	Procedure 03 <u>ENGINEERING PROCEDURE</u>	Date prepared : January 6, 2017 Date approved : January 10, 2017 Effectivity Date : January 11, 2017 Revision No. : 00 Revision Date : Control No. : PM03-01
	Reviewed by: Engr. Carlos N. Santos Jr.-GM Approved by: Dir. Miguela G. Pleyto-BOD Chairperson	

1.0 OBJECTIVES

Establish guidelines in the Engineering Section particularly on Pre-installation Inspection, Post-installation Inspection and Concreting of Mater base process for Santa Water District.

2.0 SCOPE

This procedure defines the duties and responsibilities and authorities for all Pre-installation Inspection, Post-installation Inspection and Concreting of Mater base in Santa Water District.

3.0 REFERENCES

- 3.1 ISO 9001:2015 Section 7.4, 7.4.1, 7.4.2, 7.4.3
- 3.2 Procedure for Communication
- 3.3 Procedure for Documented Information

4.0 RESPONSIBILITIES AND AUTHORITIES

Material and supply inspectors
 Senior Engineer A
 Customer Service Division
 Water Sewerage Maintenance Man A

5.0 PROCESS

SERVICE CONNECTION	
PRE-INSTALLATION INSPECTION	
PROCESS	PERSON RESPONSIBLE
1. The Pre-Installation Inspection Report Forms (New Connections/Others request) subject for pre-installation inspections are well filled up and the	CUSTOMER SERVICE



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summary list of these applications for inspections are ready for turning over to Engineering Division. The Pre-Installation Inspection report is used during the inspection of application for new connection and application for transfer of tapping and/or meter.

1.a The portion for Customer Services Division in the Pre-installation inspection Report form are properly filled up and all the information from the applicant have stated before handing over to Material and Supply Inspectors.

1.b The summary list of Pre-Installation Inspection Report of applications, will also be handed over by Customer Services Division to Material and Supply Inspectors

PLEASE SEE SAMPLE OF PRE-INSTALLATION INSPECTION FORM (Portion for Customer Service Division)

2. Receiving of filled up Pre-installation Inspection Report Forms for New Connections and/or 'Other Request' from Customer Services Division

3. Receiving of summary listings of applications for New Connections and/'Other Request' from Customer Services Division

4. Data logging on logbooks of received for Pre-installation inspection report forms from Customer Service Division

Under sub1.b The summary list of Pre-Installation Inspection Report of applications will be handed over by Customer Services Division to Material and Supply Inspectors

5. Uploading and recording of summary listings of applications for New Connections and/or 'Other Request' from Customer Services Division

6. Start of Pre-installation Inspection

7. The corresponding applicants shall be visited and assessed within two (2) days upon the receipt of the Pre-Installation Inspection Report.

8. If possible, proper coordination and making an appointment to the applicants prior to the inspection shall be done to save time and resources

DIVISION

MATERIAL AND SUPPLY INSPECTORS

ENGINEERING DIVISION (SECTION HEAD) QUALITY INSPECTION / ASSURANCE SECTION

MATERIAL AND SUPPLY INSPECTORS



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9. Verify the number of existing tapping points and water meter clusters proximate to the applicant's area.

10 Determine potential projected number of concessionaires in the area.

11. Determine the pipeline size of the main water line.

12. Determine the possible type of water meter cluster and location of water meter based on the result of the previous procedures. Always refer to the SMWD's Water Meter Installation Standard in determining the type of water meter cluster

13. The location of water meter stand/water meter cluster should not be more than three (3) linear meters away from the main distribution line.

14. The location of the water meter stand/cluster should be reasonably accessible for reading, service and inspection. It should be well protected against damages and accidents. It should not be an obstacle or hazard to the customer or public safety

15. Inspect the possible route of the service line from the water meter cluster to the applicant's house.

16. Determine the applicant's Classification of Service.

17. Inform the applicant of the possible location of their water meter, and they can lay their service line according to your specified route. Also, inform them with these following pointers:

☒ It is advisable to use a flexible plastic tubing, compliant to the SMWD standards and specifications, as their service line.

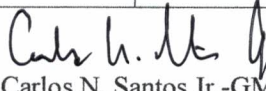
☒ In cases of road/pavement crossings, encase the service line plastic tubing with

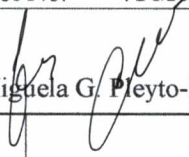


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a pipe one size higher to the service line. For multiple service lines that need to cross a concrete pavement, use a bigger size of pipe for encasement that will fit the total number of service lines.

