبة على عدم قيامه بالتدقيق والاستكمال بصورة صحيحة .

(11) : عند التنويه في دعوة العطاء إلى أن اللوازم المراد شراؤها يجب أن تتطابق مع العينة أو العينات الموجودة في الشركة أو في أي مكان آخر تحدده دعوة العطاء، فعلى المناقص معاينة العينة / العينات وفحصها الفحص اللازم قبل تقديم عرضه، ولا يعفيه الإدعاء بعدم الإطلاع أو إجراء المطابقة والفحص اللازمين ، و يعتبر كأنه اطلع على العينة .

(12) : يعد المناقص عرضه وأسعاره على الجداول و النماذج المرفقة بدعوة العطاء ، و يختم ويوقع نماذج عرض المناقصة (Bid Form) وجداول الكميات و صفحة الـ Deviations From Specifications ونماذج Manufacturers forms المدرجه ضمن (الجزء السابع –النماذج) و الوثائق المطلوبة في دعوة العطاء ويقدمها ضمن العرض كاملة ، و يحق للشركة استبعاد اي عرض غير متقيد بهذة الجداول و النماذج ، و على ان يقدم المناقص عرض رئيسي واحد فقط و لن تقبل اية عروض او بدائل اخرى او اضافات على العرض الا اذا وجد في دعوة العطاء (الشروط الخاصة) تقديم عروض بديلة و بحيث يتم بيان كيفية تقديم العروض البديلة و كيفية عرض أسعارها والأساس الذي سيجري بناء عليه تقييم العروض البديلة وفي حال عدم ذكرها صراحة في دعوة العطاء فان تقديم اية بدائل غير مقبول و لن ينظر في أي عرض مقدم غير العرض الرئيسي ، و يحق للمناقص بالإضافة إلى وثائق دعوة العطاء أن يضيف أي وثائق أو معلومات يرغب إضافتها ويرى أنها ضرورية لتوضيح عرضه، وعليه أن يكتب عنوانه الكامل والدقيق في عرضه متضمناً العنوان الالكتروني والهاتف والفاكس لترسل إليها المخاطبات المتعلقة بالعطاء، وعليه أن يبلغ الشركة خطياً عن أي تغيير أو تعديل في عنوانه، وتعتبر جميع المخاطبات التي تترك له في العنوان المذكور أو ترسل إليه بأي وسيلة إرسال كأنها وصلت فعلاً وسلمت في حينها.

(13) : يعد العرض على نسختين متطابقتين (الأصل ونسخة عنها) بالاضافة الى النسخة الالكترونية اذا كانت مطلوبة (على ان تعتمد النسخة الورقية في حال وجد أية خلاف) مطبوعاً خال من المحو أو التعديل أو الشطب أو الإضافة، وإذا اقتضت الظروف ذلك فيجب على المناقص التوقيع بالحبر الأحمر بجانب المحو أو التعديل أو الشطب أو الإضافة وعليه كتابة السعر بالرقم والحروف، وعلى المناقص كذلك أن يذكر السعر الإفرادي للوحدة ولمجموع الوحدات لكل مادة وكذلك السعر الإجمالي للعرض (لجميع المواد المقدم لها) وبيان اية ضرائب او رسوم مضمنة في السعر و بحيث يكون السعر نهائيا غير قابل لاية تعديلات بالزيادة لاحقا ويعتبر السعر شاملاً أجور التحزيم والتغليف، وبخلاف ذلك يحق للجنة العطاءات أن تهمل العرض .

(14) : على المناقص تقديم البيانات والوثائق الأصولية بخبرته ومقدرته الفنية والمالية، ودرجة الخدمة المتوافرة لديه، وأي متطلبات أخرى ضرورية للدلالة على قدرته بالوفاء بالالتزامات المترتبة عليه ومتطلبات العطاء، وفقاً لنموذج خاص يعد لتلك الغاية للعطاءات التي تتطلب ذلك ويتحمل المناقص اي نقص في عرضة لهذة الوثائق.

(15) : يقدم المناقص العرض مع تأمين الدخول بالعطاء في مغلفات منفصلة مع كتابة المحتوى على المغلف ومن ثم يقوم بجمعها في مغلف واحد مغلق بإحكام ويكتب عليه أسم الشركة المقدم لها العطاء والعنوان.....الخ، وأسم وعنوان المناقص الثابت ورقم العطاء بخط واضح، والتاريخ المحدد كأخر موعد لتقديم العروض، وبخلاف ذلك يحق للجنة العطاءات أن تهمل العرض .

(16) : يودع العرض من قبل المناقص في صندوق العطاءات لدى الشركة قبل انتهاء المدة المحددة لذلك، وكل عرض لا يصل ويودع في صندوق العطاءات قبل آخر موعد لتقديم العروض لا يقبل.

(17) : لا تقبل العروض التي ترد للدائرة مباشرة بالفاكس او البريد الالكتروني إلا إذا ورد بدعوة العطاء نص صريح بخلاف ذلك .

(18) : في حال ورود عروض غير موقعه أو غير مختومة تقوم لجنة العطاءات بتحويلها للجنة الدراسة الفنية مع باقي العروض , و لدى التنسيب بالإحالة حسب تقرير اللجنة الفنية الوارد فيه ملاحظات أو نواقص على المناقص الأقل سعرا و ان تكون شرط الإحالة على أن يقوم المناقص الأقل سعرا بإستكمال النواقص الواردة في تقرير اللجنة الفنية و قبل الإحالة و بخلاف ذلك يحق للجنة العطاءات المختصة إستبعاده.
كما لا تقبل العروض التي ترد ناقصة أو غامضة بشكل لا يمكن من الإحالة.

(19) : على المناقص أن يرفق بعرضه النسخة الأصلية من أي كتالوجات أو نشرات أو معلومات فنية أو إحصاءات تعرف باللوازم المعروضة بإحدى اللغتين العربية أو الإنجليزية، وإذا لم ترفق بالعرض أو تقدم معه فللجنة العطاءات عدم النظر في العرض ولا يحق للمناقص الاعتراض على ذلك .

(20) : يقدم المناقص مع عرضه العينات المطلوبة في دعوة العطاء، وإذا كانت العينات غير قابلة للنقل فعليه أن يحدد مكانها والوقت الذي يمكن رؤيتها فيه، وبخلاف ذلك يجوز للجنة العطاءات عدم النظر بالعرض.

(21) : يجب أن يكون التغليف والتحزيم (Packing) من مستوى تجاري جيد مع بيان طريقة الحزم ونوع العبوات وسعتها او وزنها التي ستستعمل دون أي إضافة في السعر وتبقى جميع الصناديق والأكياس ومواد التغليف الأخرى ملكاً للشركة إلا إذا نص على خلاف ذلك.

(22) : يلتزم المناقص أن يبقي العرض المقدم منه نافذ المفعول، وغير جائز الرجوع عنه لمدة لا تقل عن (120) يوماً من التاريخ المحدد كآخر موعد لتقديم العروض، قابلة للتجديد بموافقة الطرفين.

(23) : تقبل العروض لتوريد كامل الكميات أو بعضها للوازم المطلوبة أو لمادة واحدة أو بضع مواد إلا إذا اشترطت دعوة العطاء غير ذلك .

(24) : عند عدم تحديد موعد لتوريد اللوازم في دعوة العطاء فعلى المناقص أن يبين بالتحديد موعد التوريد، وإذا لم يحدد موعد التوريد في الحالتين يعتبر التوريد حالاً (وتعني كلمة حالاً خلال أسبوع من تاريخ توقيع أمر الشراء) (الاتفاقية) .

(25) : على المناقص أن يبين في العرض المقدم منه بلد المنشأ للوازم المعروضة، واسم الشركة الصانعة، والماركة، والاسم التجاري والطراز (Model) ورقم الكتالوج، أو النشرة الخاصة باللوازم المعروضة.

(26) :- أ. في حال نصت دعوة العطاء يقدم المناقص مع عرضه جدولاً منفصلاً بقطع الغيار للوازم التي تتطلب ذلك والتي تنصح الشركة الصانعة بها للاستعمال لمدة (5) خمس سنوات على الاقل في ظروف الاستعمال العادي، مبيناً فيه رقم القطعة كما هو لدى الشركة الصانعة، والكمية، وسعر الوحدة، والسعر الإجمالي، وأن تكون هذه الأسعار ملزمة للمناقص للمدة المذكورة، وللشركة كامل الحرية في طلبها ضمن هذه المدة بالسعر الوارد في الجدول المذكور، ويجب أن تكون قطع الغيار في هذه الحالة أصلية وجديدة (100%) (Brand new) .

ب. يلتزم المناقص بتوفير ورش الصيانة وقطع الغيار للوازم التي تتطلب ذلك لمدة لا تقل عن(5) سنوات أو العمر التشغيلي المتعارف عليه إلا إذا ورد بدعوة العطاء غير ذلك، كما ويلتزم المناقص أن يقدم مع عرضه الشروط المعدلة لأسعار قطع الغيار (معادلة تغير الأسعار) (Escalation Clause) بعد انتهاء الفترة المذكورة في الفقرة (أ) من هذه المادة كما هي في بلد المنشأ .

(27) : يعتبر عرض المناقص تأكيداً منه أن عرضه لم يقدم بناءً على علاقة مع مناقص آخر تقدم لمادة أو أكثر من المواد الواردة في عرضه، وفي جميع الأحوال لا يجوز لمناقص واحد أن يقدم عرضين مستقلين لنفس اللوازم سواء كان باسمه الشخصي أو بشراكته مع إسم آخر وفي مثل هذه الحالة لا ينظر في العرضين، وعلى المناقص أن يقدم عرضاً واحداً محدداً علما بان لاتقبل العروض البديلة الا في حال نصت دعوة العطاء على خلاف ذلك

(28) : أ. يعتبر تقديم عرض المناقص موافقة منه على أن إصدار أمر الشراء عن الشركة بعد تبلغه يشكل مع وثائق العطاء المعتمدة عقداً ملزماً إلا إذا ورد في قرار الإحالة وأمر الشراء خلاف ذلك .

ب. يضمن المناقص أن تكون المواد الموردة جديدة (100%) (Brand new) خالية من أي عيب في الصنع، أوفي المادة، ومن طراز حديث ولم يتوقف إنتاجها، على أن تكون سنة الصنع للموديل هي نفس سنة تقديم العرض او السنة التي تسبقها مباشرة الا اذا ورد خلاف ذلك في الشروط الخاصة بدعوة العطاء

ج. إذا وجد أي تغيير في الموديل، يكافئ أو أعلى مواصفة في الموديل المحال لصالح الشركة، يقبل البديل الجديد دون إجراء أي تعديل على السعر، شريطة أن يكون من نفس الشركة الصانعة وبلد

المنشأ، وأن يكون هذا التغيير بناءً على كتالوج من الشركة الصانعة وتقرير فني من لجنة فنية تشكل لهذه الغاية.

ثالثاً : فتح العروض

(29) : تفتح العروض من قبل لجنة العطاءات بكامل نصابها أو بأكثرية أعضائها بصورة علنية بمكان وتاريخ وساعة محددة في الإعلان عن العطاء، ويوقع كل عرض من قبلها، وللجنة قراءة الأسعار الإجمالية لكل عرض ان وجدت ذلك مناسبا ، ويجوز لكل مناقص أو لممثله حضور فتح العروض.

(30) : لا تقبل العروض أو أي تعديلات عليها ترد بعد التاريخ والموعد المحدد كآخر موعد لتقديم العروض .

(31) :- أ. إذا وجدت لجنة العطاءات عند موعد فتح العروض أن عدد المناقصين يقل عن ثلاثة أو أقل من العدد المحتمل، فلها أن تقرر تمديد موعد تقديم العروض (إعادة طرح العطاء) أو تحويل العطاء إلى الشراء بالاستدراج او الشراء المباشر في حال عدم تقدم احد للمرة الثانية ، وفي هذه الحالة تعاد العروض مغلقة إلى مقدميها مقابل توقيع المناقص أو من يمثله .

أ. كما يحق للجنة العطاءات إذا اقتنعت بعدم جدوى التمديد أن تقوم بفتح العرض أو العروض الواردة إلى الصندوق وإجراء الدراسة والإحالة إذا وجدت الأسعار واللوازم المعروضة مناسبة .

رابعاً : دراسة وتقييم العروض :

(32) : تحدد لجنة العطاءات الأشخاص أو الجهات الذين تتكون منهم اللجنة الفنية التي تقوم بدراسة العروض من النواحي الفنية والمالية والقانونية التي تتطلب ذلك، وتقدم التوصية المناسبة للجنة العطاءات

(33) : لا ينظر في أي عرض غير معزز بتأمين دخول العطاء .

(34) :

1. تتم دراسة العروض المقدمة للعطاء (في حال لم تنص دعوة العطاء على تقديم عرض فني ومالي منفصلين) وفقاً لما يلي:

أ- يتم عمل تدقيق اولي للعرض وفقا للنموذج المعتمد لذلك وفي حال عدم وجود مخالفات رئيسية علية يتم قبولة واعتمادة للدخول في التقييم

ب- في حال وجدت مخالفات رئيسية في العرض المقدم من قبل المتناقص يتم استبعاد عرضة من التقييم وعلى ان يتم بيان ذلك صراحة عند اعداد التقرير الفني للجنة العطاءات

ت- تدرس العروض من الناحية الفنية بحيث تحدد المعايير الفنية للدراسة وفقاً للمواصفات المطلوبة .

ث- تؤخذ بعين الاعتبار كفاءة المناقص من الناحيتين المالية والفنية ومقدرته على الوفاء بالتزامات العطاء.

ج-تبدأ الدراسة بالعرض الذي قدم أرخص الأسعار، ثم الذي يليه حتى تتم دراسة العروض المقدمة.

ح- إذا توافرت في العرض كافة الشروط، والمواصفات، والجودة توصي اللجنة الفنية بالإحالة على مقدم أرخص الأسعار شريطة ان تبين اللجنة مدى معقولية الاسعار.

خ- تتم مقارنة أسعار العروض المطلوبة للوازم او الاشغال او الخدمات في دعوة العطاء، وذلك لتحديد مقدم أرخص المطابق على أن يتم استبعاد قيمة أي إضافات أو قطع غيار غير مطلوب تسعيرها في دعوة العطاء، ويحق اللجنة الفنية قبول الإضافات، وقطع الغيار في العرض الفائز بالعطاء وبعد فوزه.

د- في حالة عدم توافر المتطلبات في العرض الذي يتضمن أرخص الأسعار، تنتقل الدراسة إلى العرض الذي يليه بالسعر، إلى أن تصل الى العرض الذي تتوافر فيه المتطلبات للإحالة، على أن تبين أسباب استبعاد العروض الأرخص بشكل واضح.

ذ- عند عدم مطابقة كافة العروض (المناقصات) أو وجود نقص فيها، يجوز شراء اللوازم او الاشغال المعروضة التي تلبي احتياجات الشركة، وتتوافر فيها الجودة وبأسعار مناسبة (أنسب العروض).

2. تتم دراسة العروض (المناقصات) المقدمة للعطاء حسب تسلسلها في السعر (في حال نصت دعوة العطاء على تقديم عرض فني ومالي منفصلين) وفقاً لما يلي:

أ- يتم عمل تدقيق اولي للعرض وفقا للنموذج المعتمد لذلك وفي حال عدم وجود مخالفات رئيسية عليه يتم قبوله واعتماده للدخول في التقييم.

ب- في حال وجدت مخالفات رئيسية في العرض المقدم من قبل المتناقص يتم استبعاد عرضه من التقييم.

ت- تدرس العروض من الناحية الفنية بحيث تحدد المعايير الفنية للدراسة وفقاً للمواصفات المطلوبة ومعايير التاهيل الواردة في دعوة العطاء.

ث- تؤخذ بعين الاعتبار كفاءة المناقص من الناحيتين المالية والفنية ومقدرته على الوفاء بالتزامات العطاء.

ج- إذا توافرت في العرض كافة الشروط، والمواصفات، والجودة توصي اللجنة الفنية باعتماد العرض الفني .

ح- في حال وجدت مخالفات فنية في العرض المقدم يتم استبعاده.

خ- سيتم دعوة الشركات المؤهلة فنيا لحضور اجتماع فتح العروض المالية لها ويتم اعادة العروض المالية الغير متاهلة فنيا للمتناقصين مغلقة وتحتفظ لجنة العطاءات لنفسها بالحق في بيان او عدم بيان اسباب رفض العرض.

د- تتم مقارنة أسعار العروض المطلوبة للوازم او الاشغال أو الخدمات في دعوة العطاء، وذلك لتحديد مقدم أرخص الاسعار على أن يتم استبعاد قيمة أي إضافات أو قطع غيار غير مطلوب تسعيرها في دعوة العطاء، ويحق اللجنة الفنية قبول الإضافات، وقطع الغيار في العرض الفائز بالعطاء وبعد فوزه.

ذ- يتم تطبيق التعليمات الخاصة بطريقة احتساب علامات التقييم الفني والمالي لتحديد العرض الفائز بالعطاء.

3. في حالة عدم توافر المتطلبات في العرض الذي يتضمن أرخص الأسعار تنتقل الدراسة إلى العرض الذي يليه بالسعر إلى أن تصل إلى العرض الذي تتوافر فيه المتطلبات للإحالة على أن تبين أسباب استبعاد العروض الأرخص بشكل واضح .
4. عند عدم مطابقة كافة العروض (المناقصات) أو وجود نقص فيها، يجوز شراء اللوازم المعروضة التي تلبي احتياجات الشركة وتتوافر فيها الجودة وبأسعار مناسبة (أنسب العروض) .
5. يؤخذ بعين الاعتبار عند الدراسة استمرار توافر قطع الغيار والصيانة وأي أمور أخرى يتطلبها نظام اللوازم والتعليمات المعمول بها .
6. يراعى عند الدراسة السعر التفضيلي الممنوح للمنتجات المحلية إن وجد.

(35) : إذا تساوت المواصفات والأسعار والشروط والجودة المطلوبة يفضل المناقص الذي يتضمن عرضه ميزات إضافية ثم المقدم للمنتجات المحلية، ثم المناقص المقيم بالمملكة بصورة دائمة، ثم مدة التسليم الأقل إذا كانت سرعة التسليم لمصلحة الشركة .

(36) : للجنة العطاءات الحق في استبعاد عرض المناقص الذي يخل بالتزاماته قبل إتمام التعاقد، أو بالعقود المبرمة معه، أو لا يلتزم بشروط العقد أو يماطل في تنفيذه أو يغش، وعلى أن تكون المخالفات قد وقعت في أكثر من عقد، أو أكثر من مرتين في عقد واحد، ولها أن تحرمه من الاشتراك في العطاءات للمدة التي تحددها.

(37) : تراعي لجنة العطاءات قبل الإحالة كفاءة وخبرة المناقص في تقديم اللوازم المطلوب وسمعته التجارية والتسهيلات التي يقدمها أو الخدمة التي يوفرها وقطع الغيار وورش الصيانة، وقدرته المالية، ويجوز لها استبعاد عرضه لنقص كل أو بعض هذه المتطلبات.

خامساً : إحالة العطاءات :-

(38) : تتم إحالة العطاءات مع بيان الأسباب على الفائزين وفقاً لما يلي :-

أ. الأرخص المطابق: إذا كان أرخص العروض يتضمن الجودة اللازمة في اللوازم المطلوبة ومطابق للمواصفات والشروط في دعوة العطاء.
ب. أرخص المطابق: إذا كان هنالك عروض مخالفة، وعروض أخرى مطابقة تستبعد العروض المخالفة، وتتم الإحالة على أرخص العروض المطابقة.
ج. الأنسب: للجنة العطاءات في حالة وجود مخالفات في كافة العروض المقدمة أن تختار أنسب هذه العروض من حيث الجودة والسعر والنوع والشروط التي تفي بالغرض المطلوب إذا اقتنعت اللجنة لصالح الشركة المستفيدة

د. أي سبب آخر يتفق مع أحكام هذا السياسة على أن يكون مبرراً بشكلٍ كاف.

(39) : تحتفظ لجنة العطاءات لنفسها بحق استبعاد أي عرض لا يكون واضحاً بصورة كافية تمكن من الإحالة أو يحتمل أكثر من تفسير .

(40) : للجنة العطاءات الحق أن تحيل من أي عرض مادة أو أكثر من المواد المعروضة أو أي جزء منها ، وللجنة فوق ذلك أن ترفض كل العروض المقدمة إليها .

(41) : للجنة العطاءات أن تنقص أو تزيد الكميات المطلوبة في دعوة العطاء قبل الإحالة دون الرجوع إلى المناقص أو بعد الإحالة بموافقة المتعهد على أن لا يتجاوز مجموع الزيادة أو النقصان (25%) خمسة وعشرين بالمائة سواء قبل الإحالة أو بعدها .

(42) : يجوز للجنة العطاءات أن تستبعد أي عرض من مناقص سبق وأن أهمل أو قصر أو انتحل صفة تمثيل مؤسسة أو شركة أو الإدعاء بأنه وكيلها بالبيع أو أخفى أنه وكيلها، سواء كان تمثيله لمؤسسة أردنية أو أجنبية .

(43) : تستبعد لجنة العطاءات العرض غير المتقيد بالمواصفات والشروط والتعليمات العامة الشروط الخاصة لدعوة العطاء، أو إذا كان مقدمه غير كفء أو غير مؤهل أو إذا سبق واتخذ بحقه قرار حرمان من الاشتراك في العطاءات للمدة التي حددتها لجنة العطاءات .

