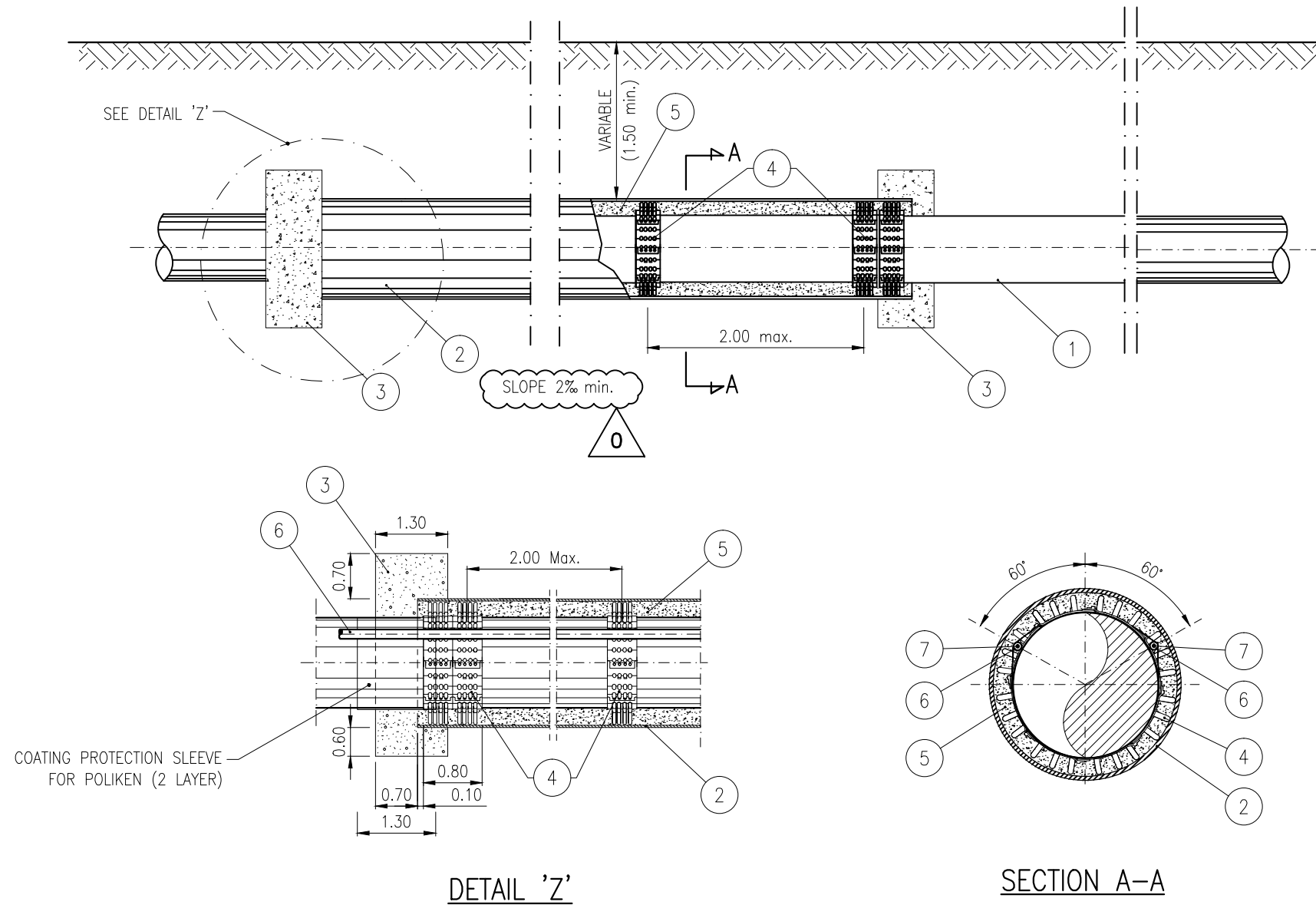


DETAILS FOR CASING PIPE INSTALLATION FOR ROAD CROSSING



NOTES:

