

i3PT
CERTIFICATION

Digitising Compliance and
Quality on Site, through
collaboration platforms and
BIM protocols



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Who are we?

- i3PT are the largest Independent Certifier of buildings in the Irish market
- Est. 2011 – Pre-BC(a)R
- ISO 17065 - Background in Quality assurance
- Multi-disciplinary inspection and oversight combined with technological innovations
- Certification body for building systems
- Independent tester, LEED BECxA provider.
- Trades based inspection team
- Multidisciplinary design specialists

independent
3rd
party
testing

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- Certify Buildings and systems
- Inspect and review construction and design to assure quality and reduce risk
- Founded in 2011 – 51 employees in 2018
- Outcome focused –

““We think a lot about the people who are going to work in these buildings every day.”

Eoin Leonard, CEO

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independent

3rd

party

tested

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C-3PO

PT-109






THE IRISH TIMES

Opinion: New building regulations will add costs but also peace of mind

These regulations are a quality assurance system to ensure the consumer gets what they pay for and that the properties are safe and compliant with the regulations

© Thu, Feb 27, 2014, 00:00



Can best practice Quality Assurance procedures be applied to construction projects

Consistency and systemising the quality of product

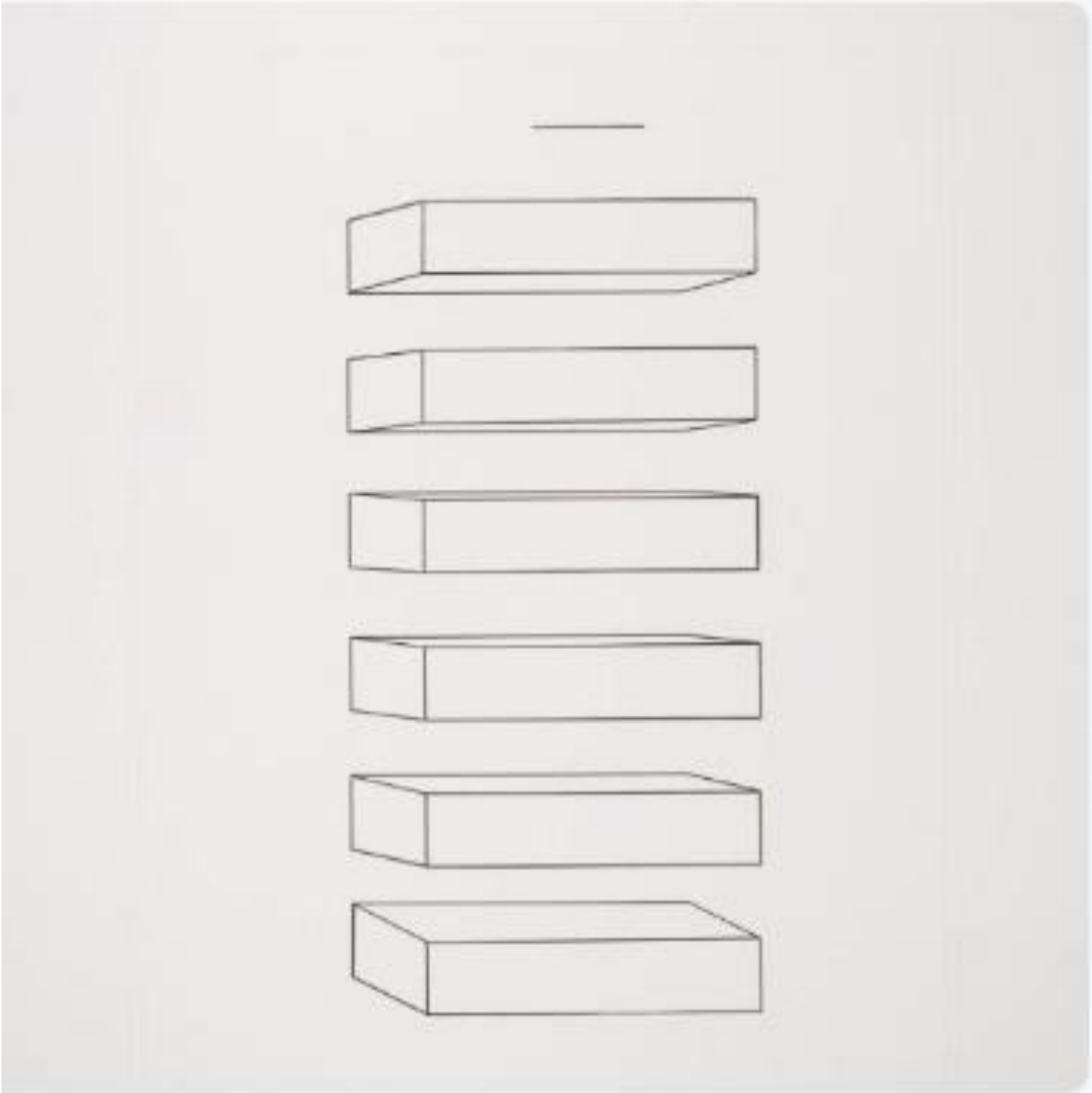




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The Beauty Of A Repeatable Process