(44) : إذا وقع تناقض أو تعارض بين التعليمات والشروط العامة وبين الشروط الخاصة فيؤخذ بما ورد بالخاصة .

(45) : تكون المواصفات المذكورة في دعوة العطاء أو قرار الإحالة الحد الأدنى المقبول ولا تلغي مواصفات العينات المقدمة مواصفات دعوة العطاء أو قرار الإحالة إلا إذا تفوقت عليها.

(46) : إذا تبين للجنة العطاءات أن الأسعار المعروضة عليها مرتفعة، فلها أن تعيد طرح العطاء، أو أن تلجأ إلى الشراء عن طريق استدراج عروض، أو الشراء المباشر وفقاً لأحكام نظام لوازم الشركة ، كما يحق لها أن تصرف النظر عن الشراء كلياً أو جزئياً، وعند إعادة الطرح يحق للمناقص الذي سبق أن اشترى دعوة العطاء الحصول عليها دون مقابل .

(47) : تحتفظ لجنة العطاءات بحقها في إلغاء دعوة العطاء أو قرار الإحالة في أي وقت أو أي مرحلة دون بيان الأسباب، ما لم يكن المتعهد قد تبلغ أمر الشراء وقرار الإحالة واستكمل كافة اجراءات توقيع العقد او الاتفاقية ، ولها أن ترفض كل أو بعض العروض المقدمة إليها دون أن يكون لأي من المناقصين الحق في الرجوع إليها بأي خسارة أو ضرر ناشيء عن تقديم عرضه، ولا يترتب على الشركة أي إلتزامات مادية أو غير مادية مقابل ذلك.

سادساً : مسؤوليات المتعهد تجاه الشركة :

(48) : على المتعهد الذي أحيل عليه العطاء استكمال إجراءات العقد الخاص بقرار الإحالة (تقديم تأمين حسن التنفيذ ودفع الرسوم القانونية وتوقيع الاتفاقية (....إلخ) خلال المدة التي تحدد في كتاب التبليغ الذي يرسل إلى المتعهد ، علما بانة يحق للشركة الغاء الاحالة دون ان يترتب عليها اية التزامات مالية اذا لم يقم المتعهد باستكمال كافة الاجراءات المطلوبة منة خلال الفترة القانونية الممنوحة لة

(49) : يعتبر توقيع الاتفاقية من قبل المتعهد اعترافاً منه بأنه مطلع على كافة محتويات قرار الإحالة وأمر الشراء وكل ما يتعلق بهما وأنه ملتزم التزاماً تاماً بمحتوياتهما ومضمونهما .

(50) : لا يجوز للمتعهد أن يتنازل لأي شخص آخر عن كل أو أي جزء من العقد دون الحصول على إذن خطي من لجنة العطاءات مع الاحتفاظ بكامل حقوق الشركة وفقاً لقرار الإحالة والعقد الأصيل .

(51) : إذا استنكف المتعهد عن تنفيذ التزاماته بموجب العقد أو قصر في ذلك، أو تأخر في تقديم اللوازم المحالة عليه، للجنة العطاءات شراء اللوازم أو الخدمات موضوع العقد بنفس المواصفات والخصائص أو بديلاً عنها بذات الخصائص والاستعمالات ولا تقل عنها سوية من أي مصدر آخر على حسابه ونفقته وتحميله فروق الأسعار والنفقات الإضافية وأي خسارة أو مصاريف أو عطل أو ضرر يلحق بالشركة دون الحاجة إلى أي إنذار, ولا يحق للمتعهد الاعتراض على ذلك.

(52) : يرفع المتعهد اللوازم المرفوضة على نفقته خلال مدة أقصاها (15) خمسة عشر يوماً من تاريخ إشعاره بضرورة رفعها من المكان الموجودة فيه، إلا إذا إقتضت الضرورة الصحية أو الأمنية رفعها أو إتلافها قبل ذلك الموعد، فإذا تأخر في القيام بذلك عن الموعد المحدد له فيعتبر متنازلاً عنها للشركة ، و للشركة الرجوع عليه بنفقات الرفع و الإتلاف إن إقتضى ذلك بقرار من لجنة العطاءات ، كما يحق للشركة فرض رسوم تخزين عليه بما مقدارة 1 % عن كل اسبوع تاخير عن الفترة اعلاه .

(53) : أ. إذا تأخر المتعهد في تنفيذ ما التزم به في الموعد المحدد بالعقد، فتفرض عليه (غرامة مالية) بنسبة لا تقل عن (7%) سبعة في المائة من قيمة اللوازم التي تأخر المتعهد في توريدها، عن كل أسبوع أو جزء من الأسبوع وبحد أعلى 15% من قيمتها ، كما يحق للشركة الغاء العقد بعد مرور اربعة اسابيع تاخير اذا اقتضت مصلحة الشركة ذلك وعلى ان يتم تحميل المتعهد كافة الخسائر الناتجة عن ذلك .

ب. إذا قام المتعهد بتوريد اللوازم المطلوبة منة قبل الموعد المحدد لذلك وبدون موافقة خطية مسبقة من الشركة، فيحق للجنة العطاءات ان تفرض عليه (غرامة مالية) بنسبة لا تقل عن (1%) واحد بالمائة من قيمة اللوازم التي بكر المتعهد في توريدها لعطاءات التوريد على دفعات.

(54) : لا يحول توقيع الغرامة الواردة في البند السابق دون حق الشركة في الرجوع على المتعهد بقيمة العطل والضرر الناتج عن تأخر المتعهد في تنفيذ ما التزم به دون سابق إنذار، على أن يتم إعلام لجنة العطاءات بقيمة العطل والضرر إن وجدت .

(55) : تحصل الأموال المستحقة للشركة ، أو بموجب هذه التعليمات من المناقصين أو المتعهدين للشركة من كفالاتهم لديها لذلك العطاء او اي عطاء اخر او من الأموال المستحقة لهم لدى الشركة في اي تعاملات اخرى.

(56) : **القوى القاهرة** :- هي حدث او ظرف استثنائي خارج عن ارادة و سيطرة الطرفين مثل الحرب او الاضراب او الشغب او الجريمة و قد يكون حسب المصطلح (عمل القوة العليا) مثل الفياضانات او الزلازل او البراكين أو التشريعات الحكومية المستحدثة , أو غير الواضحه و التي لا يمكن التنبؤ بها , بحيث يمنع احد او كلا الطرفين من الوفاء بإلتزاماتهما المنصوص عليها في العقد و ليس المقصود بذلك تبرير الاهمال او التقصير او غيره من المخالفات لكل من الطرفين.

1 - يكون من المتفق عليه أن المتعهد لا يتحمل الأضرار المترتبة على التأخير في تنفيذ العقد أو عدم الوفاء به إذا كان التأخير أو عدم الوفاء بسبب القوى القاهرة.

2 - في كل الأحوال عند وجود قوى قاهرة فإنه يتوجب على المتعهد تقديم إشعار خطي و فوري إلى الجهة المختصة بالظروف والأسباب التي تمنع من تنفيذ الالتزام أو التأخير في الوفاء به وتقديم كل ما يثبت ذلك.

3 - تكون القوى القاهرة المؤقتة من مبررات التأخير ويجب الوفاء بعد زوالها، وتكون القوى القاهرة الدائمة من مبررات عدم الوفاء.

4 - تنظر لجنة العطاءات في القوى القاهرة من حيث المكان والزمان ومدى أثرهما على تنفيذ العقد .

سابعاً : العينات :

(57) : يحق للشركة أن تحدد عينة ليتم الشراء مطابقاً لها من كافة الوجوه شرط أن لا تكون محصورة بماركة واحدة أو بمصنع واحد، وفي هذه الحالة توضع بمكان معين في الشركة ، ويذكر المكان وعنوانه في دعوة العطاء لتمكين المناقصين من الإطلاع عليها .

(58) : يجوز للمناقص أن يعزز عرضه بعينة وله أن يعتبرها عينة من كافة الوجوه أو يحدد الصفة المقدمة من أجلها ويذكر ذلك صراحة في عرضه .

(59) : تحفظ العينات التي تعتمد عند الإحالة في المكان المعد الذي تحدده الشركة بعد ختمها بخاتم الشركة والتوقيع عليها من قبل اللجنة الفنية ، وذلك لمقارنتها باللوازم الموردة عند الإستلام .

(60) : ترد العينات المقدمة من المناقصين غير الفائزين عند طلبها خطياً خلال أسبوعين من تاريخ الإحالة النهائية، ولا تكون الشركة مسؤولة عن فقدها أو تلفها بعد هذا الموعد، وفي جميع الأحوال يفقد المناقص الحق بالمطالبة بهذه العينات إذا لم يطالب بها خطياً خلال شهرين من الإحالة النهائية.

(61) : ترد عينات المتعهدين الذين تمت الإحالة عليهم بعد استلام اللوازم الموردة مطابقة لشروط قرار الإحالة، ويتم ذلك وفقاً للإجراءات الواردة في البند (60) من هذه التعليمات، إلا إذا ورد خلاف ذلك في قرار الإحالة.

ثامناً : فحص اللوازم واستلامها :

(62) : تكون اللوازم التي وردها المتعهد خاضعة لإعادة وزنها وقياسها على موازين تحددها الشركة وبحيث تتطابق مع المعايير الدولية المعتمدة لهذة الغاية ويدفع الثمن على أساس الوزن الصافي أو القياس الصافي لهذه اللوازم إلا إذا ورد نص على غير ذلك .

(63) : يتم فحص اللوازم التي يوردها المتعهد وإجراء التجارب عليها لمعرفة مدى مطابقتها للمواصفات بالطريقة التي تحددها الشركة و بحيث تتطابق مع المعايير الدولية المعتمدة لهذة الغاية ، ويتحمل المتعهد نفقات الفحص في حالة نجاح او رسوب المواد, وفي حالة رسوب الفحوصات ترفض المواد ، وفي حالات تحددها اللجنة وبناءا على طلب المناقص وموافقة اللجنة يمكن اللجوء لطرف ثالث محلي او خارجي وبالاتفاق مع المتعهد لاعادة الفحص وعلى نفقة المقاول، على انه يجوز للجنة العطاءات وبناءا على طلب المتعهد ان يتم فحص المواد التي ستورد في بلد التصنيع وبحيث يعهد إلى لجنة أو هيئة أو شركة متخصصة القيام بفحص اللوازم قبل شحنها لبيان مدى مطابقتها وعلى ان يتحمل المتعهد كافة النفقات المترتبة على ذلك.

(64) : إذا كانت اللوازم المطلوبة من نوع المشاريع الكبرى (Complex Project) التي تتطلب تركيب وتشغيل، فيجب أن تتضمن دعوة العطاء (الشروط الخاصة) ذلك، وأن يقوم كل مناقص بذكر ذلك في عرضه وعلى النحو التالي :-

أ) تحديد مدة التوريد.

ب) تحديد مدة التركيب والاستلام الأولي.

ج) تحديد مدة التشغيل التجريبي الذي يتم على أساسه الاستلام النهائي .

(65) : على المناقص ترتيب دعوة لسبعة اشخاص من ذوي الاختصاص من شركة مياه اليرموك لزيارة المصنع الذي سيتم توريد المواسير منه وذلك لاجراء الفحوصات الفنية اللازمة وحسب شروط ومواصفات العطاء ولمدة سبعة ايام ويكون السعر محملا على اسعار العطاء اصوليا.

(66) :

لا ينطبق على هذا العطاء قرار مجلس الوزراء رقم 972 تاريخ 2013/01/25 و كتبهم اللاحقه رقم 1733/06/10/56 تاريخ 2013/01/27 و 265/1/11/6 تاريخ 2014/1/05 فيما يخص الصناعة الوطنية الأردنية كون العطاء منحه خارجيه .

- **يتبع هذا العطاء لتعليمات وشروط نظام المشتريات الحكومية رقم (8) لسنة 2022 .**

الجزء الرابع

الشروط الخاصة

1- بالإضافة الى ما ورد في البند 25 من الشروط العامة والتي تنص على (على المناقص أن يبين في العرض المقدم منه بلد المنشأ للوازم المعروضة، واسم الشركة الصانعة، والماركة، والاسم التجاري والطراز (Model) ورقم الكتالوج، أو النشرة الخاصة باللوازم المعروضة) يضاف مايلي:

- يجب على المناقص تقديم شهادات مطابقة للمواد(Compliance Sheet) بحيث تشمل اسم المصنع و بلد المنشأ و العمر الإنتاجي للمادة في المصنع مع الشهادات التي تثبت ذلك من جهة معتمدة.
- يجب على المناقص تقديم جدول مطابقة للمواد المقدمة مع مواصفات العطاء.

2- المحاكم الأردنية هي الجهة القضائية الوحيدة المخولة بالنظر في أي دعوة قضائية تنشأ بين المتعاقدين.

3- القانون الذي يحكم العقد هو جميع القوانين الاردنية السارية المفعول ويتم حل الخلافات عن طريق المحاكم الاردنيه.

4- لغة العقد هما اللغتان العربية والانجليزية وعملة الدفع هي الدينار الاردني.

5- يجب على المناقص الالتزام بالمنشأ وذلك حسب Code 937بما يخص توريد المواسير والقطع حسب الآتي :

- Source and Nationality of Procurement

- Except as specified in this contract or as USAID may otherwise agree in writing, all goods financed under this contract shall have their source, and the suppliers of all goods and services financed under this contract shall have their nationality in countries included in Geographic Code 937. Goods and services financed under this contract must be available for purchase in the applicable Geographic Code at the time of purchase.

- Geographic Code 937 includes, the United States, the cooperating/recipient country, and developing countries other than advanced developing countries and excluding prohibited sources. a developing country (for a list of eligible developing countries, please see:

https://www.usaid.gov/sites/default/files/documents/1876/310maa.pdf.

https://www.usaid.gov/sites/default/files/documents/1864/310mac.pdf

6- الشحن البحري والجوي (Transportation) :

- The transportation of any shipments by ocean or air and related delivery services are required to be transported by privately owened United State vessel or air charter other wise prior approval is required in writing from USAID through YWC-Yarmouk Water Company.

الشحن الجوي والبحري وخدماتها يجب ان يكون من خلال شركات امريكية مملوكة للولايات المتحدة الامريكية وبخلاف ذالك يجب اخذ موافقة USAID الخطية من خلال شركة مياه اليرموك.

- All supplied materials and equipment shall comply with USAID branding and marketing guidelines.
-

7- تلغى الفقرة (ب) من البند (54) من الشروط العامة ويستعاض عنها بما يلي :-

- يجب على المتعهد أخذ موافقة خطية مسبقة من الشركة (صاحب العمل) في حال رغبته بتوريد اللوازم المطلوبة منه قبل الموعد المحدد لذلك.

8- يحق لشركة اليرموك استبعاد اي عرض للمادة المعروضة التي ثبت سوء مصنعيتها خلال الاستعمال سابقا" لدى شركة مياه اليرموك.

9- على المورد ارفاق نسخة من البيان الجمركي للمواد المحالة عليه (المستوردة و المصنعة خارج الاردن) عند التوريد

10- على المورد ارفاق شهادات فحوصات الطرف الثالث والتصنيع المطلوبة في المواصفات عند التوريد وبخلاف ذلك يعتمد تاريخ التوريد من تاريخ اكتمال جميع الوثائق المطلوبة .

11- في حال عدم إرفاق شهادات طرف الثالث (المطلوبه في وثائق العطاء) من قبل المورد المحال عليه العطاء عند توريد المواد يحق لشركة مياه اليرموك رفض المواد فورا , وشراء مواد بديله و تحميل المورد المتعثر فرق الأسعارو تطبيق شروط العقد.

12- على كافة المناقصين المشاركين بالعطاءات المطروحه من قبل شركة مياه اليرموك مراجعة مديرية العقود والمشتريات للاطلاع على قائمة المناقصين المدرجين على القائمة السوداء لغايات عدم التعامل مع المناقصين وتقديم أية عروض مصدرها هذه الشركات علماً بأنه سوف يتم استبعاد اي عرض غير ملتزم بذلك ".

الجزء الخامس

المواصفات الفنية

TECHNICAL SPECIFICATIONS

- All Items shall be procured according to the authorized USAID Principal Geographic Code for the procurement of goods and services under this associate FARA is Code 937 (The United States, the recipient country, and developing countries other than advanced Developing countries) these specifications intend to allow fair competition for Suppliers in these geographical locations
- Certificate of Conformity shall be submitted upon shipping.

ACRONYMS

ANSI	American National Standards Institute
AWWA	American Water Works Association
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
BS	British Standards
BOQ	Bill of Quantities
DAP	Delivered at Place
DI	Ductile Iron
DN	Nominal Diameter
DZ	District Zone
EN	European Standards
EPDM	Ethylene-Propylene-Diene Terpolymer
FARA	Fixed Amount Reimbursement Agreement
GIS	Geographic Information System
HDPE	High Density Polyethylene
ISO	International Organization for Standardization
NBR	Nitrile Butadiene Rubber
NRW	Non-Revenue Water
NSF	National Science Foundation
PN	Nominal Pressure
RPM	Revolution Per Minute
YWC	Yarmouk Water Company

Technical Specifications

1. General

1.1 Ambient Conditions

All pipes, materials, and equipment shall be in every respect suitable for storage, installation, use, and operation in the conditions of temperature, humidity, and The PH and water quality appertaining in Jordan.

The atmospheric temperature in Jordan varies between -10˚C and 50 ˚C.

1.2 Toxic Materials

Pipes and pipeline components, including their protective coatings and joint materials, that will or may come into contact with potable water shall not constitute a toxic hazard, shall not support microbial growth, shall not cause taste or odour, cloudiness, or discoloration of the water, and shall contain no ingredients that may migrate into the water in amounts that are considered to be toxic or otherwise dangerous for health. A Nontoxicity certificate should be provided in English.

1.3 Testing after delivery

All materials supplied shall be subjected to acceptance tests carried out by the Royal Scientific Society to confirm that the pipes are manufactured according to the applicable standards.

In the case the delivery was made on more than one consignment, each consignment will be tested to confirm compliance with the above standard.

NOTE:

ALL TESTS' COSTS BEFORE AND AFTER THIS ITEM AND WHETHER LOCAL OR ABROAD SHALL BE BORNE BY THE CONTRACTOR, AND THE COSTS SHALL BE INCLUDED IN THE TENDER UNIT RATES.

1.4 Handling and Transportation

The handling and transportation shall be in accordance with the manufacturer's recommendations.

Care shall be taken during loading, transporting, and unloading. Under no circumstances shall materials be dropped or rolled against one another. All materials shall be examined. Any damaged materials will be rejected by YWC.

The cost of packing shall be included in the contractor rates.

All materials shall be securely packed in crates or boxes for protection against damage during transportation.

All plain ends shall be adequately protected. By straw rope secured in place by binding wire or strap, none of the packings will be returnable .

The materials supplied shall be of the appropriate grade and quality and shall be adequately protected against the climatic conditions in the Middle East.

All plastic materials shall be protected from direct sunlight and appropriate coverings supplied for use at the delivery and storage areas.

1.5 Transport and Deliveries

The Contractor shall send to the Engineer one-week advance notice of all consignments of materials. Every consignment shall be accompanied by a detailed delivery note.

The Contractor shall deliver to and offload the materials onto the storage area as directed by the Engineer. All delivered materials will be examined and inspected by the Engineer and taken over by him.

The Contractor shall provide necessary details to the shipping line on precautions to be taken during loading/unloading, handling & transport of the pipes & fittings, valves, and other components. The contractor shall provide to the Engineer the manufacturer's recommendations for handling, loading, unloading, transporting, and storing pipes, fittings, valves, and other components .

The Contractor shall arrange reception and storage areas only. Also, shall be responsible for off-loading all materials.

The Contractor shall also be responsible for all handling and transport activities of materialsThe Contractor's rate shall include all costs relating to the requirements as mentioned earlier.

1.6 Identification

The contractor shall be responsible for ensuring that each separate item, crate, or package has permanently attached to it, in a conspicuous position, an identification plate of weather-resistant material on which is engraved or stamped:

- The Manufacturers Name.
- Contents Description and Quantity.
- Serial Number or Reference Number Identifiable on the Delivery Note and Cross-Referenced to the Purchase Order Item References.
- Weight.

The shipment containers shall be marked with the following address.

- Yarmouk Water Company/ YWC

In addition, the container shall be marked with the following information.

- Total gross weight.
- Total net weight.
- Packing list reference number.

1.7 Scope (for Supply and Install Tenders)

The Contractor shall furnish and deliver to the site all pipes and fittings, bolts, nuts, and gaskets, jointing materials, and appurtenances as specified and required, to the correct standards and specifications to complete the Works. Pipe fittings and valves shall if required, be suitable for buried installation.

The Contractor shall check for compatibility between all pipes and fittings, either existing or new prior to installation.

1.8 Storage Materials (Supply and Install Tenders)

The Contractors shall be responsible for storing all materials purchased under this Contract.

The Contractor shall manage and maintain stockyards that can accommodate all materials purchased and approved by the Engineer under this Contract. All the materials shall be stored under cover (indoor), and all the fittings should be on sleeves, as required by the manufacturer/supplier /contractor instructions, and shall be regularly inspected by the Engineer staff and maintained to the Engineer's satisfaction.