1. FOR DETAILS ABOUT FILLING MATERIAL AND PLUG FOR SEALING END PROTECTION SEE IPL00-C5522-100-F-TSX004 'SPECIFICATION FOR ONSHORE PIPELINE CONSTRUCTION'.
2. BUOYANCY WILL BE AVOIDED BY USING HIGHER COLLAR SPACERS ABLE TO CENTRALIZE THE CARRIER PIPE INSIDE THE CASING.
3. GENERAL COMPOSITION OF THE CEMENT MIXTURE:
 Cement 80±200 Kg/m³;
 Aggregate 1200±1500 Kg/m³;
 Water 150±300 l/m³;
 Fluidize additive : variable (as per product technical sheet)
 Additive lighth aggregate : variable (as per product technical sheet)
 Any other additive: variable (as per product technical sheet)
 GENERAL COMPOSITION OF THE BENTONITE MIXTURE:
 cement
 water
 bentonite
 Additive (if necessary)
 TO BE AGREED WITH COMPANY DURING CONSTRUCTION.
4. ALL MEASUREMENTS ARE IN METRES UNLESS OTHERWISE SPECIFIED.

LEGEND:

- ① PIPE 36" (POLYETHYLENE COATING)
- ② CASING PIPE 48" (POLYETHYLENE COATING)
- ③ PLUG FOR SEALING END PROTECTION (BY CEMENT MORTAR)
- ④ ISOLATOR COLLAR SPACERS
- ⑤ GROUTING - TREATED CEMENT MIXTURE (SEE NOTE 3)
- ⑥ CONDUIT FOR F.O.C. (DN 50)
- ⑦ FIBRE OPTIC CABLE FOR TELECOMMUNICATION



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PROJECT TITLE
Trans Adriatic Pipeline Project/Onshore Pipeline Italy (OPLI)

DRAWING TITLE
TYPICAL OF CASING PIPE

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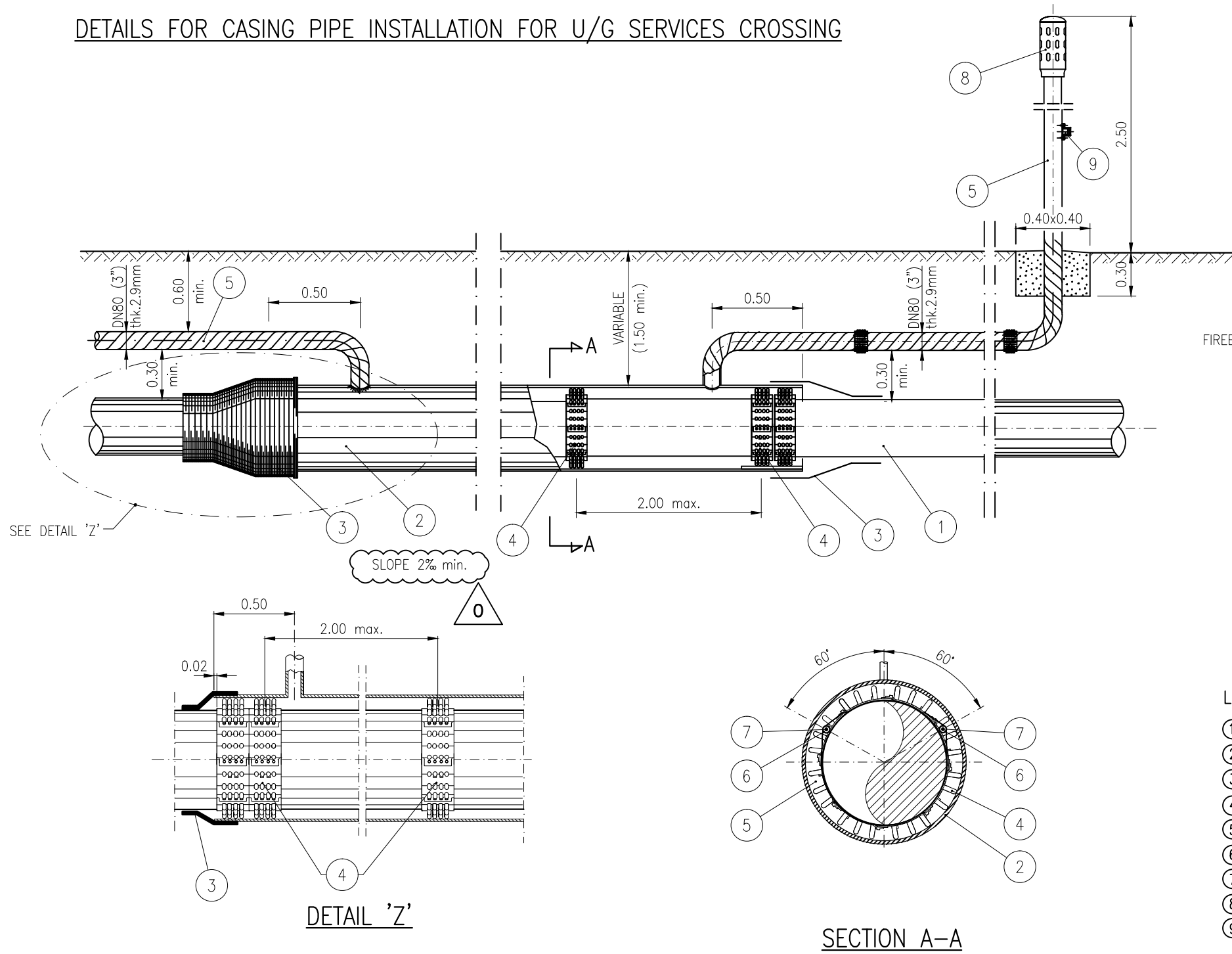
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B	RE-ISSUED FOR REVIEW	IFR	EP	AB	AF	06/09/16
A	ISSUED FOR REVIEW	IFR	EP	AB	AF	05/08/16
REV.	DESCRIPTION		PREP	VFY	APPR	DATE