Recognising the unique challenges of each project



Project ID 16020		Sample Project			REV 04 - 13-03-2018	PIP1 Workbook								
Inspection workpackage	B.Regs	Inspection Rating	Workpackage Description (if required)	Inspection Details	Bench Mark	Key Event #1	Key Event #2	Key Event #3	Ancillary certifier	Design Support	Design Support	Builder	Sub-contractor	Specialist
		R4 - R1			(Y/N)	Inspection Events			Design Inspection		Supervision			
Sub-Structure														
CIV	Below ground gravity drainage systems	H	R1	Buried surface water pipes and carpark drainage.	Commissioning of pumps	Y	Installation	Commission		DBFL		2	2	
CIV	Foul waste water below-ground drainage pipeline systems	H	R1	Buried surface water pipes and carpark drainage.	Commissioning of pumps	Y	Installation	Commission		DBFL		2	2	
CIV	Unreinforced concrete trench fill foundation systems	A	R3	Foundations	Rock cut at one level, foundation brought to rock level with lean mix	N	Pre-pour	Post-pour		DBFL		4		
CIV	Earthworks filling systems	A	R1	Backfill below slab elements.	Compaction, SR 21 +Annex E,	Y	Installation			DBFL		4	2	
C+S	Loose-laid bentonite membrane external or sandwiched tanking systems	C	R3	Basement Voltex tanking system.	Inspection report to be provided by specialist tanking sub-contractor (Cetco) to indicate system is complete pre-concrete pour.	Y	Pre pore	Post pore		Cetco	DBFL	1	4	Cetco
ARCH	Mineral wool slab insulation	L	R1	Soffit insulation at underside of basement.	130mm Rockwool, facing TBC	Y	Post install			OMP		1	2	
STR	Reinforced concrete retaining wall systems	A	R2	Cast insitu perimeter retaining wall	Pre-pour: Alignment, cover, bar size, laps, starters. Post-pour: Finish & evidence of compaction.	Y	Pre-pour	Post-pour		DBFL		2		
STR	Wallties	A	R1		Stone and Brick external landscape walls tie back components					DBFL		2		1
Super-structure														
ARCH	Waterproofing and tanking systems	C	R3	Podium waterproofing.		Y	Post install			OMP	Supplier	2	6	Y
STR	Concrete column systems	AB	R2	Columns throughout the building.	Pre-pour: Alignment, cover, bar size, laps, links, starters. Post-pour: Finish & evidence of compaction.	N	Pre-pour	Post-pour		DBFL		2		
STR	Concrete slab deck systems	AB	R1	Cast insitu suspended floor slabs.	Pre-pour: Alignment, cover, bar size, laps, starters. Post-pour: Finish & evidence of compaction.	Y	Pre-pour	Post-pour		DBFL		6		