The contractor should have a Stock Inventory Material System on software (computerized), and he should generate reports upon request.

2. VALVES AND ACCESSORISE

2.1 GENERAL

All valves and gates shall be designed and constructed for the working pressure and the fluid as specified.

Valve ends shall be flanged ends except where otherwise specified. Where flanged ends are used, mating dimensions and drilling shall be in accordance with the pipe and fitting flange. The thickness of flanges shall be determined based on the working pressure specified and shall conform to internationally accepted standards.

The equipment shall be the product of an established and reputable manufacturer who has had experience in manufacturing the type of equipment herein specified.

Unless otherwise specified, all valves and gates shall be butterfly valves type for diameters from 250 mm and above and gate valves type for diameters less than 250 mm.

All valves of the same type shall be from one manufacturer.

The Contractor shall make evidence of the hydraulic performance of the valves proposed.

Valves shall be equipped with, a hand wheel or electric actuator except where otherwise specified. Actuators shall have arrows cast thereon to indicate the direction of rotation for opening the valve.

All shut-off devices must shut in a clockwise direction. This will be indicated by 'O' (open) and 'C' (closed) with arrows either on the hand wheel or the head of a piece. Operation of shut-off devices must be easy both for opening and closing.

All valves shall have a closing, opening indicators, and an arrow cast in the metal to indicate the direction to open.

2.1.1 POTABLE WATER CERTIFICATION

The contractor is required to submit certificates from reputable third party that the components of the network must not be of any way toxic to the water being conveyed. And can be fully used for the distribution of potable water to a temperature up to 50°C. The Certificates should be submitted for all the materials in contact with potable water, such as paints, gaskets…etc.

2.1.2 TESTING AFTER DELIVERY

All valves supplied to the site in Jordan shall be subjected to acceptance tests carried out by the Royal Scientific Society or an equivalent accredited institution. Final inspection tests must be

done in accordance with the test requirements of EN 12266-1/2, ANSI/ASME, or AWWA Standards. If any of the tests mentioned in the standards cannot be performed by the Royal Scientific Society, then the supplier should provide a third-party certificate for those tests taking into considerations the requirements stipulated in Section Third Party Witness.

All testing costs should be borne by the Contractor in all cases.

2.1.3 VALVES PACKING AND PROTECTION

All valves must be packed in such a way to allow instantaneous use on-site without additional cleaning.

All valves shall be securely packed in crates and boxes to prevent damage during delivery. The cost of packing shall be deemed to be included in the Tender rates, noting that crates will not be returned to the Contractor.

2.1.4 DOCUMENT TO BE PROVIDED AT THE TIME OF TENDER:

1. Conformity to a standard certificate from a certified third party or Affidavit from the manufacturer that the items provided comply with the latest revision ANSI/AWWA.
2. The supplier/contractor shall supply full technical specifications and catalogs for the items to be supplied.
3. Quality assurance certificate (ISO 9001) and ISO 14001 accredited and certified.
4. Potable water certificate from Third Party.
5. Any alternative standards proposed, including demonstration of equivalency or superiority to the standard specified, if allowed.
6. Any alternative materials proposed, including demonstration of equivalency or superiority to the standard specified, shall be subjected to the client's approval.
7. Where the supplier offers alternative standards and/or materials to those specified, the supplier shall provide prices for those specified and the alternatives proposed.
8. The supplier shall include in its price the training elements related to the materials it proposes to supply and shall list the elements of training offered if needed or requested.
9. The supplier/contractor shall provide prices for the equipment applicable to the sections of the schedule of requirements it intends to price.
10. The supplier shall provide full details of its materials tests and procedures.
11. Any alternative proposed specification for combined tracer and marker tape.
12. ISO, AWWA, ANSI, ASME, or EN certification for management and product.

13. CVs of proposed training staff, if necessary.
14. Costs of Trainers expenses, if requested.
15. Training program, if requested.
16. Compliance sheets for the items to be supplied.

2.1.5 DOCUMENTS TO BE PROVIDED UPON DELIVERY.

The contractor shall submit at least the following documents:

1. Certificate of origin.
2. Packing list
3. Third-Party certificates (Affidavit of Compliance)
4. factory inspection certificate
5. Warranty
6. installation and maintenance manual
7. Any other documents requested by the Engineer and the handover committee.

All above documents must be valid and in English.

2.1.6 MARKING

Markings shall include size, working pressure, body material, name of the manufacturer, and year of manufacture cast into the body of the valve.

2.1.7 ADDITIONAL SERVICES

The supplier shall provide details of additional services which it can provide, such as, technical advice and support. In particular, the supplier shall state its capability for supporting the project in the project location at the time of tender.

2.2 GATE VALVES

1. Gate valves shall conform to the latest version of AWWA Standard C515 Valves for Water Supply Service or EN 1171 and EN 1074-1/2.

2. The valves shall have short body or long body as specified in the Bill of Quantities, hand wheel, bonnet cap and bonnet made of ductile iron ASTM A536 70-50-5, A536 65-45-12 or EN-GJS-400-18, EN-GJS-400-15, EN-GJS-500-7/ EN-JS 1030 according to EN 1563. The wedge shall be totally encapsulated with rubber.

3. Wedge (gate) shall be constructed of ductile iron ASTM A536 70-50-5, A536 65-45-12 or EN-GJS-400-18, EN-GJS-400-15 / EN-JS 1030 according to EN 1563 fully encapsulated in EPDM rubber as per AWWA C-515. The wedge shall be symmetrical and seal equally

well with the flow in either direction.

4. The sealing rubber shall be made of EPDM and permanently bonded to the wedge to meet ASTM tests for rubber metal bond ATSM D249 or equivalent.

5. Valves shall be supplied with O-Rings made of EPDM suitable for potable water seals at all joints.

6. The valves shall be non-rising stem, opening by turning counter-clockwise and provided with 2" square operating nut or a hand wheel epoxy powder coated as specified in the Bill of Quantities and have closed, opening indicators, and an arrow cast in the metal to indicate the direction to open.

7. All gate valves shall have a closing, and opening indicators, and an arrow cast in the metal to indicate the direction to open.

8. Gate valve shall be flanged according to EN 558-1/5752 series 14-short or 15 long as specified in the Bill of Quantities, ISO 7005-2 or EN 1092-2 PN 10, PN16 or PN25 and shall be suitable for a nominal working pressure of 10, 16 or 25 bars as specified in the Bill of Quantities.

9. Stems for non-rising stem assemblies shall be cast bronze ASTM A584 C86700, copper alloy, stainless steel 304 or 316 with integral collars in full compliance with AWWA or (St 1.4021 / X20Cr13) in accordance with EN 10088 - 3.

10. All exterior nuts and bolts shall be Type 18-8 stainless steel or equivalent.

11. All stems shall operate with bronze stem nuts, independent of the stem. Stems shall have two O-Rings located above the thrust collar and O-Ring below. All stem O-Rings shall be replaceable with the valve fully opened and subjected to full pressure. The stems shall also have two low torque thrust bearings located above and below stem collar to reduce friction during operation.

12. Waterway shall be smooth, unobstructed, and free of all pockets, cavities, and depressions in the seat area.

13. The body, bonnet, and stuffing plate shall be coated with fusion bonded epoxy, both interior and exterior on the body and bonnet. Epoxy shall be applied in accordance with AWWA C550 or epoxy powder coated according to EN14901 with a minimum of 250µm and shall be NSF61 and NSF 372, WRAS certified or equivalent recognized standards.

14. The valve shall be tested and certified as a complete drinking water valve according to NSF 61 AND 372, WRAS, or equivalent recognized standards

15. Extension spindles shall be galvanized steel, and the associated guide brackets shall be of an approved type (PE) and shape, manufactured from fabricated steel (galvanized after manufacture). All universal joints shall be supplied and installed in accordance with the details stated on the Drawings and in the Bill of Quantities.

16. Valve has been cycled tested full opened to close 5,000 times without loss of bubble-tight seal, or **Minimum** life cycle shall be 2500 cycles according to EN 1074-2.

17. The valve size, pressure rating, year of manufacture and manufacturer's name and model shall be cast onto the valve body or engraved on a permanently attached nameplate.

Table 2.1: Valve Testing

Test	AWWA	EN
Hydrostatic body test	2 x maximum nominal pressure	1.5 x maximum nominal pressure
Hydrostatic seat test	1.5 x maximum nominal pressure	1.1 x maximum nominal pressure

18. Prior to shipment from the factory, all valves shall be tested by hydrostatic pressure equal to requirements of AWWAC515, EN 1074 ½, and ISO 5208: or EN 12266-1/2 standards.

Each valve shall be supplied with a factory inspection certificate outlining body pressure test, leakage test, valve size, valve serial number, pressure rating, body heat No., disc heat No., stem heat No. seat material, and seat heat No.

2.3 BUTTERFLY VALVES

2.3.1 DESIGN

- The butterfly valves shall be double eccentric type and shall conform to the latest edition of AWWA-C504, C-516, C-519 Standards, EN 593, and EN 1074-1 and 2 Standards or equivalent,

- The butterfly valves shall be with face to face dimensions, short body or long body to AWWA-C504 or EN 558-1/5752 series 13-short or 14 long as specified in the Bill of Quantities, flange dimensions and drilling shall conform to ISO 7005-2, EN 1092-2 PN 10, PN16 or PN25, and shall be suitable for a nominal working pressure of 10, 16 or 25 bars as specified in the Bill of Quantities.

- The valve size, pressure rating, year of manufacture, and manufacturer's name and model shall be cast onto the valve body or be on a permanently attached nameplate.

- Butterfly valves shall be horizontal shaft mounting unless otherwise necessary for proper operation or as acceptable by YWC.

- The valve shall be tested and certified as a complete drinking water valve according to NSF 61 and 372, WRAS, or equivalent recognized standards.

2.3.2 MATERIALS

- Body: Valve bodies shall be ductile iron conforming to ASTM A536 65-45-12, A536 60-40-18 or EN-

- GJS-400-18, EN-GJS-400-15 / EN-JS 1030 acc. to EN 1563 (GGG 400 - DIN 1693) with predrilled lifting holes lugs provided in each flange to assist in the installation and removal of valve from the pipeline.

- Disc: The disc shall be ductile iron conforming to ASTM A536 65-45-12 or ASTM A536 60-40-18 or EN-GJS-400-18, EN-GJS-400-15 / EN-JS 1030 acc. to EN 1563 (GGG 400 - DIN 1693). The disc shall be secured to the valve shaft using mechanically retained stainless steel shaft locking bolts

- Shaft: Both upper and lower valve shafts shall be made of stainless steel 304, 316, 316L, high strength ASTM 2205 or Duplex Stainless Steel.

- Body seat shall be made of stainless steel 304, 316 or high nickel alloy and applied to the valve body by means of a machined weld overlay process, eliminating the possibility of leakage through the body/seat joint.

- Rubber seats can be applied to either the body or the disc and shall meet with corrosion resistance metal surfaces (stainless steel 304, 316, or high nickel alloy).

- All bolts, nuts, and internal bolts and pins shall be made of A2 stainless steel quality minimum or stainless steel 304.

- Shaft Bearings: Valve shaft bearings shall be corrosion resistant, self-lubricating sleeve type.

- O-rings shall be of EPDM suitable and approved for potable water.

- Elastomeric Seal: Valve seats shall be EPDM or BUNA-N mounted on the valve disc with AISI 316 stainless steel seat retainer. The seat retainer shall be counter bored and drilled. Seat retaining fasteners shall be AISI 316 Stainless-steel and shall not extrude above the seat retaining ring. Seat shall be field replaceable and adjustable with common tools.

- The iron surfaces of the valve body and disc shall be with fusion bonded epoxy, both interior and exterior. Epoxy shall be applied in accordance with AWWA C550 or according to EN 14901 and shall be NSF61 and NSF 372, WRAS, or equivalent with minimum 250µm fusion bonded epoxy.

2.3.4 ACTUATION

- All butterfly valves shall be equipped, if not otherwise requested in the Bill of Quantity, with gear box and hand wheel.
- Manual Actuators: Actuators shall conform to ANSI/AWWA C504 or equivalent.
- All actuators shall be self-locking worm gear type and shall hold the valve disc in the closed, open and any intermediate position without creeping or fluttering and be supplied from known and reputable gear manufacturer.
- All manual operators shall have a position indicator.
- All bearings shall be maintenance-free and of a self-lubricating or sealed-for-life type suitable for at least 10,000 operation cycles.

Table 2.3.4 : Valve Testing

Test	AWWA	EN
Hydrostatic body test	2 x maximum nominal pressure	1.5 x maximum nominal pressure
Hydrostatic seat test	1.5 x maximum nominal pressure	1.1 x maximum nominal pressure

Prior to shipment from the factory, all valves shall be tested by hydrostatic pressure equal to requirements of AWWAC504/C519, EN 1074- 1/2 and ISO 5208: or EN 12266-1/2 standards.

Each valve shall be supplied with a factory inspection certificate outlining body pressure test, leakage test, valve size, valve serial number, pressure rating, body heat No., disc heat No., stem heat No. seat material and seat heat No.

2.3.5 MANUFACTURE

Manufacture shall be ISO 9001:2008, Accredited and Certified.

Manufacture shall have valve performance independently tested and verified by an accredited third-party flow testing facility.

Manufacture must have 10 years minimum experience in the production of Double Eccentric Butterfly Valves.

2.4 SPINDLES (STEMS) AND CAPS

- Operating and extension spindles for valves operated by tee key (tee wrenches) shall be provided with stem caps.

- Extension spindles shall be circular in section. For valves installed in chambers, extension spindles shall be provided with suitable bearings rigidly held on brackets spaced no more than 1500mm apart. For buried valves, the spindle shall be installed inside a protecting tube supported on a purpose-made support fixed to the top of the valve and shall be provided with spindle guides, as necessary.

- Bearings and spindles shall be suitably protected against corrosion. Spindles shall be galvanised mild steel or stainless steel except where otherwise specified. Bearings for galvanised spindles shall include bearing parts fixed to the spindle by clamp.

- Extension spindle couplings shall be robust and provided with adequate pinning to carry the shear and prevent pull-out. Spindles including all fixing, mountings and couplings shall withstand traffic loads and shall be designed for the maximum operating torque with a factor of safety of 2 times the ultimate strength for mild steel or 3 for stainless steel.

- Buried valves with floor boxes shall be furnished with 2 operating keys or 1 key per valves whichever is greater. Tee wrenches sized so that the tee handle will be 0.6 to 1.2 meter above ground and shall fit the operating nuts.

2.5 Air Valves

- Air valves shall conform to the latest edition of AWWA C512 or BS EN 1074-4.

- The air valve shall be tested and certified as a complete drinking water valve according to NSF 61and 372, WRAS, or equivalent.

- Air valves smaller than DN 50 mm shall be female thread inlet connection and larger air valves shall have Flanged inlet, the flange shall comply with EN 1092-2, ISO 7005 or equivalent.

- The valve size, pressure rating, year of manufacture and manufacturer's name and model shall be cast onto the valve body or be on a permanently attached nameplate.

- Each valve shall be supplied with a factory inspection certificate outlining body pressure test, leakage test, valve size, valve serial number, pressure rating, and body heat number.

2.5.1 Air Release Valve

- The air release valve shall be float -operated, simple lever or compound lever design, and capable of automatically releasing accumulated air from a fluid system while the system is

pressurized and operating.

- Air Valves shall be single automatic air valves, PN 10,16, 25 or 40 with body and cover made of ductile iron ASTM A536 65-45-12 or EN-JS 1030 (GGG 40) according to EN 1563 or cast iron to ASTM A126 Class B or BS EN 1561 EN-GJL-250.

- Air Valves shall be inside and outside coated with fusion bonded epoxy. Epoxy shall be applied in accordance with AWWA C550 and shall be NSF61 and NSF 372 certified with minimum 250µm fusion bonded epoxy or epoxy powder coated according to EN 14901 with a minimum thickness of 250 µm.
- Orifice and float balls shall be of corrosion-free material stainless steel grade 304, 316 or better.

- All seals shall be of EPDM, Buna-N rubber, or better materials suitable and approved for potable water.

- All internal components shall be made of stainless-steel 316 or better.

- Air Valves shall be suitable for a nominal working pressure of 10, 16, 25 or 40 bars in accordance with the details stated in the Bill of Quantities.

2.5.2 Combination Air Valve

- Combination Air Valves shall have operating features of both Air/Vacuum Valves and Air Release Valves.

- Combination Air Valves shall be in dual body style or single body style, large orifice air and vacuum valve and small orifice air release valve.

- These valves are also called Double Orifice Valves.

- Combination air valves shall be of the triple function with a flanged inlet ISO 7005-2, EN 1092-2 PN 10, PN16, PN25 or PN40 and shall be suitable for a nominal working pressure of 10, 16, 25 or 40 bars in accordance with the details stated in the Bill of Quantities.

- Body and cover shall be of ductile iron ASTM A536 65-45-12 or EN-JS 1030 (GGG 40) according to EN 1563 or cast iron to Cast Iron ASTM A126 Class B or BS EN 1561 EN-GJL-250. The body and cover shall be inside and outside coated with fusion bonded epoxy. Epoxy shall be applied in accordance with AWWA C550 and shall be NSF61 and NSF 372 certified with minimum 250µm fusion bonded epoxy or epoxy powder coated according to EN 14901 with a minimum thickness of 250 µm.

- Orifice and float balls shall be of corrosion free material stainless steel grade 304, 316 or better.

- All seals shall be of EPDM, Buna-N rubber, or better materials suitable and approved for

potable water.

- All internal components shall be made of stainless-steel 316 or better.

2.5.3 MANUFACTURE

Manufacture must have 10 years minimum experience in the production of Air Valves.

2.6 WASHOUTS

- The types of Washouts specified for this Contract, whether in concrete chambers or buried type, are as shown on the drawings. All Washouts shall be constructed as indicated on the drawings or as instructed by the Engineer.

- If the flow cannot be discharged by gravity, flooded-manholes can also be constructed opposite the concrete wash-out chambers within the road corridor. Additional excavation and backfilling works shall be included in the unit rates of the washout.

- The lengths of washout discharge lines may vary according to the location requirements on site and shall be agreed with the Engineer's Representative prior to installation. Discharge lines shall be paid for as per unit rates of pipelines included in the Bills of Quantities.

- At place shown on the drawings or directed by the engineer, washouts shall be installed as follows:

a. For ductile iron main pipeline, the Contractor shall install a suitable flanged tee (T) to install the flanged washout valve. The branch shall be ½ of diameter of the main pipe diameter.

b. The washout shall have gate valve installed directly at the branch from the main pipe with all fittings and accessories as per drawings.

c. The wash-out pipes shall be extended to such a length and reach discharge area as is required for every particular site condition as not to flood the trenches or cause any damage to the surrounding area. In case no Wadi is available a flooded manhole shall be constructed at the nearest road.

The unit rate washout pipe work shall include for the outlet structure and riprap, as shown on the standard drawings, unless noted otherwise.

2.7 DISMANTLING JOINTS

- Dismantling joints shall be installed where indicated on the drawings for convenient installation or re-installation of valves or similar items.

- For prevention of any movement of the pipe joints adjacent to closed valves, meters or flanged equipment dismantling joints shall be provided in general by restrained dismantling pieces (short version).

- Dismantling joints shall meet the applicable latest edition of AWWA C219 (short version) or equivalent.

- Flange dimensions and drilling to EN 1092-1, ISO 7005 PN 10, PN16, PN25 or PN40 equivalent and shall be suitable for a nominal working pressure of 10, 16, 25 or 40 bars as specified in the Bill of Quantities.

- The Dismantling joints shall be tested and certified as a complete drinking water valve according to NSF 61, WRAS, or equivalent recognized standards.
- Dismantling joint shall Equipped with the following:

    - Flange adaptor.
    - Flanged spigot piece.
    - Gasket
    - Tie-rods and nuts
    - Studs/Nuts/Washers

2.7.1 Materials specifications and Relevant Standards

- Flange adapter shall be made of ductile iron per ASTM A536 65-45-42 or ductile iron per EN-GJS-450-10, EN-GJS-400-15 or shall be made of carbon steel per ASTM A36 or Steel per BS EN10025 Grade S275.

- Flanged spigot piece shall be made of ductile iron per ASTM A536 65-45-42 or ductile iron per EN-GJS-450-10, EN-GJS-400-15 or shall be made of carbon steel per ASTM A36 or steel to BS EN10025 Grade S275.

- Gasket shall be made of EPDM, perbunan material, nitrile rubber or equivalent quality shall be used and shall be suitable and approved for the use with potable water.

- Tie-rods, nuts, studs, and washers shall be made of stainless steel.

- Coating: coated (internal & external) with a minimum 250 µm thickness Fusion Bonded Epoxy and shall be NSF61, WRAS, or equivalent recognized standards certified.

2.8 FLANGE ADAPTORS, FLEXIBLE COUPLINGS, STEPPED COUPLINGS

- Stepped coupling, flexible couplings and flange adaptors for ductile iron or steel pipes shall be of mild steel and of an approved type suitable for making a watertight flexible connection between plain-ended pipes, or between a plain-ended pipe and a flanged fitting (flange adaptor).

- Stepped coupling, flexible couplings and flange adaptors shall meet the applicable latest edition of AWWA C219 (short version) or equivalent.