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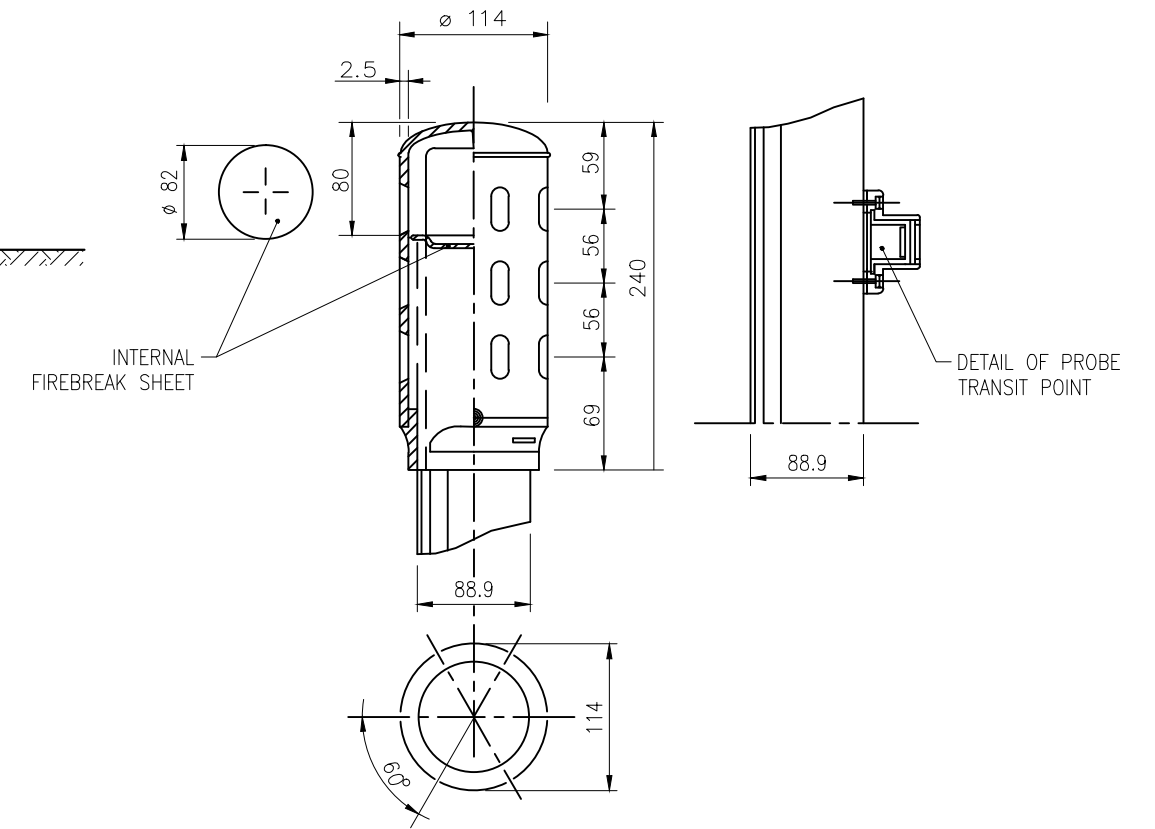
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DETAILS FOR CASING PIPE INSTALLATION FOR U/G SERVICES CROSSING