Identify design responsibility gaps and overlaps early in the project

Mapping responsibility

Dashboard

PIP Builder

Project Admin

Personnel

Reports

PROJECT
City Quay ! ▾
i

INSPECTION PLAN
TIMELINE
i

INSPECTION PLAN
OVERVIEW
i

DESIGN
INFORMATION
TIMELINE
i

ISSUES FOR
CLOSEOUT
i 78

BENCHMARKS
i 73

NOTIFICATIONS
i 232

DESIGNER
RESPONSIBILITIES
i 122

CRITICAL
DOCUMENTATION
i

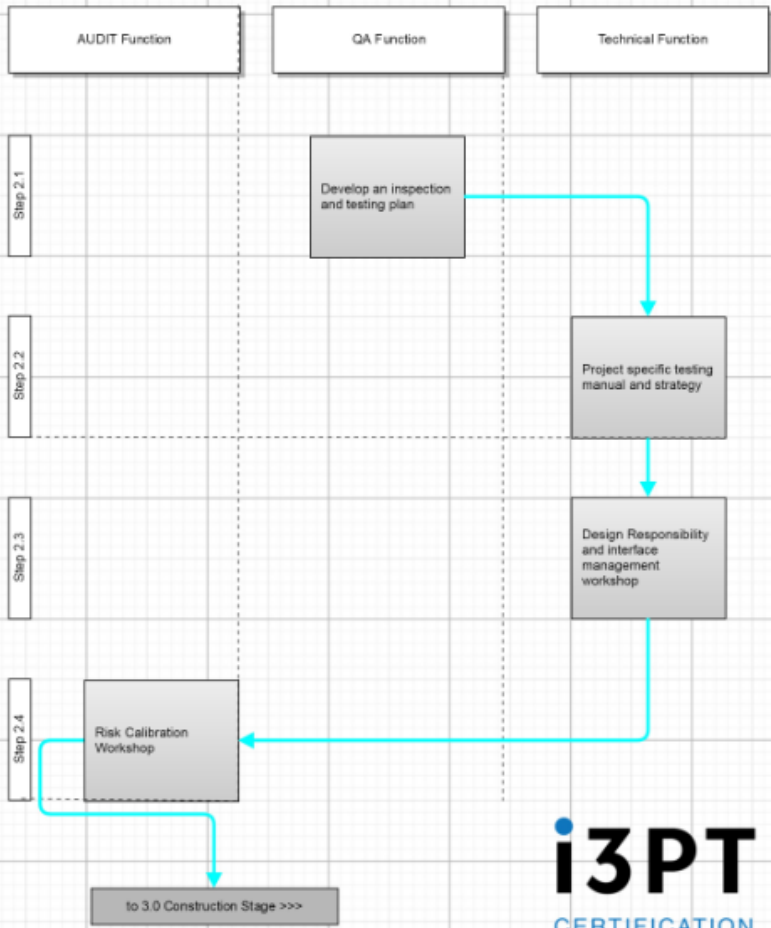
DESIGN
DELIVERABLES
i 1

PLANNING
CONDITIONS
i 0

FILE MANAGER (CDE)
i

Quality Plan Facade QA Functions

2.0 Detailed Design Stage

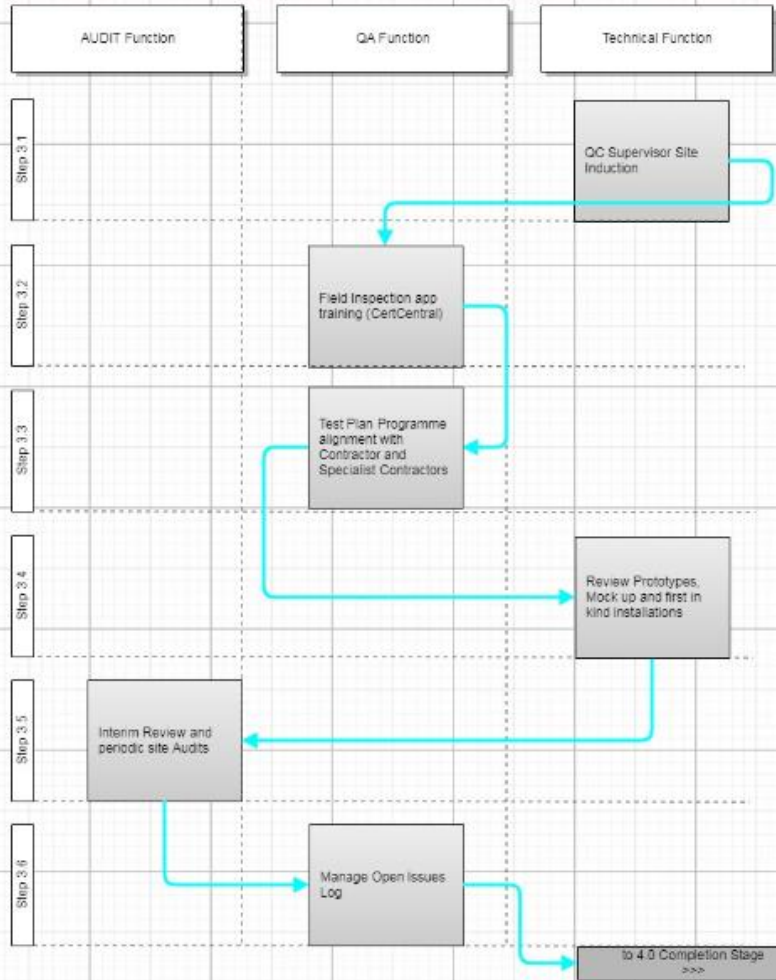


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Quality Plan Facade QA Functions