- Stepped coupling, flexible couplings, end cap couplings and flange adaptors shall be tested and certified as a complete drinking water valve according to NSF 61, WRAS, or equivalent recognized standards.

- Stepped coupling, flexible couplings and Flange adapters shall be of restrained type to resist end load due to the internal pressure.

- All mechanical couplings shall be of appropriate internal diameter and shall be capable of adapting to different pipe materials or different pipe diameters. They shall be capable of withstanding the maximum working test pressure specified for the pipes to which they connect, including the accommodation of a joint deflection of up to 3° in any direction.

- Flange adapter shall be made of ductile iron per ASTM A536 65-45-42 or ductile iron per EN-GJS-450-10, EN-GJS-400-15 or shall be made of steel per ASTM A36 steel, ASTM A283 Grade C or Steel to BS EN10025 Grade S275/ S275JR.

- Flange dimensions and drilling to EN 1092-1, ISO 7005 or equivalent and shall be suitable for a nominal working pressure of 10, 16, 25 or 40 bars according to the Bill of Quantities.

- Coupling body shall be made of ductile iron per ASTM A536 65-45-42 or ductile iron per EN-GJS-450-10, EN-GJS-400-15 or shall be made of steel ASTM A36, ASTM A283 Grade C or Steel to BS EN10025 Grade S275/ S275JR.

- Gasket shall be made of EPDM, perbunan material, nitrile rubber or equivalent quality shall be used and shall be suitable and approved for the use with potable water.

- Tie-rods, nuts, studs, and washers shall be made of stainless steel.

- Coating: coated (internal & external) with a minimum 250 µm thickness Fusion Bonded Epoxy and shall be NSF61, WRAS, or equivalent recognized standards certified.

3. Ductile Iron Pipes and Fittings

3.1 GENERAL

All Materials shall be ISO or equivalent standard and shall be supplied from approved manufacturers. According to the International Standard ISO 9001:2015, the manufacturer must produce according to the latest version of the products Standards ISO. The Manufacturer or Supplier shall be specific as to the country of origin and the manufacturing firm of the materials he intends to supply under this contract. All pipes and fittings shall be suitable for buried installation.

3.1.1 Coordination

The Manufacturer or Supplier shall assume full responsibility for the complete compatibility of all elements of each piping system he will provide (this must be certified by an eligible Third Party). The Manufacturer or supplier shall furnish suitable transition pieces and special fittings acceptable to the Engineer were required to ensure compatibility of piping with valves and other items of equipment he will supply.

3.1.2 Documents to be submitted at the time of tender

The contractor must submit with his bid the following documents for the Ductile Iron manufacturer he intends to supply from, any contractor who fails to submit any of these documents shall be considered as ineligible and will be disqualified:

Original catalogues and Technical Data Sheets

Original catalogues and Technical data sheets containing the details and specifications covering all ductile iron pipes, fittings and accessories shall be submitted. A detailed technical description including all drawings of the products supplied under the Contract must be added.

Schedule of Particulars:

The contractor should submit completed schedule of as per the attached forms.

Certificates:

The following Certificates issued by international third-party inspection agency (T.P.I.A.) such as BVQI, SGS, LLOYDS, […], shall be submitted, at the time of bidding:

- **Manufacturer's type tests Certificate witnessed by eligible T.P.I.A.**

The manufacturer shall demonstrate the conformity of his products with the standards by submitting the below performance tests specified in the standards:

A. Compressive strength of the cement mortar lining.

B. Leak tightness of flexible joints to positive internal pressure.

C. Leak tightness of flexible joints to negative internal pressure.

D. Leak tightness of flexible push-in joints to positive external pressure.

E. Leak tightness of flexible joints to dynamic internal pressure.

F. Leak tightness and mechanical resistance of flanged joints.

Noting that these are TYPE tests that are done only once if the design remains the same: if design / specs changes, the type tests must be redone.

- **ISO 9001:2015 Certificate:**

  Valid ISO 9001:2015 Certificate concerning quality management system accredited by an international body with yearly audit reports; showing that the manufacturer has been given the certificate and is still implementing ISO requirements.

- **ISO 14001:2004 Certificate:**

  Valid ISO 14001:2004 Certificate concerning environment management system accredited by an international body confirming compliance of the manufacturer.

- **Product Conformity Certificate:**

  Valid Product Conformity certificate accredited by an international body confirming that the manufacturer's offered products are according to EN545:2010 & ISO2531:2009.

  The product conformity certificate should be verified by an official letter issued from Jordan Institution for Standard and Metrology (JISM) confirming that the certificate is authentic and accredited according to the international accreditation forum guidelines.

- **Potable Water Certification:**

  All pipes, coating, and lining materials shall be certified for potable water use and shall contain no ingredients that may migrate into water in amounts that are toxic or otherwise dangerous for health. The Contractor is prohibited to import or to use any of the "Acrylamide and N-Methylolarcylamide Grouts" or any other toxic or poisonous

materials or sub materials used in pipes, kinds of concrete or in soil in any kind of usage.

The contractor is required to submit certificates from reputable third party for example (NSF, Bureau Veritas, Lloyds, SGS, and WRAS) that the components of the network must not be of any way toxic to the water being conveyed. And can be fully used for the distribution of potable water to a temperature up to 50°C. The Certificates should be submitted for the following materials in contact with potable water:

a) Cement mortar.

b) Bituminous paint.

c) Epoxy powder.

d) EPDM Sealing Rings and Rubber Gaskets.

e) Lubricating paste.

f) Finishing layer.

3.1.3 Manufacturer's Authorization form:

The contractor should submit along with his technical submittal the attached Form signed and stamped.

3.1.4 Supply of Materials-Pre-requisites Requirements:

According to Annex 4 the contractor should submit all the materials manufacturer's requirements.

3.1.5 Applicable Codes and Standards

The codes and standards generally applicable to the work under this section are listed below. Equivalent standards are acceptable, but internationally recognized standards will be preferred. Codes and standards current at the time of bid shall be used.

ISO 2531:2009:	Ductile iron pipes, fittings, accessories, and their joints for water applications
EN 545:2010:	Ductile iron pipes, fittings, accessories, and their joint for water pipelines. Requirements and tests methods
ISO 4179:2005:	Ductile iron pipes and fittings for pressure and non-pressure pipelines. - Cement mortar lining.
ISO 8179-1:2017:	Ductile iron pipes-External zinc-based coating. Part 1- Metallic zinc with finishing layer.

ISO 4633:2015:	Rubber seals- joint rings for water supply, drainage, and sewerage pipeline-specifications for the material.
ISO 7005-2:1988:	Metallic Flanges - Flange Dimensions
ISO 4032:	Hexagon nuts, style 1 – Produced grades A and B.
BS EN 1092-2	Metallic flanges- part 2 cast iron flanges.
EN 14901: 2014:	Ductile iron pipes, fittings, and accessories-Epoxy coating (heavy duty) of ductile iron fittings and accessories-Requirement and tests methods.
EN 15542:2008:	Ductile iron pipes, cement mortar coating for pipes-Requirement and tests methods.
ISO 8180:2006:	Polyethylene sleeve
ISO10804:2010	restrained joint systems for ductile iron pipelines — Design rules and type testing.

3.1.6 Ductile Iron Material Characteristics

The ductile iron materials shall meet the following requirements:

Table 3.1.6: Requirements of Ductile Iron Material:

Material Characteristics	Pipes Centrifugally Cast	Pipes not Centrifugally Cast, Fittings, Accessories
Minimum Tensile strength (MPa)	420	420
Minimum elongation at break (%) DN 40 to 1000 mm DN 1100 to 2000 mm	10 7	5 5
Maximum Brinell hardness (HB)	230	250

By agreement between manufacturer and purchaser, the 0.2% proof stress (Rp0.2) may be measured. It shall be not less than:

- 270 MPa when A≥ 12% for DN 40 to DN 1000 or A≥ 10 % for DN > 1000.
- 300 MPa in other cases.

3.1.7 Ductile Iron Material Characteristic

Ductile iron pipes shall be centrifugally cast in accordance with the international Standard ISO2531:2009.

Pipe laying lengths shall be provided in 5.5, 6.0, 7.0, 8.0, and 9.0 m nominal lengths.

Centrifugally cast pipes shall be subjected to a hydrostatic work test for a duration of at least 10 seconds at a minimum pressure given in the below table.

Table:3.1.7: Minimum Testing Pressure for various pressure classes:

Pressure classes	Minimum Test Pressure (bar)
C40	50
C30	40
C25	32

Unless not specified in the specification, the manufacturer must produce the pipes according to the following requirements:

When pipes are ordered on a meter age basis, the manufacturer can determine the required quantity of pipes.

To be supplied by the summation of the measured individual pipe laying lengths

3.1.7.1 Wall Thickness

For pipes centrifugally cast, the minimum wall thickness, e min, shall not be less than 3, 0 mm.

The nominal wall thickness, e nom, equals the minimum wall thickness, e min plus (1, 3 + 0,001 DN).

The thickness shall be as per Class 30 or Class 40 as specified in the bill of quantities.

The nominal iron wall thickness of pipes DN 60 to DN 400 is given as a function of the nominal size DN below.

Nominal wall thicknesses shall be according to ISO2531:2009 as follows:

Table 2.1.7.1: Nominal wall thickness:

DN	External Diameter DE mm	Nominal Wall thickness (mm)	
		Class 40	Class 30
60	77	4.4	
80	98	4.4	
100	118	4.4	
125	144	4.5	
150	170	4.5	
200	222	4.7	
250	274	5.5	
300	326	6.2	
350	378	7.1	6.3
400	429	7.8	6.5

Minimum wall thicknesses shall be according to EN545:2010 as follows:

Table 2.1.7.2: Minimum wall thickness:

DN	External Diameter (DE) (mm)	Minimum Wall thickness (mm)	
		Class 40	Class 30
60	77	3.0	
80	98	3.0	
100	118	3.0	
125	144	3.0	
150	170	3.0	
200	222	3.1	
250	274	3.9	
300	326	4.6	
350	378	5.3	4.7
400	429	6.0	4.8

3.1.7.2. Lining and coatings

- Internal Protection

Pipes will be internally lined with a sulfate resistant blast furnace slag cement mortar applied by a centrifugal process, in accordance with the International Standard ISO 4179:2005, with the following thicknesses:

Table 2.1.7.2: Thickness for pipes:

DN	Thicknesses (mm)	
	Nominal	Tolerance
60-300	4	-1.5
350-600	5	-2

- **External Protection**

Pipes shall be externally protected with a 200 gr/m^2 of Zinc under an asphaltic topcoat the mean thickness of the finishing layer shall be not less than 70 μm and the local minimum thickness not less than 50 μm.

- The zinc content shall be minimum 99% and the mean mass of zinc coating shall not be less than 200 g/m² applied on the bare metal of the external surface of the pipe. And should be according to ISO 8179.
- The finishing layer of standard shop-applied bituminous paint in accordance with AWWA C-151 or equivalent.

Or Pipes shall be externally protected with suitable coating with an Alloy of zinc and aluminum with or without other metals coating followed by a finishing layer in accordance with EN 545-2010.

The mean mass of alloy zinc and aluminum coating shall not be less than 400 g/m² applied on the bare metal of the external surface of the pipe, with epoxy finishing layer.

The finishing layer shall uniformly cover the whole surface of the metallic zinc aluminum alloy layer and be free from such defects as bare patches or lack of adhesion. The uniformity of the finishing layer shall be checked by visual inspection. When measured in accordance with EN545:2010 paragraph 6.7, the mean thickness of the finishing layer shall be not less than 70 μm and the local minimum thickness not less than 50 μm.

Additional polyethylene protective sleeve shall be applied where necessary such as aggressive soils and special applications.

Applying the polyethylene sleeve shall as per manufacturer’s recommendations.

3.2 DUCTILE IRON FITTINGS

Ductile iron fittings shall be sand cast in accordance with the ISO2531:2009 / EN 545:2010. The nominal thickness corresponding to the main part of the body, The actual thickness at any point may be increased to meet localized high stresses depending on the shape of the casting (e.g., at internal radius of bends, at the branch-body junction of tees,).

The fittings shall be submitted at the works to a leak-tightness test carried out either with air at a pressure of 1 bar or with water in accordance with ISO2531:2009 / EN 545:2010.

The fittings shall be designed and manufactured as automatic push-on joint type (Tyton and/or Standard or equivalent), flanged type and self-anchored automatic push-on joint type, mechanical joints shall be used for collars or couplings only.

Each socket joint shall be supplied with its EPDM gasket, (and glands and bolts when mechanical or anchored type).

The material used for the rubber gaskets shall be an EPDM elastomer, in accordance with ISO 4633:2015 and duly certified as suitable for potable water up to 50°C.

Each flange joint shall be supplied with gasket and bolts, the bolts should be Stainless Steel A2. For all sides and flange connection shall be in accordance with ISO 7005-2.

3.2.1 Internal and External Protection for Fittings

The fittings laid in non-corrosive soils shall be internally and externally protected with a **fusion bonded epoxy coating** with a minimum average thickness of **250 microns or greater an**d the localized minimum thickness shall be greater than 200 μm, according to the European Standard EN 14901:2014, for corrosive soil the thickness will be **300 microns.**

3.2.2. JOINTS

- Flexible Joints

Flexible Joint shall be of spigot socket automatic push-on joint type (Tyton and/or Standard or equivalent), mechanical type (for collars or couplings only).

The joint shall be suitable for angular deflection.

Joints may permit angular deflection to accommodate ground movements and negotiate large radius bends. The angle deflection shall be as per the table below:

3 °30’ for DN 40 to 300

2° 30’ for DN 350 to 600

1 ° 30 for DN 700 to 2600

Higher angular deflection shall be accepted.

The material used for the rubber gaskets shall be an EPDM elastomer, in accordance with ISO 4633:2015 and duly certified as suitable for potable water up to 50°C.

- Flanged Joints

Flanged ended pipes and fittings shall be used when connecting to valves or other special fittings.

The flanges shall be raised face and integrally cast rotatable flanges may be used for fittings up to DN 600 mm.

The dimensions and the drilling of the flanges shall be in accordance with the International Standard ISO 7005-2 or the European Standard EN 1092 -2. The pressure rating of the flanges shall be 40 bars unless noted otherwise. Flanged joints shall be supplied complete with gaskets and bolts.

Rubber gasket shall be EPDM elastomer in accordance with the International Standard ISO 4633: 2015 and duly certified as suitable for potable water up to 50°C. The gasket shall be reinforced and suitable for a minimum pressure rating of 10 bars and higher.

- Restrained flexible joints (Anchored Joints)

Ductile iron pipes and fittings including Bends and Tees should be anchored to be used where pipelines must cross through existing ducts, in areas with restricted accessibility, when the use of concrete anchor blocks is prohibited or impossible or when the pipes must be pulled during the installation and for mains on steep slopes (> 25%). Anchored joints shall comply with ISO10804:2010 and shall be designed to resist the axial thrust forces but maintaining flexibility and angular deflection not less than half of the value shown in Table below:

3 °30’ for DN 40 to 300

2° 30’ for DN 350 to 600

1 ° 30 for DN 700 to 2600

Anchored joints shall be designed to withstand the greater of the pressure or the service pressure + surge pressure or the site test pressure.
In case of self-restrained joint piping, the length and type of restrained piping required shall be determined in accordance with the manufacturer's recommendation and as per the characteristics of the area where the pipes will be anchored and the working conditions (maximum pressure, depth of cover, type of soil, type of fittings). The restrained length shall be in multiples of the full length of one standard pipe piece.

The manufacturer should propose the most suitable anchored joints solution, depending on:

- The diameter of the pipes used.
- Operating and surge pressures calculated.
- Depth of cover
- Type of soil.

The approved options are:

- Gaskets with metal inserts: Metal inserts that are embedded in the pipe gasket. The gasket will achieve two functions, one for achieving tightness and the second for achieving the needed anchoring. The metal inserts shall be made from hard stainless steel and should exert a force on the pipe to create a grip and anchor the pipe with the fitting or the other inserted pipe. The metal inserts should be designed in a way that does not cause or create a failure in the pipe metal.

- The socket ends of all pipes and fittings shall consist of two chambers: a sealing chamber for the gasket and a locking chamber for the restraining locks. The spigot ends of all pipes and fittings shall induce a factory applied welding bead to fit inside the restrained socket. No bolts, nuts, and glands shall be used as part of the locking joint. The locking mechanism shall be a resultant of the direct contact between the welding bead and the corresponding number of locking segments. The locking segments shall be of ductile iron.

3.2.3 Gaskets and Seals

The material used for the rubber gaskets shall be an EPDM elastomer, in accordance with ISO 4633:2015 and duly certified as suitable for potable water up to 50°C, by one of the national regulations. Sufficient lubricant as recommended by the pipe manufacturer shall be provided for pipe installation plus ten percent as surplus material. Lubricant containers shall be adequate for extended storage and the pipe manufacturer shall supply instructions for storage limitations and environment.

3.2.4 Marking

All pipes and fittings shall be legibly and durably marked and shall bear at least the following information:

1. The - Manufacturer's name of mark.
2. The identification of the year of manufacture.
3. The identification as ductile iron.
4. The DN.
5. The PN rating of flanges when applicable.
6. The reference to the standard.
7. The C class designation of centrifugally cast pipes.
8. YWC tender no.
9. Water," to indicate that pipes or fittings are intended for potable water".
10. Batch number.

The first **five markings given above shall be cast-on or cold stamped**; the other markings can be applied by any method, e.g., painted on the casting or attached to the packaging.

3.2.5 Third Party Witness

Pipes inspection prior to shipping and during the manufacturing should be carried out as per the below details:

- The contractor shall propose at least three different accredited international Third-Party Inspection agencies, the engineer and the client will choose from.
- Inspection Visit - Pre shipment or during manufacturing: Inspection is obligatory and the full cost for travelling for client representatives ("Overseas Pre shipment and inspection for five engineers for a week, with all related expenses including Visa's

arrangements and costs, hotels transportation and all related fees taxes airfare tickets and per diems equal to 200 JD/Day ") shall be borne by the supplier/contractor and shall be incorporated in the tender prices.

- The contractor shall furnish an original certificate from the selected third-party inspection agency showing all test results and analysis required by the applicable standard ISO 2531 - 2009 according to which the materials have been manufactured.

- The selected third-party agency should produce inspection certificates during the following stages:

  - Manufacturing.
  - Final.
  - Packaging.

And the kind of inspection:

- Review document
- Witness inspection at least (visual and tests)

- The selected third-party agency should witness the manufacture and testing operation to verify compliance with the technical specifications and relevant standards. Upon this the selected third-party agency should issue inspection certificates, the certification should be:

  - Clearly showing the inspection results.
  - Valid and up to date
  - English language
  - It must show which batch is being tested to make sure that this certificate is for the right batch delivered to the client. The batch size should be in accordance with ISO 2531 - 2009.
  - Production date / code marked on the pipes.
  -

- The factory should perform the quality test in front of the client, as the following:

1. Dimensions Examination.
   a) Wall Thickness.
   b) External Diameter.
   c) Internal Diameter.

2. Zinc I Zinc Alloy should be tested for:
   a) Quantity/m2.
   b) Composition and Metallurgical Structure.

3. Ovality Test of the Pipes.

4. Cement Lining:
   a) Thickness.
   b) Cement Type.

5. Tensile Test.
6. Hardness Test.
7. Microstructure Examination.

- Rejected material: All the rejected or non-compliant products shall be disposed of at the Contractor's own expense. If any of the supplies, whether complete or during production, is rejected by the selected third-party agency, they shall be marked or segregated in such a manner satisfactory to the Engineer as to ensure their subsequent identification as rejected supplies.
- Access to manufacturing facility: The manufacturing place of all materials the pipes, fittings and accessories shall be open to inspection by the third-party team.

3.2.6 Quality Assurance after Arrival of the Materials

The Engineer and the Customer have the option and right to submit all or part of the materials supplied under the contract to acceptance tests carried out by the Royal Scientific Society.
The tests should confirm that the pipes are manufactured according to ISO 2531 - 2009.

The test should include:

1. Dimensions Examination.
   a) Wall Thickness.
   b) External Diameter.
   c) Internal Diameter.
   d) Straightness of the pipes.
2. Zinc / Zinc Alloy should be tested for:
   a) Quantity/m^2.
   b) Metallurgical Structure.

3. Ovality Test of the Pipes.
4. Cement Lining Thickness.
5. Tensile Test.
6. Elongation Test.
7. Hydrostatic pressure test.
8. Hardness Test.

3.2.7 Storage of the Materials

The contractor shall be responsible for the handling, storage and well-being of all materials purchased under this contract, until the delivery defined as per the sales condition of the contract.

The Manufacturer or Supplier will provide to the Tenderer and the Engineer the best practices and advice to be followed regarding the transport, handling, and storage of the offered products.

3.2.8 Product Handling

Pipe, fittings, and appurtenances shall be transported, stored, and handled in a manner which prevents damages (protected hooks, textile straps…).As per the Manufacturer or supplier provided handling recommendations and best practices.

3.3 INSTALLATION OF PPIES AND FFITTINGS

3.3.1 General

The installation of pipes and fittings including excavation, lying, and backfilling, reinstatement, etc. shall be according to the specifications of YWC.