NOTES:

1. ALL MEASUREMENTS ARE IN METRES UNLESS OTHERWISE SPECIFIED.



STRAIGHT-TYPE VENTING DEVICE
(Measurements are in millimeters)

LEGEND:

- ① PIPE 36" (POLYETHYLENE COATING)
- ② CASING PIPE 48" (POLYETHYLENE COATING)
- ③ CASING END SEAL
- ④ ISOLATOR COLLAR SPACERS
- ⑤ VENT
- ⑥ CONDUIT FOR F.O.C. (DN 50)
- ⑦ FIBRE OPTIC CABLE FOR TELECOMMUNICATION
- ⑧ STRAIGHT-TYPE VENTING DEVICE
- ⑨ GAS LEAK CHECK POINT



Trans Adriatic Pipeline

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PROJECT TITLE

Trans Adriatic Pipeline Project/Onshore Pipeline Italy (OPLI)

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TYPICAL OF CASING PIPE

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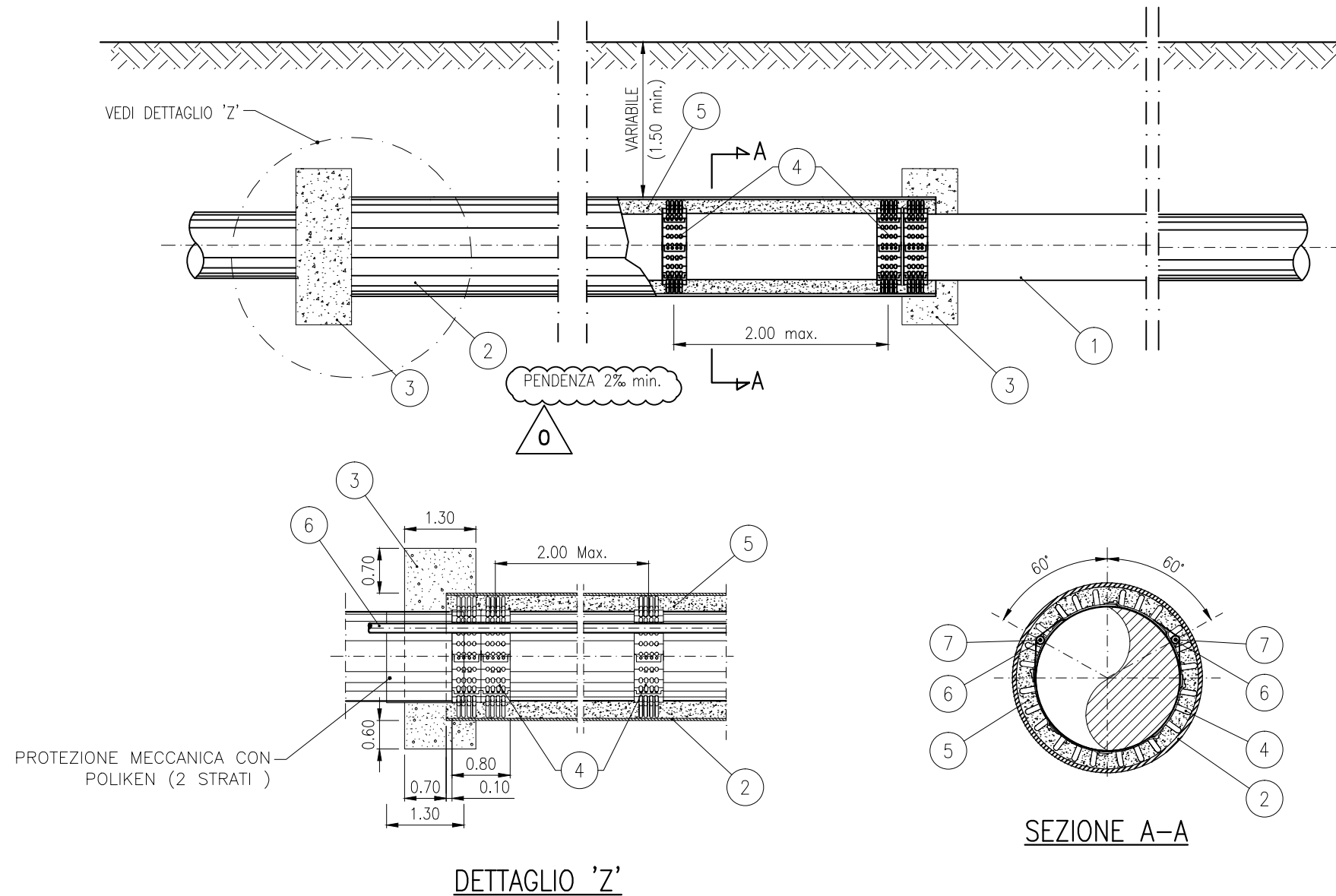
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B	RE-ISSUED FOR REVIEW	IFR	EP	AB	AF	06/09/16
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DETTAGLIO PER L'INSTALLAZIONE DEL TUBO DI PROTEZIONE PER ATTRAVERSAMENTI STRADALI