☒ DO NOT lay the service lines inside of sewer drainage (open canal, reinforced concrete pipe, box culvert, etc.).

☒ As much as possible, always embed the service lines below the ground. Do not exposed the service lines to avoid unauthorized by-pass connections and damaged caused by accidents or impacts.

18. Make a schedule of the next visit. The applicant must be informed that they need to comply with the SMWD's provisions for new water meter connections in order to be approved

19. Fill-up the Pre-Installation Inspection Report for each applicant of new water meter connection.

(Portion in the application for Engineering Division)

☒ Classification of Service

☒ Road Width

☒ Sketch of Location

☒ Distance from the main water line

☒ Pipeline size of the main water line

☒ Water Meter Cluster type

☒ Landmarks

☒ Present source of water

☒ Other vital information of the applicant that maybe useful for the installation of water meter

☒ Name of the inspector

☒ Time and date of inspection

**MATERIAL
AND SUPPLY
INSPECTORS**

20. Record the time and date of the first inspection.

21. During the second visit, check if the service line is in place.



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23. Make sure that the service line is connected to the water line going inside the house.	MATERIAL AND SUPPLY INSPECTORS
24. Inspect thoroughly if it complies the SMWD's standards; also if it is placed on the designated location of water meter and it passes to the specified route	
25. If the service line is installed and is compliant with the SMWD's Standards, certify the Pre-Installation Inspection Report.	
26. If the service line is not yet installed and laid, take note of the necessary remarks and make a schedule of your next visit.	
27. If it is not compliant with the SMWD's Standards, advise the applicant to revise according to standards and make a schedule of your next visit.	
28. Record the time and date of the second inspection.	
29. Repeat the procedure until the service line is installed properly. Record the time and date of the succeeding inspections.	ENGINEERING DIVISION (SECTION HEAD) QUALITY INSPECTION / ASSURANCE
PLEASE SEE SAMPLE OF PRE-INSTALLATION INSPECTION FORM (Portion for Engineering Division)	
30. Turning over of accomplished Pre-Installation Inspection Report Form completed by Material and Supply Inspector which are for uploading, updating and recording on each files of the Material and Supply Inspectors	



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	SECTION
31. Certification of water supply availability	PRODUCTION DIVISION (SECTION Head)
32. In-charge of returning the Pre-installation Inspection Forms to Customer Services Division	MATERIAL AND SUPPLY INSPECTORS

SERVICE CONNECTION

POST INSPECTION REPORT

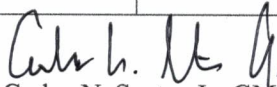
PROCESS	PERSON RESPONSIBLE
1. Hand-over of service orders completed in installation of water meters and/or 'Other Request' by the installation group.	CONSTRUCTION (SECTION HEAD)
2. Receiving of service orders completed in installation of water meters and 'other Request' by the installation group.	ENGINEERING DIVISION (SECTION HEAD) QUALITY INSPECTION / ASSURANCE SECTION
3. Segregation, uploading, updating and recording of the Service Orders for Post inspection for each of the Material and Supply Inspectors logbook, p.c. files and folders.	
PLEASE SEE SAMPLE OF POST INSPECTION REPORT FORM	
	MATERIAL AND

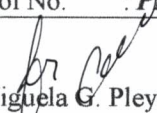


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4. Receiving and recording of Service Orders for Post Inspection and the folder where the these service order numbers are listed.

SUPPLY INSPECTORS

5. Start of Post Inspection

6. Post Inspection of new water meter connections and transferred water meters must be done within three (3) days after the installation.

7. The Quality Inspection / Assurance Section will thoroughly inspect the installed water meters and stands as indicated in the Pre-Installation Inspection Report

8. Check the Water Meter Serial Number if it is the same as written in the Service Order. Also check the water meter if it is correctly installed for the particular concessionaire's name and location (house number, apartment number, commercial slot number, etc.) as indicated in the Service Order. Be sure that it is the correct house.

9. Check all the fittings installed if it complies as listed in the Pre-Installation Inspection Report.

10. Inspect the joints of fittings and tubing completely, from the saddle clamp (if applicable) to the service line, for the presence of leaks.

11. Visually inspect the installed water meter stand/cluster and its other parts if it is compliant to the SMWD's Water Meter Installation Standards.

MATERIAL AND SUPPLY INSPECTORS



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12. Fill-up the Post Inspection Check List for each water meter installed.