3.3.2 Disinfection of Pipelines

3.3.2.1 General

All pipes, fittings, valves, and appearances shall be disinfected according to the specification of **YWC** listed below.

3.3.2.2 Disinfection of Pipelines

After the completed pipeline is tested, approved, and backfilled, disinfections shall be performed in the following manner: after flushing the pipes, the system shall be drained completely, all valves shall be closed carefully, and the system filled with a chlorine solution.

All pipes, fittings, valves, and appurtenances shall be disinfected by the Contractor as specified herein unless otherwise directed by the Engineer's Representative. The Contractor is also responsible for conducting bacteriological tests for all pipes lying through a laboratory. The cost of disinfection and the bacteriological test shall be borne by the Contractor.

The contractor should use potable water to execute the bacteriological test, and has three options to fulfil the specs:

- Using YWC water direct from the network by installing a bypass connection and as instructed by the concerned people in YWC. The costs for the mentioned connection as well as required material, labour, etc. will be borne by the contractor.

- Using YWC tankers

- By using private tankers, the water should be tested first by YWC to ensure that the delivered water is potable water before executing any bacteriological tests. The costs to ensure the water quality will be borne by the contractor.

The attention of the Contractor is directed to the requirements of the Contract whereby he is responsible for preventing the entry of foreign material of any kind from entering the pipe. The Contractor shall take extreme care to keep the interior of the pipelines free of dirt and other foreign material. If in the opinion of the Engineer's or the Employer, dirt or other foreign material entered a pipe which cannot be removed by flushing, then the Contractor shall clean and swab the interior of the pipe with a five percent hypo-chlorite disinfecting solution to the satisfaction of the Engineer's Representative.

The Contractor shall, during the initial filling of the pipeline, concurrently introduce feed of chlorine at the same point where the pipeline is being filled. The rate of filling and the feed rate of the chlorine shall be proportioned so that the initial concentration of the chlorine in the water in the pipeline is between 50 and 100 milligrams per litre. To assure that this concentration is maintained, the chlorine residual shall be measured at blow-off, combination air valves, or other locations during the filling operation.

The following is the amount of chlorine required, if either liquid chlorine (gas at atmospheric pressure) or a one percent chlorine solution is used, to produce a 100 milligram per litre concentration in 100 meters of pipe for the various diameters of pipe to be disinfected under this Contract.

Table 3.4.2: Liquid Chlorine Required for Disinfecting 100 Meters of Pipes

Nominal Pipe Diameter (mm)	100% Liquid Chlorine (kg)	1% Chlorine Solution (Liters)
800	3.60	360
600	2.97	297
400	1.30	130
300	0.75	75
250	0.51	51
200	0.33	33
150	0.18	18
100	0.08	8
80	0.05	5
50	0.02	2

The use of liquid chlorine shall only be permitted when suitable equipment consisting of a solution feed chlorinator together with a booster pump of injecting the chlorine gas-water mixture into the pipeline to be disinfected is used. Introduction of chlorine gas directly from the supply cylinder shall not be allowed.

After completion of the disinfection's operation for one pipeline section the Contractor may reuse this chlorinated water to disinfect adjacent sections of the pipeline by adding additional chlorine as required to produce the specified concentration of chlorine.

The Contractor shall submit a detailed description of the procedure he proposes to use to disinfect the pipeline including a description of all equipment to be used for the Engineer's Representative approval prior to starting the disinfections operations.

Payment for all labour, material, and equipment, including the cost of all water and chlorine required to disinfect the pipeline and appurtenances shall be included in the costs for meter run of the pipe.

The chlorinated water shall remain in each section of the pipeline for at least 24 hours and during this period all valves and blow-off shall be operated in order to disinfect these appurtenances. At the end of the 24-hour period, the water in the pipeline shall contain no less than 25 milligrams chlorine per litre throughout the length of the pipeline. Shall the pipeline fail to have the specified chlorine concentration at the end of the 24-hour period; the Contractor shall repeat the operation as necessary to provide complete disinfections.

3.3.3 FLUSHING OF THE PIPELINE

All pipelines shall be flushed by the Contractor after all hydrostatic pressure tests and disinfections operations have been performed and accepted by the Engineer's Representative.

Water for flushing the pipes shall be provided by the contractor as indicated under section – Disinfection of Pipelines.

After draining the chlorine solution, the pipe system shall be flushed with potable water until the free chlorine content is between 2 to 4 milligrams per litre.

3.3.4 PRESSURE TESTING

3.3.4.1 HYDROSTATIC PRESSURE TESTING OF DI PIPES

After completing the installation of a water main, or a section of the line, and before the joints are covered, a hydrostatic test of the line shall be made by the Contractor. Enough time for the curing of concrete thrust blocks must be allowed before the test is made. All backfilling and compaction over and around the pipes and thrust blocks must be completed except for the pipe joints to be left open for observation of any leaks before the test are made.
In accordance with EN 805, pipelines must undergo an internal pressure test. The definitive criteria for performing this test on water pipelines are EN 805 and the DVGW's worksheet W 400-2.

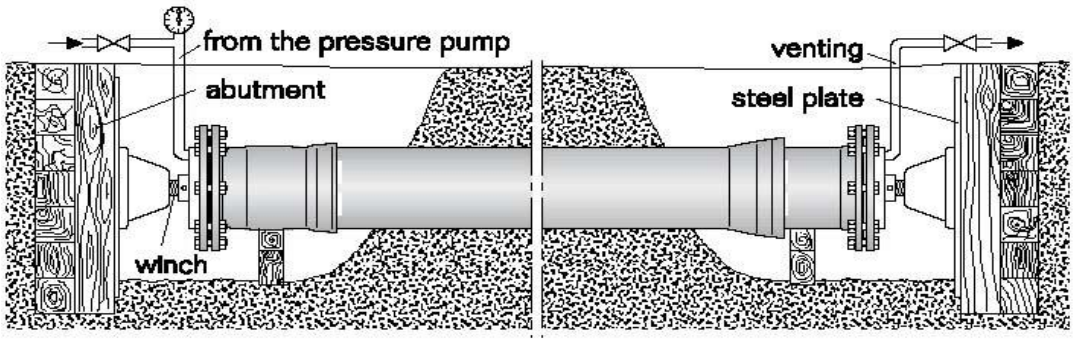
3.3.4.2 Test Sections

If necessary, longer pipelines should be divided into sections. The test sections should be arranged so that the

- Test pressure is reached at the lowest point of every test section.
- At the highest of point of each test section at least 1.1 times the level of the system test pressure is reached.
- the amount of water required for the pressure test can be supplied and drained off; and
- The maximum length to be tested does not exceed 2.5 – 3 km.

The pipeline should be vented as well as possible with 'pigs' and filled from its lowest point with drinking water. Backfilling and interlocking
If necessary, pipes must be covered with filling material before the pressure test to avoid any changes in length. Backfilling the connections are optional. Pipelines that are not longitudinally force-locked must be anchored at their ends, bends, branches, and reducers against the forces produced by the internal pressure. Assessment of the supports needed for this purpose should be done as per specifications.

There is no need for supports on longitudinally force-locked systems, provided that in each case the lengths to be restrained have been installed in compliance with the specifications. Squeezing against a closed shut-off valve serves no purpose. The temperature on the outer wall of the pipe should be kept as steady as possible and must not exceed 20°C.



Filling the pipeline

The pipeline should be suitably filled from its lowest point so that the air contained within it can easily escape at the venting points, which should be adequately large in size, on the high parts of the line.

We recommend the following rates of filling in l/s:

DN	100	150	200	250	300	400	500	600	700	800	900	1000
Fill rate	0.3	0.7	1.5	2	3	6	9	14	19	25	32	40

3.3.4.3 Filling of the Pipeline

For drinking water pipes, initial disinfection should be carried out along with the pressure test. This requires a concentration of at least 50 mg of chlorine per liter of water. Depending on how dirty the pipeline is, the level of chlorine can be increased to 150 mg per liter of water. The relationship of the volume of water added to the increase in pressure can give a clue to any leaks or insufficient venting. As the pressure increases, the rate of water consumption should therefore be noted bar by bar.

Where a line has been laid and is vented properly, the amount of water that needs to be pumped per bar of increased pressure is almost constant. Considering the compressibility of water and the elastic property of the pipe, it is (theoretically) c. 50 ml/m³ pipeline content/bar. In practice, this figure is around 1.5 to 2 times higher, as trapped air in the fittings and pipe and fitting connections must be compressed.

The table indicates the amounts of water required in liters per 1 bar of increased pressure for pipeline lengths of 100 up to 1,000 m, assuming a 100% extra allowance for trapped air.

DN	Amount of water in litres for 1 bar of increased pressure, by pipeline length (m)									
	100	200	300	400	500	600	700	800	900	1000
80	0.05	0.09	0.14	0.19	0.24	0.28	0.33	0.38	0.42	0.47
100	0.07	0.13	0.20	0.26	0.33	0.39	0.45	0.52	0.59	0.65
125	0.12	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.05	1.20
150	0.18	0.35	0.53	0.70	0.87	1.05	1.22	1.40	1.54	1.75
200	0.32	0.64	0.97	1.28	1.60	1.93	2.25	2.55	2.90	3.20
250	0.52	1.04	1.57	2.10	2.60	3.15	3.65	4.20	4.70	5.20
300	0.78	1.56	2.35	3.15	3.90	4.67	5.45	6.25	7.05	7.80
(350)	1.06	2.12	3.20	4.25	5.30	6.38	7.43	8.50	9.55	10.60
400	1.44	2.90	4.30	5.80	7.20	8.65	10.10	11.55	13.00	14.40
500	2.35	4.70	7.05	9.40	11.80	13.10	16.20	18.80	21.10	23.50
600	3.45	7.00	10.50	14.00	17.15	21.00	24.50	28.00	31.50	35.00

3.3.4.4 Performing a Pressure Test

The following procedure for carrying out a pressure test on ductile cast iron pipes is de DVGW worksheet W 400-2:

- Standard method (for all DNs, with and without CM lining)
- Shortened method procedure (up to DN 600, with CM lining)

We describe below the two most frequently used methods: **the standard method and shortened procedure.**

The level of test pressure in both procedures is as follows:

- For pipelines with allowable operating pressure of up to 10 bar:

1.5 X nominal pressure

- For pipelines with allowable operating pressure of over 10 bars: Nominal pressure + 5 bars.

<u>The standard method for DI pipes</u>
The standard method is carried out in three stages:

- Preliminary test
- Pressure loss test
- Main test

Preliminary Test

The purpose of the preliminary test is to saturate the Cement Mortar (CM) lining and to stretch the pipeline. To do this, the test pressure is kept constant for a period of 24 hours by permanently pumping in more air as and when required. If any leaks are found or any changes in length occur beyond what is allowed, then the pressure must be released from the pipeline and the cause remedied.

Pressure loss test

The purpose of the pressure loss test is to establish freedom of air movement in the pipeline. Air pockets in the pipeline can lead to incorrect measurements and/or cover up small leaks.

Enough volume of water (ΔV) is drawn off from the line until a drop in pressure (Δp) of at least 0.5 bar materializes. The volume of water (ΔV) drawn off is then measured. The test pressure is subsequently restored.

The pipeline is deemed to be adequately vented if ΔV is not greater than the allowable change in volume (ΔVzul). If this is not the case, the line must be vented again.
ΔVzul is calculated as follows:
ΔVzul = 1.5 x a x Δp x L
ΔVzul = allowable change in volume [cm³]
Δp = measured drop in pressure [bar]
L = length of the tested section [m]
a = pressure constants that distinguish the type of pipe [cm³/ (bar x m)]

See following table.

DN	a	DN	a
80	0.314	**400**	9.632
100	0.492	**500**	15.614
125	0.792	**600**	23.178
150	1.163	**700**	32.340
200	2.147	**800**	43.243
250	3.482	**900**	55.679
300	5.172	**1000**	69.749
(350)	7.147	**1200**	103.280

Main Test
Following the pressure loss test, the main test is then carried out. The duration of the test follows:

Up to DN 400	3 h
DN 500 up to DN 700	12 h
Over DN 700	24 h

The test criteria are deemed to have been met if at the end of the test the drop in pressure greater than specified below:

Nominal Pressure	**Test Pressure**	**Max. Pressure loss.**
10	15 bar	0.1 bar
16	21 bar	0.15 bar
Over 16	PN + 5 bar	0.2 bars

Test Report

A test report should be produced. Templates for test reports are included in DVGW worksheet W 400-2. These contain the necessary details such as:

- Description of the line
- Test details
- Description of the test procedure
- Findings during the test
- Check note.

The shortened standard method for DI pipes

The advantage of the shortened standard method is largely one of enormous savings in time. The time required is approx. just 1.5 hours.
The shortened standard method is carried out in three stages:

- Saturation stage
- Pressure loss test
- Leak test

Saturation level

To achieve a high level of saturation, the test pressure is kept constant for half an hour by permanently pumping water. The key factor for saturation is first and foremost the level of test pressure. Unduly low pressure cannot be compensated for by prolonging the saturation level.

Pressure loss test

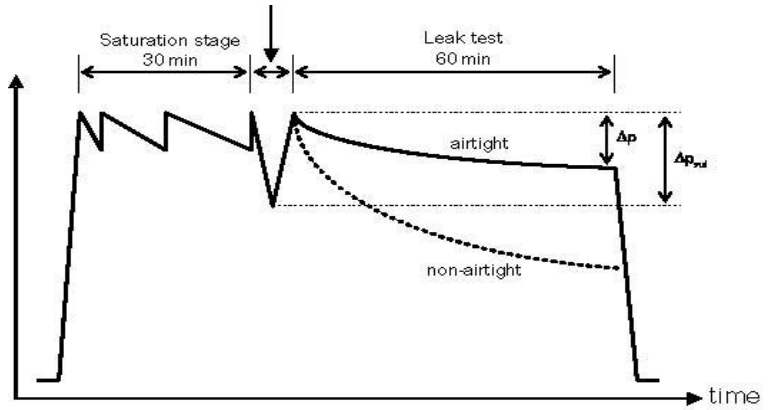
The purpose of the pressure loss test is to establish freedom of air movement in the pipeline. Air pockets in the pipeline can lead to incorrect measurements and/or cover up small leaks.
At test pressure, a volume of water (ΔV) is drawn off from the pipeline. The resultant drop in pressure (Δp) is measured. In the subsequent leak test this becomes the allowable pressure loss (Δpzul). Following the pressure loss test, the test pressure is restored.
ΔVzul is calculated as follow:
$\Delta V_{zul} = (DN \times L) / (100 \times k)$
ΔV_{zul} = allowable change in volume [cm^3]
L = length of the tested section [m]
100 x k = proportionality factor, k = 1 m/cm^3

The pipeline is deemed to be adequately vented if when drawing off the volume of water ΔV_{zul}, the drop in pressure is greater than or equal to the minimum levels specified for Δp specified in the table below.

Nominal DN width	Minimum pressure loss Δp [bar]
80	1.4
100	1.2
150	0.8
200	0.6
300	0.4
400	0.3
500	0.2
600	0.1

Leak test

The pipeline is deemed to be air-tight if the fall in pressure (Δp) goes down at a constant rate over equal periods of time and over the duration of the leak test does not exceed the level ascertained (Δp_{zul}) in the pressure loss test. The duration of the test is one hour.



Example of the curve progression of an airtight and a non-airtight pipeline with cement mortar lining

Test Report

A test report should be produced. Templates for test reports are included in DVGW worksheet W 400-2. These contain the necessary details such as:

- Description of the line
- Test details
- Description of the test procedure
- Findings during the test
- Check note.
-

Stop Ends

A simple TEST END (Test facility) consists of a standard FG flanged-spigot pipe made of DI according to standard length for each diameter (about 0.5-1.0m long) onto which a threaded flange with a 2" (DN50) opening for accommodating ingoing water and out coming air.

The TEST END may also include an opening through which the test water may be pumped from the line, if necessary. The test end shall be jointed to the pipe to be tested by means of a standard coupling (e.g., VJ Coupling) or two spare flanges.

The Test End shall be secured with a temporary anchorage to hold it in place against the test pressure.

Air Removal before Test

Before applying the test pressure, all air shall be expelled from the pipe. After all the air has been expelled, all stop cocks shall be closed and the test pressure applied as specified above. The line shall be filled slowly to prevent possible water hammer.

Examination during Test

All exposed pipes, fittings, valves, hydrants, and joints shall be carefully examined during the pressure test. All joints showing leaks shall be rejoined until tight, or the pipe material replaced.

Any defective pipes or joints, fittings or valves discovered as a result of this pressure test shall be repaired or removed and replaced by the Contractor at his own expense with sound material and the test shall be repeated until proved satisfactory to the Engineer's Representative.

Cost of Testing

The Contractor shall provide a sufficient quantity of gauges, pumps, stop ends, and connections and all things necessary and suitable for the testing of all pipes as described herein. The Contractor shall also provide all necessary temporary works in connection with test and shall remove the same on successful completion of the test.

All tests shall be done in the presence of the Engineer's Representative (Resident Engineer) and the results of such tests shall be elaborated in a test report and signed by the Contractor and Resident Engineer and handed over to the Resident Engineer. Payment according to schedule for pipe laying is based on such reports.

All equipment, labor, materials, and water necessary for the carrying out of these tests to the complete satisfaction of the Engineer shall be provided by the Contractor at his own expense. Shall any test fail, the Contractor shall, after repairing and making good any leaks, carry out further tests all as described above until such test meets the requirements contained herein. All such tests and retests shall be at the expense of the Contractor.

3.4 WELDED BLACK STEEL PIPES & FITTINGS

3.4.1. Specifications for Welded Steel Pipes with Beveled end for (4", 6" and 8") diameters

a - The pipes shall be in accordance with {API-5L, Grade of steel X42} or {DIN. 2441} or approved equivalent standards, high-tensile, longitudinally, or spirally welded steel pipes.

The wall thickness and the test pressures shall be as follows:

Nominal dia. (ND) inch.	Outside Diameter (inch)	Thickness (mm)	Test Pressure (kg/cm^2)	standards
4"	4 ½"	4.40	134	API or DIN
6"	6 ⅝"	5.20	133	API or DIN
8"	8 ⅝"	5.60	110	API or DIN

b- **Working Pressure:**

The maximum nominal pressure of all pipes shall not be less 40 bars.

c- **Average Length:**

Pipes shall have 6 meters length; equal length must be supplied.

d- **Beveled Ends For 4", 6" and 8":**

End of pipes must be calibrated and beveled by 30º degrees (plus or minus 5º degrees) for electric fusion butt welding.

e- **Internal Lining and External Coating:**

- Preparation of pipes surfaces before lining and coating:

- The surfaces of pipes shall be clean and free from scale, loose rust, oil …etc. by:

a. Acid picking.
b. Abrasive shot blasting.

All in accordance with BS.4232 first quality as described in BS.534.

- Adhesion Test is required for lining and coating as described in BS.534.

Internal Lining:

All steel pipes OF 4", 6" and 8" ND. shall have internal lining EITHER:

- Cement lining according TO AWWA - C. 205 or BS. 534 or approved equal.
- Zinc galvanization (Hot Dip) according to Din. 2441 or approved equal, which shall be odorless and tasteless suitable for the passage of chlorinated potable water 0-3 p.p.m.cl_2.
- Non-toxic 100% solids Amine epoxy according to AWWA C210-03 (Liquid epoxy coating systems for the interior and exterior of steel water pipelines) or approved equal.
- Non-toxic fusion bonded epoxy according to AWWA C213-01 (for the interior and exterior of steel water pipelines) or approved equal.

Lining must be suitable for drinking water. Non-Metallic product for use in Contact with water must be in accordance with BS. 6920.

External Coating:

- External coating of steel pipes and fittings shall be polyethylene sheathing (reinforced type) according to DIN. (30670), designation: Reinforced sheathing (V).

- The polyethylene sheathing shall be applied at manufacturer's works (plant) extruded and melted on and homogeneous to steel pipes with API 5L-X42 for buried installation.
- Between the polyethylene sheathing and the pipe steel there shall be an adhesive film which is applied electro-statically.

- The polyethylene sheathing shall be made continues extrusion and the adhesive film shall be firmly bonded to the steel surface. The coating shall be spark-free when tested with a Holiday detector at 25000 volts. The minimum coating thickness shall be 3.0 mm for pipes of nominal diameters up to 20", and 3.50 mm for 24" diameter pipes.

- In addition to tests to DIN 30670 for coating and coating materials, the coating shall be tested for cathodic disbanding in accordance with ASTM G8. The polyethylene coating shall be capable of operating at a continuous temperature up to 50 C. without any effect on coating and bonding. The polyethylene and adhesive shall stop at 100mm plus the insert of the pipe for the spigot and 100mm for the end of the socket of

Protection of Lining and Coating:

- The lined and coated pipes shall be transported through climate, so the manufacturer must consider the choice of material.

- Protection of lined and coated pipes against damages during storage, transport and handling is required either by using straw or wood wool pads.

- The coating shall show no tendency of flow at a temperature of (70) degrees centigrade.

- The internal lining and the external coating for beveled ends pipes shall stop 6" from each end of the pipe.

- All welded and flanged joints of steel pipes shall be protected and coated with the same coating materials of the steel pipes.

Marking:

- The material shall be marked with the manufacturer's symbol or mark in addition to the code number, standard specification, and the inspector stamp. The pipes as well shall be stamped with the purchaser symbol, "YWC."