NOTE:

- PER DETTAGLI RELATIVI AL RIEMPIMENTO DEL TUBO DI PROTEZIONE E AI TAPPI DI CHIUSURA SI VEDA LA SPECIFICA IPL00-C5522-100-F-TSX004 'SPECIFICATION FOR ONSHORE PIPELINE CONSTRUCTION'
- IL GALLEGGIAMENTO SARA' EVITATO UTILIZZANDO COLLARI DISTANZIATORI PIU' ALTI IN GRADO DI CENTRALIZZARE IL TUBO DI LINEA ALL'INTERNO DEL TUBO DI PROTEZIONE.
- IN GENERALE IL CONGLOMERATO SARÀ COSTITUITO DA:
 cemento 0,8±2 kN/m³;
 aggregati 12±15 kN/m³;
 acqua 150±300 l/m³;
 additivo aerante-fluidificante: variabile (come da scheda tecnica del prodotto);
 eventuali aggregati leggeri: variabile (come da scheda tecnica del prodotto);
 eventuali altri additivi: variabile (come da scheda tecnica del prodotto);

 IN GENERALE LA MISCELA BENTONITICA SARÀ COSTITUITA DA:
 cemento;
 acqua;
 bentonite;
 additivi (eventuali).

 DA CONCORDARE CON LA COMPANY DURANTE LA COSTRUZIONE.
- TUTTE LE MISURE SONO IN METRI SE NON DIVERSAMENTE INDICATO.

LEGENDA:

- ① TUBO DI LINEA 36" (RIVESTIMENTO IN PE)
- ② TUBO DI PROTEZIONE 48" (RIVESTIMENTO IN PE)
- ③ ESECUZIONE DEI TAPPI DI CHIUSURA AGLI ESTREMI DEL TUBO DI PROTEZIONE MEDIANTE MALTA CEMENTIZIA
- ④ DISTANZIATORI ISOLANTI A COLLARE
- ⑤ INTASAMENTO DEL TUBO DI PROTEZIONE - MISCELA CEMENTIZIA ADDITIVATA (VEDI NOTA 3)
- ⑥ TUBO DI PROTEZIONE PER CAVI A FIBRA OTTICA (DN 50)
- ⑦ CAVO A FIBRE OTTICHE PER TELECOMUNICAZIONE



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PROJECT TITLE
Trans Adriatic Pipeline Project/Onshore Pipeline Italy (OPLI)

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TIPICO DEL TUBO DI PROTEZIONE