☐ Water Meter Serial number

☐ Fittings as indicated in the Pre-Installation Inspection Report and in the RIS

☐ Presence of leak in saddle clamp, plastic adapter, supply line, meter stand

☐ 45 degree tapping angle and position of saddle clamp

☐ Vertical and horizontal alignment of water meter and water meter stand/cluster

☐ Backfill and compaction of supply line trench

☐ Standard operating procedure on culvert crossing (if applicable)

☐ Surface restoration (if applicable)

☐ Name of the inspector

☐ Time and date of inspection


13. If there are presence of leaks and it is not compliant to the SMWD's Water Meter installation Standards, list down all the concerns and return the Service Order together with the Post Inspection Check list to the Installer for rectification.

14. Service orders for rectification by the installer of meter

**CONSTRUCTION
(SECTION HEAD)**

15. Repeat the procedure until the water meter stand/cluster is compliant and does not have any presence of leak. Record the time and date of the succeeding inspections.

**MATERIAL AND
SUPPLY INSPECTORS**

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<p align="center"><i>Carlos N. Santos Jr.</i></p> Reviewed by: Engr. Carlos N. Santos Jr.-GM	<p align="center"><i>Miguel G. Pleyto</i></p> Approved by: Dir. Miguela G. Pleyto-BOD Chairperson
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16. Accomplish the attached Post Inspection Check List, signed and dated, and turn it over for the Installation of Concrete Meter Base.	<p align="center">MATERIAL AND SUPPLY INSPECTORS</p>
PLEASE SEE SAMPLE OF POST INSPECTION CHECKLIST FORM	
17. Receiving, uploading, updating and recording of accomplished Service Orders in Post Inspection from Material and Supply Inspectors that are subject for concreting of meter base.	<p align="center">ENGINEERING DIVISION (SECTION HEAD) QUALITY INSPECTION / ASSURANCE SECTION</p>

SERVICE CONNECTION	
CONCRETING OF METER BASE	
PROCESS	RESPONSIBLE PERSON
1. Assigning of completed service orders for concrete meter base to Water Sewerage Maintenance Man A	<p align="center">ENGINEERING DIVISION (SECTION HEAD) QUALITY INSPECTION / ASSURANCE SECTION</p>
2. Prepare all the necessary construction materials (cement and sand), tools, barricades, warning devices, etc.	<p align="center">WATER SEWERAGE MAINTENANCE MAN A</p>
3. The prepared cement mortar mixture for the concrete meter base should have a compressive strength of at least 1500 psi. A cement mortar mixture ratio of 1 part cement and 4 parts sand will produce a concrete mix of approximately 1500 psi.	
4. Dimensions are as follows:	



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PLEASE SEE IMAGE BELOW (CONCRETE METER BASE DIMENSIONS)

5. It should be symmetrical, smooth and leveled.

6. Double checking of all information in the Post Inspections checklist, if it has complied to SMWD meter installation standards, before completing application of concrete to meter base. This should be signed and date of completion.

7. Tools, barricades and warning devices should be removed on the site after the completion of the activities. These should be properly accounted and should be returned to the General Services Section.

8. Accomplishing all corresponding documents, signed and dated for record purposes and turn it over to the supervisor

PLEASE SEE SAMPLE OF METER BASE CONCRETING REPORT FORM

9. All reports by Water Sewerage Maintenance Man A will be transferred on the Service Orders Completed Meter Base.

9.a Filing and submission of hard copy of the above mentioned form and e-copy to Customer Service Division

PLEASE SEE SAMPLE OF SERVICE ORDERS COMPLETED OF METER BASE

**ENGINEERING
 DIVISION (SECTION
 HEAD) QUALITY
 INSPECTION /
 ASSURANCE SECTION**



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CONCRETE METER BASE DIMENSION

CLUSTER TYPE	L (inches)		W (inches)		t (inches)
	min.	max.	min.	max.	
SINGLE TAPPING	14	17	6	8	4
CLUSTER 1 AND 2	25	30	8	10	6
CLUSTER 3 AND 4	58	62	12	16	6
CLUSTER 5	98	105	12	16	8
CLUSTER 6	98	105	25	30	8
CLUSTER 7	195	200	14	16	8
CLUSTER 8-a	110	115	23	28	8
CLUSTER 8-b	162	167	14	25	8
¾" Water Meter	19	22	6	8	6
1" Water Meter	21	24	6	8	6
50mm. Flow Meter	31	35	20	24	6
75mm. Flow Meter	38	42	20	24	6
100mm. Flow Meter	48	52	20	24	6
150mm. Flow Meter	62	66	20	24	6

6.0 RECORDS

- 6.1 Pre-Installation Inspection Report (CS 007n)
- 6.2 Pre-Installation Inspection Report (CS 007o)