- Insulation Materials for Joints of All Pipes Sizes:
- Enough quantity of insulating materials shall be included to cover the joints and fittings after welding the pipes and its cost shall be deemed to be included in the respective unit price.

- The bidder must give full information, details; technical data required in the attached sheets and must also give full technical specifications of his bid in addition to manufacturer catalogue and standards, as well as the chemical and physical analysis.

ITEM	1	2	3
Diameter	4"	6”	8”
Nominal Diameter			
Outside Diameter			
Wall Thickness			
Working pressure			
Test pressure			
Wt./meter (bare)			
WT/meter with			
Lining & Coating			
Thick. Of lining			
Thick. of coating			
Length of pipe			
Standards			
Manufacturer			
Country of origin			
Welding process			
Type of welding			
Type of lining			
Type of coating			

3.4.2 Specifications for Welded Steel Pipes with Bevelled end for (10”) diameters and above:

a- The pipes shall be in accordance with (API - 5L, Grade of steel, x 42), or approved equivalent standards, high-tensile, longitudinally, or spirally welded steel pipes.

b -The wall thickness and the minimum mill-inspection test pressures shall be as follows:

Nominal dia. (ND) inch	Outside diameter (mm) (inch)		Wall Thickness (mm)	Test Pressure (kg/cm^2)
10 ¾”	273.10	10 3/4”	5.6	100
12 ¾”	323.9	12 3/4”	6.4	96
16”	406.40	16”	6.4	77
20”	508.00	20”	7.1	73
24”	610.00	24”	7.1	61
32”	813.00	32”	9.5	61

C - Working Pressures:

The maximum nominal pressure of all pipes shall not be less than the value stated in the scope of works and / or Drawings.

d - Beveled Ends:

End of pipes must be calibrated and beveled by 30º degrees (plus or minus 5º degrees) for electric fusion butt welding.

All welded and flanged joints of steel pipes shall be protected and coated with the same coating materials of the steel pipes

e- Average Length:

Pipes shall have an average length of 6 and / or 12 meters and as approved by the Engineer.

f- Internal Lining and External Coating:

The internal cement mortar lining shall be of 6.0 mm. and conform to all relevant requirements of BS. 534 / 1990 or AWWA. C.205 - 85.

The unlined and / or uncoated wall of the pipe shall be protected by suitable harmless approved bituminous or epoxy paint.

The internal lining thickness shall not be less than the minimum thicknesses given in the following table:

Nominal Diameter (ND) inch	Minimum thickness (mm) BS.534.1990	AWWA.C.205-85
10	6 (+2, -0)	6 (+3.2, -1.6)
12	6 (+2, -0)	8 (+3.2, -1.6)
16	7 (+2, -0)	8 (+3.2, -1.6)
20	7 (+2, -0)	8 (+3.2, -1.6)
24	7 (+2, -0)	10 (+3.2, -1.6)
32		10 (+3.2, -1.6)

External coating of steel pipes and fittings shall be polyethylene sheathing (reinforced type) according to DIN. (30670), designation: Reinforced sheathing (V).

The polyethylene sheathing shall be applied at manufacturer's works (plant) extruded and melted on and homogeneous to steel pipes with API 5L-X42 for buried installation.
Between the polyethylene sheathing and the pipe steel there shall be an adhesive film which is applied electro-statically.

The polyethylene sheathing shall be made continuous extrusion and the adhesive film shall be firmly bonded to the steel surface. The coating shall be spark-free when tested with a Holiday detector at 25000 volts. The minimum coating thickness shall be 3.0 mm for pipes of nominal diameters up to 20", and 3.50 mm for 24" diameter pipes.

In addition to tests to DIN 30670 for coating and coating materials, the coating shall be tested for cathodic disbanding in accordance with ASTM G8. The polyethylene coating shall be capable of operating at a continuous temperature up to 50 C. without any effect on coating and bonding. The polyethylene and adhesive shall stop at 100mm plus the insert of the pipe for the spigot and 100mm for the end of the socket of the pipe.

g- Marking:

The material shall be marked with the manufacturer's symbol or mark in addition to the code number, standard specification, and the inspector stamp. The pipes as well shall be stamped with the purchaser symbol, "YWC."

Insulation Materials for Joints of All Pipes Sizes:

Sufficient quantity of insulating materials shall be included to cover the joints and fittings after welding the pipes and its cost shall be deemed to be included in the respective unit price.

The bidder must give full information, details; technical data require in attached sheets and must also give full technical specifications of his bid in addition to manufacturer catalogue and standards, as well as the chemical and physical analysis.

ITEM	**1**	**2**	**3**	**4**	**5**	**6**
Diameter	**10”**	**12”**	**16”**	**20”**	**24”**	**32”**
Nominal Diameter						
Outside Diameter						
Wall Thickness						
Working pressure						
Test pressure						
Wt./meter (bare)						
WT/meter with						
Length of pipe						
Standards						
Manufacturer						
Country of origin						
Welding process						
Type of welding						
Type of lining						
Thick. Of lining						
Type of coating						
Thick. of coating						

ITEM	1	2	3	4	5	6
Diameter	**10”**	**12”**	**16”**	**20”**	**24”**	**32”**
Nominal Diameter						
Outside Diameter						
Wall Thickness						
Working pressure						
Test pressure						
Wt./meter (bare)						
WT/meter with						
Length of pipe						
Standards						
Manufacturer						
Country of origin						
Welding process						
Type of welding						
Type of lining						
Thick. Of lining						
Type of coating						
Thick. of coating						

3.4.3 SPECIFICATION FOR BLACK STEEL FITTINGS

a- Scope of Use:

The fittings must be made of seamless pipes and shall be in accordance with ANST (B.16.9).
The fittings shall be welded to black steel pipes type (API. 5L - X 42).

b- Fabrication of Fittings:

The fabrications of fittings shall be as follows:

1. Elbows must be fabricated by forging or by hot or cold forming of seamless pipes.
2. Reducers must be fabricated by hot or cold forming and annealing of seamless pipes.
3. Tees must be fabricated by forming of seamless pipe or by cold or hot forming and annealing of seamless pipes.
4. Caps must be fabricated by hot or cold stamping or forging of plates heat treated.

- Fabrication fittings by welding pieces of pipes are not accepted.

c- Materials of Fittings:

Elbows, Tees, Reducers etc. ... must be made of seamless pipe grade WPB. (ASTM. A 234) or approved equivalent.

d- Fittings Thickness & Pressure:

The minimum thickness of the black steel fittings shall be sufficient to withstand the pressure rating of their respective pipelines.

e- Elbows Bends:

The Elbows must be of long radius type, but short radius elbows can be offered as an alternative.

f- Reducers:

The reducers must be concentric. Thickness of each side shall be equal to thickness of related nominal diameter, if thickness of reduced size equal to the thickness of the bigger size, higher thickness will be accepted.

g- Straight Equal Tees:

The straight equal tees, in which the run and branch (outlet) is equal in nominal diameter, thickness must be equal to the thickness of its related nominal diameter.

h- Tees Reducing:

Tees Reducing, in which the Run is bigger than branch (outlet) in nominal diameter thickness of the run, must be equal to the thickness of its related diameter, thickness of the branch (outlet) must equal to its related nominal diameter.

i- Coating and Lining:

All fittings must be lined by corrosion proof materials and must be suitable for potable water.

The coating must be of the same coating material as the pipes. Coating and lining must stop at the beveled ends for the purpose of welding.

j- Marking:

Every fitting must be marked with:
- Trade mark.
- Nominal Diameter.
- Thickness.
- Standard.

k- Certificate of Compliance:

A certificate of compliance of required standards is required.

3.5HIGH DENSITY POLYETHYLENE PIPES

3.5.1 Technical Specifications

The polyethylene pipes shall conform to the requirements of Polyethylene (PE) pipes for water supply under pressure – Specification (ISO 4427-1/2:2007), (EN12201-1, EN12201-2), or equivalent in which a supplier must submit a copy of that standard and a proof of equivalency to the above specifications.

Material of pipes must be PE 100; raw material used shall be according to ISO4427 or equivalent standards and must be from the positive PE100+ Association list.

Conformity to standard certificate must be supplied at time of tender where this certificate must be issued from a certified third party and valid up to date.

The pipes should have the following properties:

- Pressure class: PN 16 According to contract documents).
- The Standard Dimension Ratio (SDR): SDR 11.
- Material Designation: PE 100.

3.5.2 Length of Pipes

The following table shows the length of the pipes according to the diameter.

Table 3.5.1.: Length of Pipe

Diameter of pipe (mm)	**Length of pipe (m)**
Up to 63	50 or 100
125	(50 or 100: coils) (upon request), Or
	(12 m: standard pipes) (for maintenance dept. uses) (upon request)

Diameter of pipe (mm)	Length of pipe (m)
180 and above	12 or standard pipes

3.5.3 Markings of Pipes

All PE pipes shall be indelibly marked at maximum intervals of one meter.

The marking shall show at least the following information:

- "YWC".
- Manufacture's name, logo and/or trademark.
- Dimensions (nominal diameter).
- Materials, material class (i.e., PE 100) and pressure class.
- Production period (date and code).
- "Water" to indicate that pipes are intended for potable water.
- Serial number.
- Batch number.
- Standard number.
- Standard Dimension Ratio (SDR).

For direct purchase procurements order the marking depends on the value of the procurements order.

3.5.4 High Density Polyethylene Fittings

Fittings Types

All fittings shall be installed using electro-fusion technology; table 6-1 shows the standards for the fittings.

Table 3.5.4-1: Standards for fittings

No.	Description	Installation/ Type	Standard No.	Testing method
1.	PE Connector (25mm,32 mm, 63 mm)	Electro Fusion	ISO 4427 or Equivalent	ISO 13955, ISO 13954, ISO 11413
2.	PE EF Collar (125mm, 180 mm,250mm,25 mm,32mm, 63mm)	Electro Fusion		

3.	PE Reducer	Electro Fusion		
4.	PE Adaptor (2" (63mm), 1" (32mm), 3/4" (25mm))	Electro Fusion-one side		
5.	PE Flange Adaptor (125mm , 180 mm, 250 mm)	Electro Fusion-one side		
6.	PE Tee b PE Tee (63X63X63mm, 32X32X32mm, 25X25X25mm, 63X63X32 ,63X63X25,32X32X25) b	Electro Fusion		
7.	PE EF Tee (socket) or saddle branch (line to line) (180X125, 180X180,)	Electro Fusion		
8.	PE End Cap (63mm, 32 mm, 25 mm, .)	Electro Fusion		
9.	PE Elbow 63mm	Electro Fusion		
10.	PE EF Elbow (socket) (180 mm, 125mm, 250mm .....)	Electro Fusion		
11.	Electro fusion end cap (125mm, 180mm)	Electro Fusion		
12.	PE EF Tapping (125*25, 180*25, 125*63, 125*32,63*32 ,63*25,)	Electro Fusion		
13.	Connector (25 mm, 32 mm) c	Compression	ISO 14236	ISO 3501,ISO 3503, ISO 3458,ISO 3459

a. Adapter is used to connect Polyethylene pipes to pipe made from another material, and it should be compression from one side and male threaded from the other side.

b. It is not allowed to use the wieldable outlet Kit.

c. When the installation is near to the customer cabinet, whether the connection is straight connection or using elbow, compression fittings should be used.

Connection Type

Table 3.6.4-2: Connection Type

Diameter of pipe (mm)	Connection Type	Standard
25-125	Mechanical or Electro-fusion	According to tables: 2.2 and 2.3
125 and above	Butt welding or Electro-fusion	Machine: ISO 12176 ISO 13953, ISO 11414

The Butt welding machine must be fully automatic.

Design Requirements

The design of fittings must ensure that the wires which coiled around the inner part of electro-fusion fittings are built into the body of fittings, not separated from it.

The cutter of PE EF Tapping shall be certified for potable water use.

3.6ELECTROMAGNETIC FLOW METERS

- The Electromagnetic water meters shall comply respectively the latest version of ANSI/AWWA Standard.
- The manufacturer must be ISO 9001:2008 series or equivalent certified.
- The Manufacturer must be ISO 14001: 2004 certified and present proof of certificate.
- To ensure continuous accurate flow measurement, flowmeters must be calibrated, the manufacturer's calibration facilities shall be accredited according to ISO/IEC 17025 accredited calibration services.
- The calibration facilities shall be traceable to the National Institute of Standard and Technology (NIST).
- The accrediting bodies shall be a member of the International Laboratory Accreditation Cooperation (ILAC) to ensure the manufacturer's ability to perform accredited calibration of flow meters.
- The complete meter assembly and signal converter (the flow meter, the cable, and the electronics) shall be wet accuracy tested and calibrated under the flowmeter operating conditions as specified in the technical specification (flow, density, temperature, volume and pressure)
- Self-calibrating instruments and factory calibration no longer necessary.
- Suitable for vertical, horizontal, or inclined installation
- In-line meter.

- No moving parts and no obstruction in the line.
- Bi-directional flow measurements.
- No measurement of air.
- Drinking water approval Complying with NSF/ANSI Standard 61, WRAS, or equivalent standard
- The interface and software for the water flow meter should be universal and not limited to certain providers.

3.6.1 Marking

Each meter shall be marked on the casing or display with the following information:

- At least one arrow to indicate the direction of flow.
- Nominal thread size
- Permanent flow rate
- Working Pressure
- Model identification
- Year of manufacture
- Serial number
- Approval or registration number
- Manufacturer's name
- Initials of PURCHASE NAME LLC are permanently affixed on the meter case.
- Tender number.

If not indicated differently, the information shall be cast onto the body or engraved on the lid or painted onto the counter housing, or otherwise suitably marked.

3.6.2 Third Party Inspection Test

To ensure continuous accurate flow measurement, flowmeters must be calibrated, the manufacturer's calibration facilities shall be accredited according to ISO/IEC 17025 accredited calibration services.
The calibration facilities shall be traceable to the National Institute of Standard and Technology (NIST).
The accrediting bodies shall be member of the International laboratory Accreditation Cooperation (ILAC) in order YWC to ensure the manufacturer ability to perform accredited calibration of flow meters.

The complete meter assembly and signal converter (the flow meter, the cable and the electronics) shall be wet accuracy tested and calibrated under the flowmeter operating conditions as specified in the technical specification (flow, density, temperature, volume and pressure)

The winning bidder is requested to provide in his technical offer three options for accredited international third-party companies; YWC will choose one of them to perform the needed inspections.

The winning bidder is requested to call the chosen company to attend and witness the calibrations and tests to be done at the manufacturer's testing facilities or any place the manufacturer chooses.

The call for Third Party Company must include the main task of this company to ensure 100% complete matching between the product and what is required in tender/contract documents in terms of standards, specifications, and conditions.

A sample (size specified in the table below) is to be randomly chosen by the owner or third party representatives for the above-mentioned calibrations and tests; those tests must be witnessed by the third part representative and attended by (3) three representatives of YWC.

Acceptance/rejection criteria for those tests:

- Static pressure as per applicable AWWA standard.
- Error of indication (accuracy),

The meter shall be tested for accuracy before and after it has been pressure tested to determine whether has been any distortion that could affect the registration.

Test Sample Size (For each DN requested in the BoQ)

The number of Samples depends on the number of meters in the BoQ, as indicated in the table below:

Quantity as per BoQ	Number of Samples to be tested
Number of meters ≤5	1
5< Number of meters ≤20	2
20 < Number of meters ≤50	3
50 < Number of meters ≤100	4
Number of meters≥100	5% of meters' number

- The inspection will include visual inspection, testing the accuracy under rated operating conditions at zero- and 45-degrees rolling angles in addition to the Vibration effect.
- Failure to achieve these criteria will result in rejecting the whole batch with the same sequence of serial numbers will be rejected and the winning bidder to manufacture a new batch and all the above procedure will be repeated.
- The winning bidder is requested to inform YWC in written of the production time schedule and of calibration and testing time, duration and location in advance, allowing enough time (not less than 2 months) for travel arrangements.
- The Winning bidder shall provide YWC with the accuracy calibration certificate and calibration data for each flowmeter (full reports and results of all tests) YWC may require the Winning bidder to carry out any test and/or inspection not required by this Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications and standards under this Contract, provided that the Winning bidder's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to this Contract Price. Further, if such test and/or inspection impede the progress of manufacturing and/or the Winning bidder's performance of its other obligations under this Contract, due allowance will be made in respect of the delivery dates and completion dates and the other obligations so affected.
- The goods shall be inspected before each shipment; the winning bidder is requested to call the chosen Third Party Company and YWC's representatives to attend and witness the inspection to verify quality, quantity, packing, marking and loading and delivery to YWC/Hofa warehouse.
- The winning bidder shall bear all costs of inspection, including (fees of third party, all travelling and accommodation plus per diems for the YWC's representatives, the cost should be included in the tender unit price).
- The third-party inspection tests certificates shall include the following stages:
    - Testing at the factory
    - Packing, And the kind of inspection:
    - Review document
    - Witness inspection at least (visual and tests), and the test certificates must show the results.
    - Before dispatching the supplies, another visual inspection shall be done in respect of proper packing and to certify the Bill of Lading for each shipment.
    - Loading and proper delivery to YWC/Hofa warehouses.
- Acceptance and approval from JISMO are the winning bidder sole responsibility.

3.6.3 Operating conditions:

Ambient temperature: $-10^{o}C$ to $+60^{o}C$

Fluid Type: Drinking Water

Maximum operating water temperature: 50°C

Nominal Pressure: 10,16, 25 bar. (Nominal pressure shall be as specified in the bill of quantity).

3.6.4 Power Supply

The power supply shall be one of the following options and shall be specified in the bill of quantities:

- Main power supply: Meter shall have the ability to connect with 230 VAC 50 Hz single-phase AC supply with Backup Battery for three years to work during interruption of power supply from electric network shall be provided.

- Battery operated: Site replaceable batteries with a lifetime not less than five years.
- The operation of replacing the battery shall be carried out in a way that does not necessitate breaking the statutory metrological seal nor tempering the Ingress protection of the flowmeter.

3.6.5 Flow Performance

- flow velocity: -10 to 10 m/s (Bi-directional (Forward and reverse flow direction))
- Accuracy (Max. Permissible error): ±0.5% of rate from 0.3 m/s to 10 m/s.
- Each flow meter shall be tested and calibrated at min. 5 points under the operating conditions.
- Repeatability: 0.1% of span or less.
- Upstream and downstream piping: install the sensor with a maximum of five straight pipe diameters upstream and two pipe diameters downstream from the electrode plane.

3.6.6 Meter body and detector

Sensor Technology:	Electromagnetic.
Mounting type:	In line type.
End fittings:	The metering tube end connections shall be carbon steel flanged According to EN 1092-1, ISO 7005 or equivalent
Media conductivity:	≥ 5 μS/cm (Potable Water)
Measuring Tube Material:	Stainless steel 304
Insulating liner material:	EPDM lining, Neoprene, Hard Rubber, Rilsan, Polyurethane, Elastomer, PTFE lining or any approved material for potable water. WRAS, NSF/ANSI 61 approved or equivalent
Tube housing:	Carbon steel with proper outside/inside corrosion protection
Enclosure head rating:	IP68 minimum
Electrodes Material:	Self-cleaning 316L SST, Titanium, Hastelloy or better

3.6.7 Converter unit (Transmitter)

Enclosure Rating:	IP68 for compact version, IP67 for transmitter and IP 68 for sensor (remote version)
Mounting:	Compact or remote installation with factory mounted double shielded twin-core cable or higher with length up to 25m
Display:	Alphanumeric LCD display with enough characters to show flow reading totalized forward flow, reverse flow, alarms (leak detection, no flow detection, high flow detection, tamper Detection,…), flow direction, battery lifetime indicator or power supply indicator and history data programming keypad, with m^3/h for flow and m^3 for totalized flow.
Language:	English

Anti-tampering protection: The flowmeter shall be protected against tampering by means of a metrological seal and software protection (Password protection for the total amount, main setting, and calibration factor)

Electrical Protection: Transient protection circuitry.

Protection against reverse polarity when battery powered.

Housing material: Robust plastic with glass window, Powder-coated aluminum with glass window or other corrosion resistant metal

Data Storage

Flow meter settings and Totalized flow: shall be stored in nonvolatile memory.

Data Logging: Internal data logging for main parameter: flow (forward and reverse), total flow, alarms, and meter status.

3.6.8 Communications

Option 1: The main-powered (AC powered) meter shall give 4-20 mA Analogue Output

(HART protocol).

Option 2: The battery-powered meter shall be equipped with data Logger and GSM/GPRS Module.

The communication module must be of open protocol with a possibility to cooperate with the equipment from various manufacturers.

3.6.9 GROUNDING (EARTHING)

- The meter shall furnish with suitable earthing flange or Grounding rings as recommended by the manufacturer.

Data Logger and GSM/GPRS Module

- The battery-powered flow meter shall be equipped with data logger and 3G GSM/GPRS module as separate device or built in the converter (transmitter) unit compact or remote installation with IP68/NEMA 6P enclosure and factory mounted cable.
- Data logger and GSM/GPRS module shall be equipped with built-in high-performance antenna designed for the installation in manholes.