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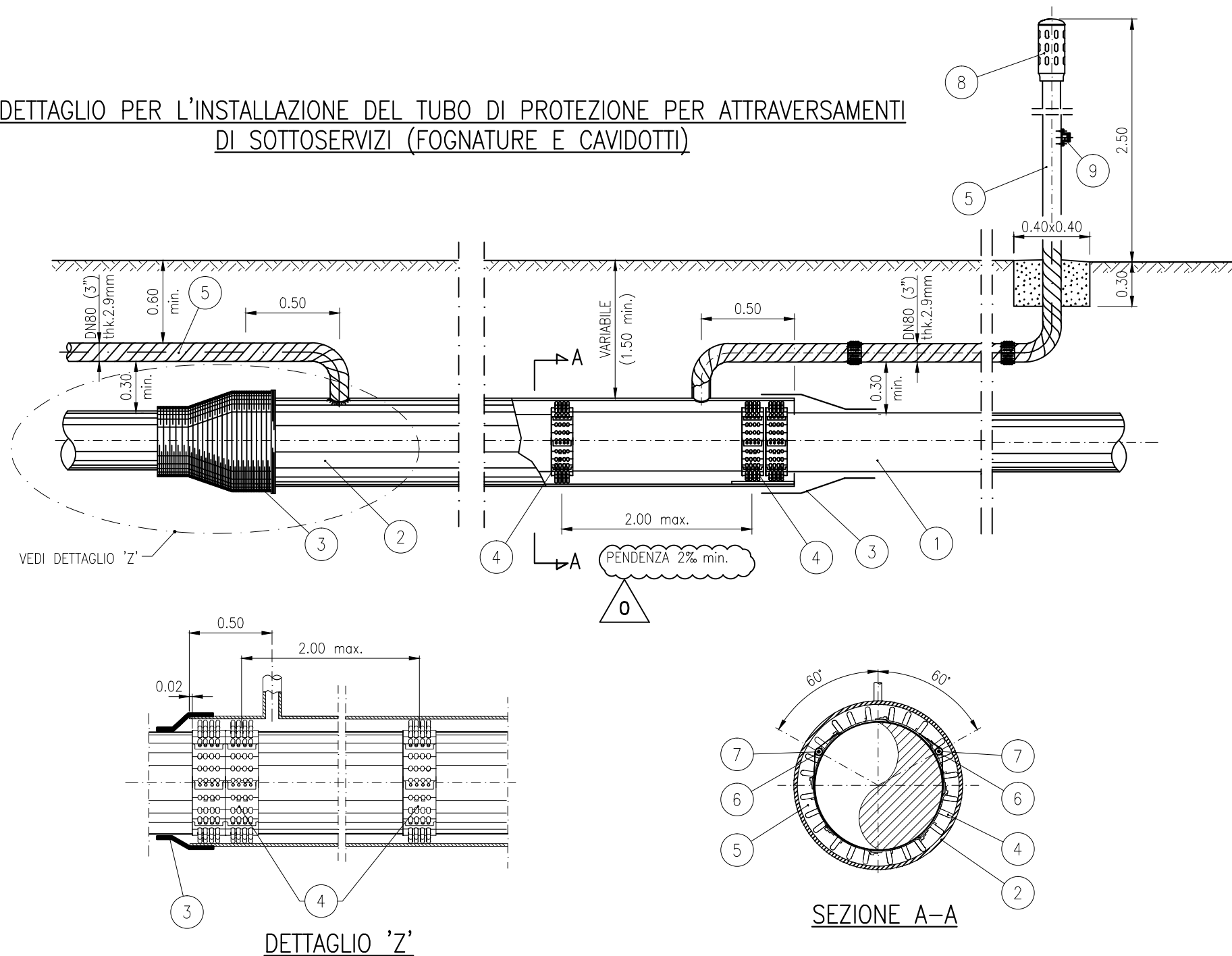
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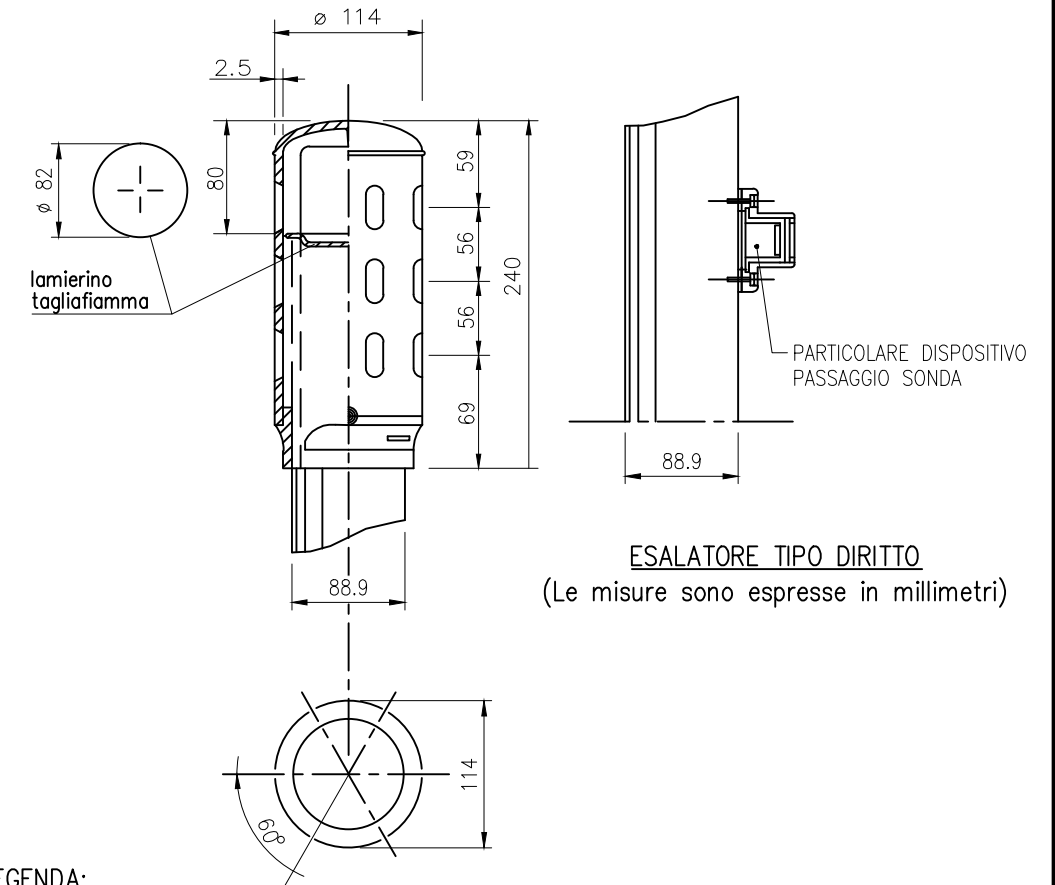
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DETTAGLIO PER L'INSTALLAZIONE DEL TUBO DI PROTEZIONE PER ATTRAVERSAMENTI DI SOTTOSERVIZI (FOGNATURE E CAVIDOTTI)