- It shall import the logged data (accumulated total flow, instantaneous flow, and alarms) from EMF and export it through GPRS provider to data acquisition station and vice versa.
- Data logger capacity shall be 3 months at 15 minutes logging interval these parameters and data shall be password protected.
- Transmitting data to the remote workstation shall be programmable by time schedule and as requested by the operator or in fault occurrence.
- It shall be equipped with dedicated replaceable battery with lifetime not less than five years.
- The battery shall be replaced without loss of logger contents enabling smooth switchover.
-

User interface

The data logger shall be supplied with software to configure the data logger
shall install the software to configure the data logger or with a web solution that can fulfill real time connectivity with Utility.
The Software can be integrated with SCADA system and AMR/AMI system at the same time.
Software

Install the Utility Full licensed software with following requirements:
User friendly ensuring easy installation, configuration and use.
The software shall be installable on commonly used operating systems as windows 2008 or 2012.

- Future expandability to add new meters without complicated process.
- The software shall be capable to configure the data pulling rate and a manual invoke to get data any time from any flow meter as per operator request.
- Meter can be read on demand.
- The following views shall be provided as minimum:
  - List view showing the data for all meters. (Flow (m^3/hour), Totalizer, Flow Direction (forward / reverse), Empty Pipe detection, Meter Battery capacity, Meter fault.
  - Alarm view.
  - Tamper detection
  - Trend view for flow rates
  - Configuration view.
  - Data memory capacity
- The software shall export the data in different formats acceptable for data utilization.
- The solution system shall have built-in and ad-hoc reporting capabilities. Report formats must be user-customizable, using a built-in report writer or a third-party commercially available report. Reports must be able to be directed to a printer, screen or data file. Reports shall be in Arabic and English.
- Full licensed Server software able to operate and manage a minimum 300 flow meters with not less than 10 concurrent client licenses.

- The proposed software solution shall be of the latest version and has a lifetime of not less than 5 years.
- User friendly, ensuring easy installation, configuration, and use or limitations and preferably without license additions.
- Future expandability to add new meters without complicated process.
- The software shall be capable to configure the data pulling rate and a manual invoke to get data any time from any flow meter as per operator request.
- Software shall be an open protocol type with the ability to communicate to various manufacturers and not limited to a certain protocol, not a certain manufacturer.

Documents to be provided at Time of Tender

- Quality assurance certificate (ISO 9001).
- Environmental management systems ISO 14001: 2004 certificate.
- Potable water certificate from Third Party NSF 61 or equivalent standard.
- The manufacturer's calibration facilities accredited certificate according to ISO/IEC 17025.
- The accrediting bodies registration membership (ILAC MRA Signatories) of the International laboratory Accreditation Cooperation (ILAC).
- The certificate should be certified from Jordan Institution for Standard and Metrology (JISM) with an official letter, the letter should be renewed annually.

Document to be provided upon delivery

The bidder shall provide all the following technical documents and certificates as minimum:

- Certificate of origin.
- Packing list.
- Third Party inspection certificates.
- Flow meter installation and operation manuals.
- Maintenance manual.
- Precise rules for the replacement of the battery locally.
- Flow meter user manual.
- Data logger and GPRS installation and configuration manual.
- Software user manual.
- Traceable calibration certificate for each flow meter.
- Potable Water Certificate.

The bidder should train and supervise the Utility staff to implement the system to ensure correct water meter installation, data logging, transfer data to the Utility meter server, and convert the received data to a convenient form like SQL.

3.7PRESSURE REDUCTION VALVE (PRV)

3.7.1 Design

The Pressure Reducing Valve shall conform to the latest version of AWWA Standard C530 Pilot-Operated Control Valves.
The Pressure Reducing Valve shall be a pilot operated diaphragm valve designed to automatically reduce higher inlet pressure to a steady lower downstream pressure regardless of varying flow rates and varying inlet pressure.

The main valve shall be a hydraulically operated, single diaphragm actuated, globe pattern valve. The valve shall contain a disc and diaphragm assembly that forms a sealed chamber below the valve cover, separating operating pressure from line pressure.

The main valve shall consist of three major components: the body; the cover and the internal trim assembly.

The valve components shall be accessible and serviceable without removing the valve from the pipeline.

All necessary repairs shall be made from the top of the valve while the body remains in line.

For valves that must provide a large range of downstream flows that cannot be covered by the main valve, provide a low capacity bypass pilot valve assembly mounted on the main valve with settings coordinated with the main valve settings to allow the main valve to close completely and the bypass to provide low flow pressure control.

3.7.2 Construction

The main valve body and cover shall be Ductile Iron ASTM A536. Grade 65-45-12 or higher, and all internal cast components shall be Ductile Iron or 316 Stainless Steel.

Flange connection shall be according to EN 1092-2, ISO 7005-2 PN PN16/PN25 or equivalent.

All Ductile Iron components, including the body and cover, shall be inside and outside fusion bonded epoxy coated with a minimum thickness of 250 µm. Epoxy shall be applied in accordance with AWWA C550.

All main valve throttling components (valve seat and disc guide) shall be bronze or Stainless Steel.

All stems, nuts and spring shall be stainless steel.

The disc shall be made of Bona-N rubber or EPDM

The disc, seals and diaphragm assembly must be guided by two separate bearings, one installed in the valve cover and one concentrically located within the valve seat, to avoid deflection and assure positive disc-to-seat contact.

The diaphragm shall be constructed of nylon reinforced Buna-N or EPDM and shall not seal directly against the valve seat and shall be fully supported by the valve body and cover.

Direct sealing diaphragm valves may be considered in low -pressure system.

The technical catalogue shall contain the cavitation, flow and performance charts.

Where there is a potential for noise, vibration and erosion damage from cavitation, the valve manufacturer shall provide a computerized sizing and cavitation analysis, using independent third-party software. Cavitation analysis shall provide the status of cavitation based on operation conditions as to valve size, flow rate requirements and pressure conditions. The cavitation analysis shall also provide information as to Cv factor, percent of valve lift, cavitation index and noise level.

In order to eliminate the potential for valve cavitation under the operating conditions, the pressure reducing valve shall be equipped with Anti-cavitation control trim made of 316 stainless steel and shall be engineered to be optimized to the actual operational parameters of the control valve application and warranted to perform correctly and prevent main valve cavitation damage under the operating conditions.

The valve shall be certified as a complete drinking water valve according to NSF, WRAS, or equivalent recognized standards.

- **Pilot System**

The valve shall be operated by a system of pilot controls necessary to perform the specified function.

The pilot system shall be factory pre-piped, installed on the main valve and tested as an assembly and factory adjusted to customer requirements.

In addition to the necessary pressure regulating pilots, the system shall incorporate a strainer, Position Indicator, and opening and closing speed control valves.

Enough isolating valves and pipe unions shall be provided to facilitate the removal and maintenance of the pilot system without disturbing the main valve.

The pilot system shall be equipped with a second pilot for the intermittent supply applications. This secondary pilot system shall act as a regulator for turbulence, and extreme pressure variations that occurs at the beginning of the pumping and until the pressure and flow is stable.

Pilots, controls, piping, and fittings shall be corrosion resistant Stainless Steel, copper, bronze, or brass

3.7.3 Controller

I. Installation and Commissioning

All PRV Control Systems must be quick easy and simple to install.

It is required that the PRV Control System can be rapidly serviced with replacement components, these replacement components should be programmed with a duplicate configuration remotely via the Host Software Suite or locally using a field programming device.

The PRV control system shall be supplied with either a hydraulic actuator or electrical actuator as the interface between the electronic controller and any brand of the hydraulic PRV.

The electric actuator shall be sealed and watertight to IP68

The PRV control system adds the ability to increase the outlet pressure proportional to pipe friction. This means that the valve can maintain a relatively constant pressure at a remote location (critical point) under varying flows.

3.7.4 Control Models

The PRV Control Systems must provide accurate and reliable control in several different control modes.

1. PRV Control System should be able to modulate the PRV control and maintain the required network pressure target without the requirement for a flow signal input.

2. PRV Control System should provide control of network pressure against flow, time, and a combination of flow/time and from direct feedback from CP data.

3. The system must use adaptive algorithms, which automatically respond to changing network characteristics and proportionally modify control models in order to maintain required levels of service but optimizing potential opportunities to reduce pressure.

4. The PRV Control System must be able to accept inputs from the critical point logger.

5. PRV Control System must be able to automatically adjust pressure in response to changing demand to ensure that the “critical point” of the network always receives

sufficient pressure (for PRVs information, refer to the enclosed schedule "PRVs data").

3.7.5 PRV Control

PRV Control Systems must operate as to smoothly and efficiently adjust the Pressure Reducing Valve without causing pressure surges or cavitation.

1. It should be possible for the PRV Control System to finely adjust the PRV outlet pressure to a resolution of 0.1m, ensuring smooth and efficient adjustment of the outlet pressure to reduce the possibility of inducing pressure surges.
2. In fault conditions, the PRV Control System should be able to directly fully open or close the valve in response to extreme or emergency situations.
3. A pressure failsafe setting needs to be configured in the PRV Control System so output pressure never falls below an acceptable level. Mechanical fail-safes must be installed to ensure sufficient network pressure even in extreme failure conditions

3.7.6 Network Data/Logging

All PRV Control Systems components must have internal data logging.

- The PRV Control System must incorporate an advanced bi-directional communication system.
- PRV Control System records data from PRV inlet pressure, PRV outlet pressure and Flow.
- Logging and Dial-in frequency must be remotely configurable from the Host Software Suite.
- Each logging component should have the ability of fast logging to 1 second, this is to enable accurate minimum night flows to be calculated/investigated of network events and should be in addition to the normal logging channel.
- A dedicated telemetry data logger shall be installed at the Critical Point (point of lowest pressure in the pressure zone). This data logger must record pressure and have the ability to transmit data to the Host every 5 minutes.
- Data from all logged parameters must be accessible through a web interface from any web-enabled device.
- Pressure Transducer should have an accuracy of 0.1% and a repeatability of 0.1%, full scale.
- Flow input needs to have options to accept both pulse and analogue (4-20mA) inputs. Flow logging needs to have count and event modes.

3.7.7 Alarms

All PRV Control Systems components should have alarm routines to provide early warning of network events.

1. Alarms must be remotely configurable via the Host Software Suite or locally using the field programming device
2. All alarms should be able to be configured to send to the Host Software Suite and to individual hand phone numbers via SMS.
3. Alarms should be able to be configured as; Rate of Change, Profile, Minimum Night Flow and Threshold. PRV Control System should be able to accelerate the rate of data dial-in upon alarm. Dial-in rate is increased if an alarm situation is triggered.

3.7.8 Communications

All PRV Control Systems components should have two-way communications.

1. All configuration parameters, including exact regulated pressure, shall be programmed remotely via the Host Software Suite.
2. Communications should be available via 3G, GPRS and SMS.
3. Each logging components should be able to be configured to send data to the host down to a frequency of 5 minutes.
4. PRV outlet target pressure should remotely adjustable from any web-enabled device.
5. Alarms, Logged Data shall be sent to the Host Software Suite to a minimum frequency of every 5 minutes.

6. PRV Control System should be able to operate autonomously and not be susceptible to loss or impaired control due to temporary or permanent failures to the GSM network. PRV Control System shall continue to control according to the latest flow and time related pressure models indefinitely in the event of communications failure.

II. Host Software Suite

A Host Software Suite is required to manage the PRV Control System

1. The Host Software Suite needs to be web-based with access available to any web-enabled device.

2. Host Software Suite needs to be able to be installed on a suitable server installed and managed locally, independent and isolated from access via any third party. This server will be owned and managed by the user.
3. Host Software Suite will offer Control, Monitoring, Database Management and Display functions.
4. Individual access to Control functions will be granted by the system administrator. The Host Software Suite will allow the administrator to grant individual users different levels of system access.
5. Technical Specifications -3.7.8 -II. Host Software Suite (The Host Software Suite can be integrated with existing Yarmouk water SCADA system.

III. Power Requirements

Both the PRV Control System and the Critical Point Logger require independent power supplies

The PRV Control system shall have ability to connect with 240 VAC 50 Hz. Battery operated is optional and should be priced separately.

The Critical Point Logger shall be battery operated.

1. All battery shall be with an expected lifetime under normal operation of 5 years.
2. Batteries can be installed internally or externally of the PRV Control System and CP logger.
3. Low battery alarms must be generated by all components to allow for predictive maintenance. This alarm should be triggered more than a month before battery depletion. Battery voltage shall be transmitted to the Host Software Suite as part of the data message.

IV. Physical

Both the PRV Control System and the Critical Point Logger require to robust and suitable for installation in underground chambers.

1. Operating temperature should be from -15^{o}C to +60^{o}C

Ingress protection is to IP68, fully submersible. PRV Control System should operate when totally submersed without the requirement of a breather.

3.7.9 Marking

Markings shall be cast on the body with raised letters or provided on a corrosion-resistant plate. The markings shall show the valve size, manufacturer, pressure class, model number or serial number, and year of manufacture.

3.7.10 Testing

The pressure reducing valves shall be tested (Performance test, Seat leakage test and Valve body hydrostatic test) according to AWWA C530 requirements.

The manufacturer shall provide a certified statement that proof-of-design tests were performed as described in the standard and all requirements were successfully met.

3.7.11 Document to be submitted during the tendering:

- Potable water certificate from Third Party.
- AWWA 530 conformity or self-declaration of the required standard approved in USA.
- All required technical data sheets and technical catalogs that includes but not limited to (dimensional drawings, cavitation, flow and performance charts.)

3.7.12 Document to be submitted on delivery:

- Test result Certificates.
- The cavitation analysis. (If required)
- Certificate of Origin.
- Installation manual.
- Operation and maintenance manual.
- Precise rules for the replacement of the battery locally.
- GPRS installation and configuration manual.
- Software user manual.
- Warranty certification from manufacturer

3.8 STRAINER

- The strainer shall be in-line top cover type, the top cover can be removed without taking strainer out of the pipeline, the body shall be equipped with a stainless-steel cap tapped and plugged for drain.

- Strainer mesh size shall be as recommended by the manufacturer of flow meter, pump or control valve and shall be max. 2mm.

- The strainer body and cover shall be made of ductile iron GGG40, GGG50 or equivalents.

- Cover seal shall be made of Buna-N or EPDM suitable for potable water

- Strainer shall be made of 316 stainless steel with ductile iron frame.

- All fasteners shall be made of stainless steel.

- Flanged ends shall be flanged according to ISO 7005-2, EN 1092-2 PN 10, PN16 and PN25 bars according to the Bill of Quantities.

- The strainer shall be tested and certified as a complete drinking water according to NSF 61, WRAS, or equivalent recognized standards.

The body cover and strainer frame shall be coated with fusion bonded epoxy, both interior and exterior. Epoxy shall be applied in accordance with AWWA C550 or epoxy powder coated according to EN14901 with minimum 250µm and shall be NSF61, WRAS certified or equivalent recognized standards.

3.8.1 Marking:

The strainer size, pressure rating, year of manufacture and manufacturer's name & model shall be cast onto the strainer body or be on a permanently attached nameplate.

الجزء السادس

جداول الكميات

7. PART 7-BILL OF QUANTITIES

7.1 Other Documents

The Conditions of Contract and the Specification shall be read in conjunction with the Bill of Quantities.

7.2 Item Description

The item descriptions in the Bill of Quantities are only in sufficient detail to ensure identification of the Supplies described in the Specification. Description of the Goods in the Specification is not necessarily repeated in the identifying descriptions of the items in the Bill of Quantities.

Reference clause numbers set against any items in the Bill of Quantities indicate clauses in the Specification in which Goods are described.

7.3 Weights, Measures and Abbreviations

Metric System
Except where expressly shown to the contrary, the metric system of weights and measures shall apply throughout the Contract. The following weights and measures abbreviations are used, inter alia:

Abbreviation	Unit	Abbreviation	Unit
A	Ampère	m^3	cubic meter
h	hour	V	Volt
m	meter		

7.4 Other Abbreviations

Additional abbreviations are used in the Bill of Quantities and elsewhere in the Contract Document, as given in the table below:

Abbreviation	Term	Abbreviation	Term
%	per cent	JOD	Jordanian Dinar
AC	alternating current	KTW	Kunststoffe und Trinkwasser
BS	British Standard	LCD	liquid crystal display
CD-ROM	compact disc - read only memory	LED	light emitting diode
CIF	cost, insurance and freight	NBR	nitrile butadiene rubber
DIN	Deutsches Institut für Normung	no.	number (quantity)
DN	nominal diameter	PE	polyethylene
DVGW	Deutscher Vereingung des Gas- und Wasserfaches	PN	nominal pressure (rating)
EKB	electrostatic epoxy resin	USB	universal serial bus
EPDM	ethylene propylene diene monomer	UV	ultra-violet
HDPE	high density polyethylene	YWC	Yarmouk Water Company
IP	ingress protection		

7.6 CUSTOMS DUTIES AND LOCAL TAXES

Further to the requirements of the Conditions of Contract concerning customs duties and local taxes, the costs of all Jordanian customs duties and local sales taxes (General Sales Tax) and other public charges in the Hashemite Kingdom of Jordan shall NOT be borne by the supplier.

جدول الكميات: توريد المواد لمستودعات شركة مياه اليرموك–حوفا

الرقم	بيان الاعمال	وحدة الكيل	الكمية	سعر الوحدة		المبلغ الاجمالي	
				فلس	دينار	فلس	دينار
	توريد المواد التاليه الى مستودعات شركة مياه اليرموك–حوفا : يجب على المقاول تقديم وتوريد المواد المذكورة في هذا الجدول الى مستودعات شركة مياه اليرموك – حوفا ومدة التوريد لجميع البنود هي خمسة اشهر تبدأ من تاريخ تبليغ قرار الاحالة						
1	توريد الى مستوعات حوفا وتسليم مواسير دكتايل C40 قطر 400 ملم	م.ط	21,500				
2	توريد الى مستوعات حوفا وتسليم مواسير دكتايل C40 قطر 300 ملم	م.ط	11,000				
3	توريد الى مستوعات حوفا وتسليم مواسير دكتايل C40 قطر 200 ملم	م.ط	2,100				
4	توريد الى مستوعات حوفا وتسليم مواسير دكتايل C40 قطر 150 ملم	م.ط	3,300				
5	توريد الى مستوعات حوفا وتسليم مواسير دكتايل C40 قطر 100 ملم	م.ط	4,500				
6	توريد الى مستوعات حوفا وتسليم مواسير بولي اثيلين قطر 125ملم	م.ط	500				
7	توريد الى مستوعات حوفا وتسليم مواسير بولي اثيلين قطر 63ملم	م.ط	2700				
8	توريد الى مستوعات حوفا وتسليم هوايات (Air – Double orifice Valve) قطر 80 ملم بضغط اسمي 40 بار	عدد	20				
9	توريد الى مستوعات حوفا وتسليم محابس قطر 6" بضغط اسمي 40 بار	عدد	7				
10	توريد الى مستوعات حوفا وتسليم محابس قطر 300ملم بضغط اسمي 25 بار	عدد	4				
11	توريد الى مستوعات حوفا وتسليم محابس قطر 300ملم بضغط اسمي 40 بار	عدد	2				
	المجموع ينقل لما بعده						

الرقم	بيان الاعمال	وحدة الكيل	الكمية	سعر الوحدة		المبلغ الاجمالي	
				فلس	دينار	فلس	دينار
12	توريد الى مستوعات حوفا وتسليم محابس قطر 200ملم بضغط اسمي 25 بار	عدد	3				
13	توريد الى مستوعات حوفا وتسليم محابس قطر 200ملم بضغط اسمي 40 بار	عدد	2				
14	توريد الى مستوعات حوفا وتسليم محابس قطر 150ملم بضغط اسمي 25 بار	عدد	5				
15	توريد الى مستوعات حوفا وتسليم محابس قطر 150ملم بضغط اسمي 40 بار	عدد	2				
16	توريد الى مستوعات حوفا وتسليم محابس قطر 100ملم بضغط اسمي 25 بار	عدد	20				
17	توريد الى مستوعات حوفا وتسليم محابس قطر 2" بضغط اسمي 25 بار	عدد	11				
18	توريد الى مستوعات حوفا وتسليم مخففات ضغط قطر 300ملم ضغط 25 بار شاملا المحابس عدد (2) قطر 300 ملم ضغط 25 بار	عدد	3				
19	توريد الى مستوعات حوفا وتسليم مخففات ضغط قطر 200ملم ضغط 25 بار شاملا المحابس عدد (2) قطر 200 ملم ضغط 25 بار	عدد	3				
20	توريد الى مستوعات حوفا وتسليم مخففات ضغط قطر 150ملم ضغط 25 بار شاملا المحابس عدد (2) قطر 150 ملم ضغط 25 بار	عدد	3				
21	توريد الى مستوعات حوفا وتسليم مخففات ضغط قطر 100ملم ضغط 25 بار شاملا المحابس عدد (2) قطر 100 ملم ضغط 25 بار	عدد	6				
22	توريد الى مستوعات حوفا وتسليم عدادات مياه electromagnetic flowmeter قطر 200 ملم ضغط 25 بار	عدد	2				
23	توريد الى مستوعات حوفا وتسليم عدادات مياه electromagnetic flowmeter قطر 150 ملم ضغط 25 بار	عدد	17				
24	توريد الى مستوعات حوفا وتسليم عدادات مياه electromagnetic flowmeter قطر 100 ملم ضغط 25 بار	عدد	7				
	المجموع النهائي						

Signature & Stamp of the Supplier: ……

DEVIATIONS FROM SPECIFICATIONS

It is assumed that the goods offered shall conform to the technical specifications listed herein, unless deviations are listed explicitly in this schedule.

The Purchaser may waive any minor informality, non-conformity or irregularity in an offer that does not constitute a material deviation, provided such waiver does not prejudice or affect the ranking of any Tenderer. Major deviations in the opinion of the Evaluating Committee will render the bid non-responsive.

Signature & Stamp of the Supplier: ……

الجزء السابع

النماذج

نموذج عرض مناقصة

Bid form

الرقـم:_____

التاريخ:_____

السادة شِركة مياة اليرموك

بناءً على دعوة العطاء رقم ( ) ووفقاً لتعليمات دعوة العطاء والشروط العامة والخاصة والمواصفات المرفقة بها فإنني أقدم عرضي ، شركة_____والتزم بتوريد المواد المعروضة من قبلنا بالأسعار والشروط العامة والخاصة وتعليمات دعوة دخول الشراء/العطاء والمواصفات المبينة في هذا العرض.

وأنني ألتزم بأن يبقى هذا العرض قائماً لمدة (120) يوماً اعتباراً من التاريخ المحدد من قبلكم كآخر موعد لإيداع العروض، علماً بأن إجمالي عدد المواد المناقص عليها من قبلنا هو (____ ____) مادة، وأن إجمالي قيمة المناقصة هو (_____) دينار أردني، وقيمة كفالة الدخول المقدمة مع هذه المناقصة هي (_____) دينار أردني.

اسم المناقص :- _____

التوقيـع:- _____

الخـاتـم:- _____

العنوان (_____) ص.ب (_____) رمز

بريدي (_____)الهاتف (_____) الفاكـس (_____) البريد الالكتروني(_____)

المرفقات : أبين فيما يلي جميع المرفقات التي يتكون منها عرضي.

1-

2-

تعليمات :-

1- يجب تعبئة هذا النموذج بالكامل و أن يرفق بالعرض عند تقديمه إلى الشركة.

نموذج العقد / الاتفاقية

حررت هذه الأتفاقية في هذا اليوم ( ) من شهر ( ) لعام ( ) بين صاحب العمل: شركة مياة اليرموك على اعتباره الفريق الأول، وبين المورد ..... على اعتباره الفريق الثاني لما كان الفريق الأول راغبا" في التعاقد مع شركة متخصصة لتامين احتياجات شركة مياة اليرموك ولما كان قد قبل بالعرض الذي تقدم به الفريق الثاني للعطاء ( )

قد تم الأتفاق بين الفريقين المتعاقدين على ما يلي:

1- يكون للكلمات والتعابير الواردة في هذه الأتفاقية نفس المعاني المحددة لها في الشروط العامة في دعوة العطاء والمشار اليها فيما بعد.

2- تعتبر الوثائق المدرجة فيما يلي جزءا" لا يتجزأ من هذه الأتفاقية وتعتبر قراءتها وفهمها في مجموعها وحدة متكاملة وهذه الوثائق هي:

- **قرار الأحالة.**
- **الشروط العامة والخاصة**
- **عرض المناقصة.**
- **المواصفات.**
- **اية ملاحق للعطاء تصدر قبل توقيع العقد.**

3 - القيمة الاجمالية للعقد :----------

مدة التوريد ----------

4- إزاء تعهد الفريق الأول بدفع المبالغ المستحقة للفريق الثاني وفقا" لهذه الأتفاقية يتعهد الفريق الثاني بتنفيذ جميع الأعمال المطلوبة منه في هذه الأتفاقية وإنجازها وتسليمها وصيانتها وفقا" للشروط والمتطلبات الواردة في هذه الأتفاقية.

5- إزاء قيام الفريق الثاني بتقديم جميع الأعمال المطلوبة منه بموجب هذا العطاء, يتعهد الفريق الأول بأن يدفع الى الفريق الثاني الأسعار والأجور المذكورة في المواعيد وبالأسلوب المحدد لذلك في هذه الأتفاقية.

بناء على ما ذكر اعلاه جرى توقيع هذه الأتفاقية وإبرامها في التاريخ المذكور أعلاه.

الفريق الأول	**الفريق الثاني**
(صاحب العمل)	**(المورد)**
التوقيع	**التوقيع**
الأسم :	**الأسم**
الوظيفة:	**الوظيفة:**

نموذج كفالة دخول العطاء
TENDER GUARANTEE

إلى السادة : شركة مياة اليرموك

يسرنا إعلامكم بأن مصرفنا (اسم المصرف.....)

يكفل المقاول / شركة / مؤسسة..... بتعهد لا رجعة عنة غير قابل للنقض.
بمبلغ ( ) دينارا" أردنيا" فقط .....دينارا" أردنيا".

وذلك مقابل كفالة دخول العطاء رقم: .....
الخاص بمشروع: .....

لتأمين قيامه بالتزاماته كمناقص متقدم للعطاء المذكور ، وفقا" للشروط المتعلقة بذلك والتي دخل العطاء المذكور على أساسها.

وتبقى هذه الكفالة سارية المفعول لمدة (120) يوما" من تاريخ إيداع العروض أو لحين توقيع الاتفاقية مع أحد المناقصين أيهما أسبق.

وإننا نتعهد بتعهد لا رجعة عنة غير قابل للنقض بأن ندفع لكم المبلغ المذكور أعلاه عند أول طلب منكم بصرف النظر عن أي اعتراض من قبل المناقص.

توقيع الكفيل/مصرف .....
المفوض بالتوقيع .....
التاريـــخ .....

***مغلف منفصل عن العرض الفني والمالي.**

(نموذج كفالة حسن التنفيذ)
PERFORMANCE GUARANTEE

إلى السادة : شركة مياة اليرموك

يسرنا إعلامكم بأن مصرفنا (اسم المصرف ....)

قد كفل بكفالة مالية ، المقاول / شركة ..... بتعهد لا رجعة عنة غير قابل للنقض.

بخصوص العطاء رقم ( )

المتعلق بمشروع : .....

بمبلغ ( ) ديناراً اردنيا ، فقط .....دينارا" أردنيا".

وذلك لضمان حسن تنفيذ العطاء المحال عليه حسب الشروط الواردة في وثائق عقد المقاولة / و /او/ العقد ، وإننا نتعهد بتعهد لا رجعة عنة غير قابل للنقض ، بأن ندفع لكم بمجرد ورود أول طلب خطي منكم المبلغ المذكور أو أي جزء منه بدون أي تحفظ أو شرط – مع ذكر الأسباب الداعية لهذا الطلب بأن المقاول / المورد قد رفض أو أخفق في تنفيذ أي من التزاماته بموجب العقد و/او عدم قيام المورد بالتوريد – وذلك بصرف النظر عن أي اعتراض أو مقاضاة من جانب المقاول/ المورد على إجراء الدفع.

وتبقى هذه الكفالة سارية المفعول من تاريخ إصدارها ولحين تسلم الأشغال المنجزة تسلما" أوليا" /و/ او/ توريد المواد بموجب العقد المحدد مبدئيا" بتاريخ ..... شهر ..... من عام ..... وعلى ان يتم تجديدها تلقائيا لمدد اخرى مدة كل منها (90) تسعين يوما ما لم يردكم من شركة مياةاليرموك طلباً خطيا بالغاء الكفالة .

توقيع الكفيل/مصرف .....

المفوض بالتوقيع .....

التاريـــخ .....

(نموذج كفالة الصيانة)
MAINTANANCE GUARANTEE

إلى السادة : شركة مياة اليرموك

يسرنا إعلامكم بأن مصرفنا ....

قد كفل بكفالة مالية ، المقاول ..... بتعهد لا رجعة عنة غير قابل للنقض.

بخصوص العطاء رقم (/)

المتعلق بمشروع : .....

بمبلغ ( ) دينارا" أردنيا" فقط .....دينارا" أردنيا".

وذلك لضمان صيانة العطاء المحال عليه حسب الشروط الواردة في وثائق عقد المقاولة ، وإننا نتعهد بتعهد لا رجعة عنة غير قابل للنقض، بأن ندفع لكم بمجرد ورود أول طلب خطي منكم المبلغ المذكور أو أي جزء منه بدون أي تحفظ أو شرط – مع ذكر الأسباب الداعية لهذا الطلب بأن المقاول / المورد قد رفض أو أخفق في تنفيذ أي من التزاماته بموجب العقد / و /او اخفق المقاول / المورد في تنفيذ اي من التزاماتة ، وذلك بصرف النظر عن أي اعتراض أو مقاضاة من جانب المقاول / المقاول على إجراء الدفع.

وتبقى هذه الكفالة سارية المفعول من تاريخ إصدارها ولحين تسلم الأشغال المنجزة تسلما" نهائيا" /و / او / انقضاء مدة الصيانة المحددة بموجب العقد المحدد مبدئياً " بتاريخ ..... شهر .... من عام ..... وعلى ان يتم تجديدها تلقائيا لمدد اخرى مدة كل منها (90) تسعين يوما ما لم يردكم من شركة مياة اليرموك طلباً خطيا بالغاء الكفالة .

توقيع الكفيل/مصرف .....

المفوض بالتوقيع .....

التاريـــخ .....

نموذج ضمانة من سوء المصنعية

أتعهد أنا/نحن..... الموقع أدناه:

بضمان المواد المحالة علينا و الواردة في العقد أو امر الشراء وأية ملاحق لها و/ أو أية قرارات معدلة لها الصادرة عن شركة مياة اليرموك .

بحيث يكون هذا الضمان ساري المفعول لمدة 18 شهراً تبدأ من تاريخ الاستلام النهائي لكل دفعة يتم الموافقة على تسلمها حسب الأصول للعطاء و/أو العطاءات و/او اوامر الشراء ، ما لم يرد خلاف ذلك في العقد او امر الشراء.

ويشمل هذا التعهد ضمان كافة المواد المذكورة في العقد او/اوامر الشراء من سوء المصنعية وبكامل قيمة المواد المضمونة مضافاً إليها نسبة 15% خمسة عشر بالمائة من قيمتها.

ونتعهد باستبدال كافة المواد التي ثبت سوء مصنعيتها خلال المدة المقررة من قبل شركة مياة اليرموك، وفي حال عدم قيامنا باستبدال تلك المواد بأخرى جديدة مع نهاية المدة المقررة للاستبدال، فإننا نتعهد بدفع كامل قيمة تلك المواد مضافاً إليها 15% خمسة عشر بالمائة من قيمتها دون الحاجة للإخطار أو اللجوء إلى القضاء، مع ضمان أي عطل أو ضرر أو مصاريف تلحق بشركة مياة الاردن.

وعليه أوقع

المقر والمتعهد بما ورد أعلاه

ملاحظة هامة: يجب على المناقص تعبئة جميع النماذج الوارده ضمن هذا الجزء وارفاقها مع العرض المقدم.

Supply of Materials - Pre-requisites Requirements

Supply of Materials - Pre-requisites Requirements:

The Contractor must submit the following documents for the manufacturers he intends to supply from after awarding with the technical submittals: -

1- Ductile Iron Pipes:

a- Financial Capacity:

- Pipes Turnover: Has generated an average annual supply/production turnover during the last 5 years greater than US$ 100 Million or the equivalent in foreign currency (The average annual turnover is defined as the total of certified payment certificates for works in progress or completed by the firm or firms comprising the Contractor during the stated period, divided by the number of years stated.).

- Fittings Turnover: Has generated an average annual supply/production turnover during the last 5 years greater than US$ 15 Million or the equivalent in foreign currency (The average annual turnover is defined as the total of certified payment certificates for works in progress or completed by the firm or firms comprising the Contractor during the stated period, divided by the number of years stated.)

- Manufacturer's Production Capacity: The manufacturer should prove his capability of manufacturing the products required in this tender by providing the information required in the attached form.

b- Compatible Products:

Pipes, their associated connections, fittings and all components shall be designed to fit together as part of a system to ensure the maximum level of compatibility.

The following documentary evidences must be submitted, otherwise; the bid will not be considered:

- Self- declaration from the manufacturer stating the full factories details that he intends to supply from.
- Documents showing the ownership of pipes and fittings factories.
- Products certificate of conformity according to ISO/EN standards.

c- Experience:

- A certificate from the manufacturer that he has experience in similar projects in the middle east preferably in Jordan in the field of production of Ductile iron pipes and fittings.

2. International Supply: the manufacturers should give sufficient document to demonstrate that they have the experience in international supply of materials identical or similar to this tender.

3. Supply from more than one factory belonging to the manufacturer: if the manufacturer wants to supply from more than one factory belonging to them, they should submit the following documents:

- Documents that clearly shows that this factory is fully owned and controlled by the manufacturer.

- Documents showing that the factory going to be supplied from has been in operation and has been supplying to the local and international market.

Manufacturer Forms

MANUFACTURING CAPACITY FORM

Construction of Bidder**:**

[The Bidder shall demonstrate that his manufacturer/vendor has the manufacturing capacity to produce major items of equipment in accordance with the Manufacturing and Delivery Schedule (Forms XXX), considering the manufacturer's/ vendor's commitments in other contracts.

The Tenderer shall demonstrate compliance to requirements indicated in the technical specifications Section.

SUMMARY

Manufacturing lines and characteristic	*Number*	*Brief description*	*Capacity*	*Source*[1]

Signed:

Name:

[1] The following abbreviation shall be used: O – owned, R- rented, L-leased, C - contracted.

MANUFACTURING CAPACITY FORM

Construction of Bidder:

Manufacturing line:		
Manufacturing line information	Name of the plant/workshop:	
	Capacity:	Year of installation:
Status	Current commitments:	
Type of access[1]		
Owner[2]	Name of owner:	
Address of owner:		
	Telephone:	Contact name and title:
	Fax:	E-mail:
Agreements	Details of rental/lease/manufacture agreements specific to the Contract	

Signed:

Named:

The following abbreviation shall be used:
O – owned, R – rented, L- leased, SM – specially manufactured.

[2]Omit the following information for equipment owned by the Applicant or a JVCA partner

Manufacturer's Authorization Form

To*:*

Name of the Client

Name of the Project

Detailed Address of the client and

WHEREAS [*name of the Manufacturer] who* are established and reputable manufacturers of [*name and/or description of the goods]* having factories at [*address of factory]*

Do hereby authorize [*name and address of Tenderer] to* submit a tender, and subsequently negotiate and sign the Contract with you against Tender: _____ for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per of the General Conditions of Contract for the goods offered for supply by the above Tenderer against this Invitation for Tender.

[Signature for and on behalf of Manufacturer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Tenderer in its bid.

Form No. 1 / PAGE 1/2

DUCTILE IRON PIPES, Pressure Classes for DN 100 – 1000

DESCRIPTION **DETAILS**

DUCTILE IRON PIPES, Pressure Class, DN 100 – DN 1000

Diameter : DN 100 – DN1000

Manufacturer : _____

Country of Origin : _____

Type : _____

Type of sockets : _____

According to EN Standard : _____

External protection coating/according to standard:___

Internal protection lining / according to standard:

Rubber gaskets (material/standard): _____

Non-Toxic Certificate provided for Lining Material: _____

Non-Toxic Certificate provided for Rubber Seals: _____

Non-Toxic Certificate provided for coating : _____

PIPE Diameter DN 100:

Outside diameter [mm]: _____

Wall thickness [mm]: _____

Internal cement [mm]: _____

lining [bar]: _____

PFA (allowable operating [kg]: _____

PIPE Diameter DN 150:

Outside diameter [mm]: _____

Wall thickness	[mm]:	_____
Internal cement	[mm]:	_____
lining	[bar]:	_____
PFA (allowable operating pressure)	[kg]:	_____

Form No. 1 / PAGE 2/2

DUCTILE IRON PIPES, Class C40, DN 100 - 400

DESCRIPTION		**DETAILS**
PIPE Diameter DN 200:		
Outside diameter Wall	[mm]:	
thickness Internal	[mm]:	
cement lining	[mm]:	
PFA (allowable operating pressure)	[bar]:	
Weight	[kg]:	
PIPE Diameter DN 300:		
Outside diameter	[mm]:	
Wall thickness Internal	[mm]:	
cement lining	[mm]:	
PFA (allowable operating pressure)	[bar]:	
Weight	[kg]:	
PIPE Diameter DN 400:		
Outside diameter	[mm]:	
Wall thickness Internal	[mm]:	
cement lining	[mm]:	
PFA (allowable operating pressure)	[bar]:	
Weight	[kg]:	
PIPE Diameter DN 500:		
Outside diameter	[mm]:	
Wall thickness	[mm]:	
Internal cement lining	[mm]:	
PFA (allowable operating pressure)	[bar]:	
Weight	[kg]:	

PIPE Diameter DN 600:

Outside diameter	[mm]:	_____
Wall thickness Internal	[mm]:	_____
cement lining	[mm]:	_____
PFA (allowable operating pressure)	[bar]:	_____
Weight	[kg]:	_____

PIPE Diameter DN 700:

Outside diameter	[mm]:	_____
Wall thickness Internal	[mm]:	_____
cement lining	[mm]:	_____
PFA (allowable operating pressure)	[bar]:	_____
Weight	[kg]:	_____

PIPE Diameter DN 800:

Outside diameter	[mm]:	_____
Wall thickness Internal	[mm]:	_____
cement lining	[mm]:	_____
PFA (allowable operating pressure)	[bar]:	_____
Weight	[kg]:	_____

PIPE Diameter DN 900:

Outside diameter	[mm]:	_____
Wall thickness Internal	[mm]:	_____
cement lining	[mm]:	_____
PFA (allowable operating pressure)	[bar]:	_____
Weight	[kg]:	_____

PIPE Diameter DN 1000:

Outside diameter	[mm]:	_____
Wall thickness Internal	[mm]:	_____
cement lining	[mm]:	_____
PFA (allowable operating pressure)	[bar]:	_____
Weight	[kg]:	_____

NOTE:

1) **If features are not applicable - enter N / A**

2) **Data must be filled in „LEGIBLY."**

The following technical documents shall be submitted together with this „Schedule of Particulars":

a) **a technical leaflet of DI pipe C class with specification**

b) **all nontoxic certificates**

Form No. 2

DUCTILE IRON FITTINGS, DN100 – DN 400

DESCRIPTION	**DETAILS**

DUCTILE IRON FITTINGS, DN100 – DN 400

Diameter : DN100 - DN400

Manufacturer : _____

Country of Origin : _____

Type : _____

Type of sockets : _____

Type of Flanges : _____

According to EN Standard : _____

External coating / according to standard : _____

Internal lining : _____

Rubber gaskets (material/standard): _____

PFA (allowable operating pressure) [bar]: _____

Non-Toxic Certificate provided for Lining Material: _____

Non-Toxic Certificated provided for Rubber Seals: _____

Non-Toxic Certificate provided for coating : _____

Non-Toxic Certificate provided for lining : _____

NOTE:

1) **If features are not applicable - enter N / A**

2) **Data must be filled in „LEGIBLY."**

The following technical documents shall be submitted together with this „Schedule of Particulars":

a) **a technical leaflet of DI Pipe Fittings with specification**

b) **all nontoxic certificate**

SCHEDULES OF PARTICULARS

Form No. 3 / PAGE 1/2

GATE VALVES, DN 100 – DN 200

DESCRIPTION		**DETAILS**
GATE VALVES -		
Diameter	:	DN 100 – DN200
Manufacturer	:	_____
Country of Origin	:	_____
Type	:	_____
Pressure Nominal [PN]	:	_____bars
Hydrostatic test pressure	:	_____bars
according to	:	_____
Maintenance-free	:	yes☐ no ☐

Minimum Operational Life Circle – No. closing / openings:_____

Spindle Type (rising / not rising) : _____

Stainless steel valve stem according to : _____

Body, wedge, and bonnet according to : _____

Thread nut : _____

Body bolts : _____

Rotation of opening : _____

Form No. 3 / PAGE 2/2

GATE VALVES, DN 100 – DN 200

DESCRIPTION **DETAILS**

CORROSION PROTECTION

1) internal protection of valves [material / thickness]: _____

2) external protection of valves [material / thickness]: _____

NOTE:

1) If features are not applicable - enter N / A

2) Data must be filled in „LEGIBL

3) Y."

The following technical documents shall be submitted together with this „Schedule of Particulars":

a) a technical leaflet of gate valves with specification

SCHEDULES OF PARTICULARS

Form No. 5 /Page 1/1

AIR VALVE

DESCRIPTION **DETAILS**

Manufacturer : _____

Country of Origin : _____

Type : _____

Pressure Nominal [PN] :_____bars

Hydrostatic test pressure :_____bars

Type of connection (threaded/flanged): _____

De-aeration capacity [m^3/h]: _____

Operating pressure (min – max)[bar]: _____

MATERIAL SPECIFICATIONS

Materials according to EN no. : _____

Body of valve to EN : _____

Valve chamber covers [Material no.]: _____

Float ball [Material no.]: _____

Float cage [Material no.]: _____

Gaskets [Material no.]: _____

CORROSION

1) internal protection of valves [material / thickness]: _____

2) external protection of valves [material / thickness]: _____

Weight: [kg]

NOTE:

1) **If features are not applicable - enter N / A**

2) **Data must be filled in „LEGIBLY."**

The following technical documents shall be submitted together with this "Schedule of Particulars":

a) **a technical leaflet of air valve with specification**