NOTE:

1. TUTTE LE MISURE SONO IN METRI SE NON DIVERSAMENTE INDICATO.



ESALATORE TIPO DIRITTO
(Le misure sono espresse in millimetri)

LEGENDA:

- ① TUBO DI LINEA 36" (RIVESTIMENTO IN PE)
- ② TUBO DI PROTEZIONE 48" (RIVESTIMENTO IN PE)
- ③ GUAINA DI ESTREMITA' TUBO DI PROTEZIONE-TUBO DI LINEA
- ④ DISTANZIATORI ISOLANTI A COLLARE
- ⑤ TUBO DI SFIATO
- ⑥ TUBO DI PROTEZIONE PER CAVI A FIBRA OTTICA (DN 50)
- ⑦ CAVO A FIBRE OTTICHE PER TELECOMUNICAZIONE
- ⑧ ESALATORE TIPO DIRITTO
- ⑨ DISPOSITIVO PER PASSAGGIO SONDA



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S.p.A.

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Trans Adriatic Pipeline Project/Onshore Pipeline Italy (OPLI)

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TIPICO DEL TUBO DI PROTEZIONE

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0	ISSUED FOR CONSTRUCTION	IFC	EMANUELE PEDINI	ALESSANDRO BENVENUTI	ALBERTO FARINA	10/10/16
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