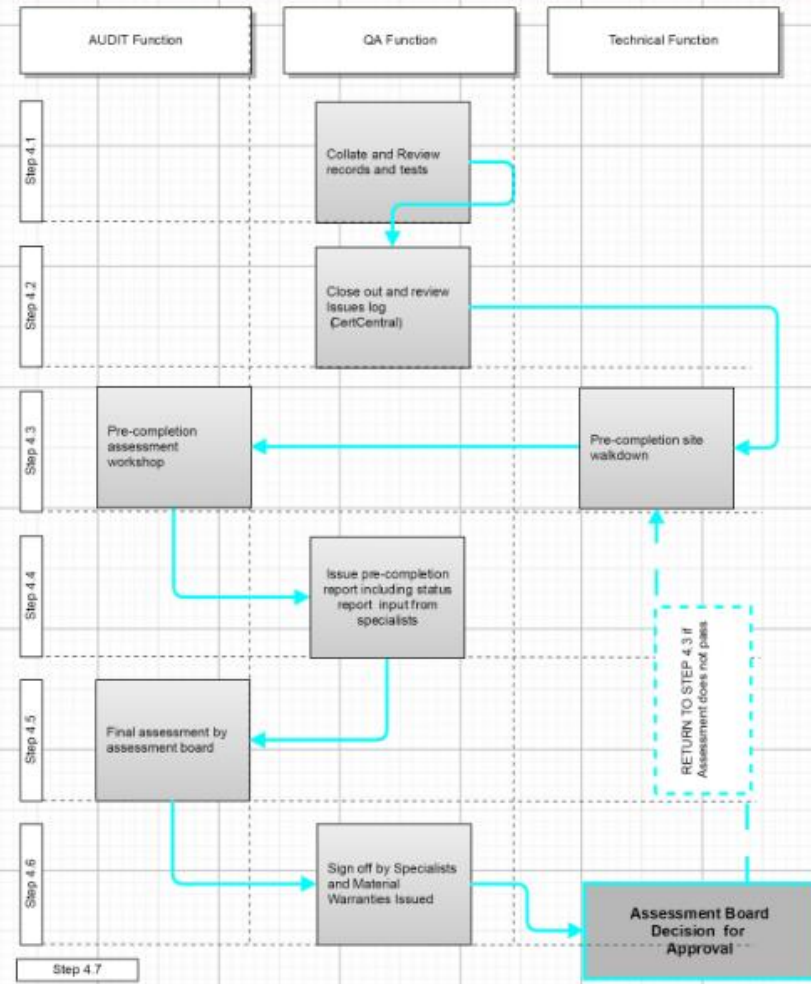
3.0 Construction Stage



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Quality Plan Facade QA Functions

4.0 Completion Stage



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				House 1	House 2	House 3	House 4	House 5	House 6	House 7
Siteworks				System Level						
				4 week lookahead adjustment						
Ss_50_30_08_85	Surface water below-ground drainage pipeline systems	C+S	→	Ss_50/	Disposal systems	from high level programme	Week 18-02	Week 18-06	Week 18-01	
Ss_50_75_95_67	Pumped wastewater supply systems	C+S	→			4 week look-ahead input	Week 18-02	Week 18-02	Week 18-02	
Ss_50_70_85_72	SuDS retention pond systems	C+S	→							
Ss_30_14_05	Asphalt road and paving systems	C+S	→	Ss_30_14	Paving systems	from high level programme	Week 18-02	Week 18-06	Week 18-01	
Ss_30_14_15	Concrete road and paving systems - Civil Elements	C+S	→			4 week look-ahead input	Week 18-03	Week 18-04	Week 18-04	
Pr_35_31_85_27	Epoxy paint road markings	C+S	→							
Pr_70_75_72_30	Fixed vertical road traffic signs	C+S	→							
Ss_20_60_30	Embedded retaining wall systems	C+S	→	Ss_20_60	Retaining wall systems	from high level programme	Week 18-02	Week 18-06	Week 18-01	
						4 week look-ahead input	Week 18-06	Week 18-06	Week 18-06	
Drainage										
Ss_50_30_08_30	Foul waste water below-ground drainage pipeline systems	C+S	→	Ss_50_30	Drainage collection and distribution systems	from high level programme	Week 18-06	Week 18-07	Week 18-01	
Ss_50_30_08_85	Surface water below-ground drainage pipeline systems	C+S	→			4 week look-ahead input	Week 18-04	Week 18-04	Week 18-04	
Substructure										
Ss_15_10_30_27	Earthworks filling systems	C+S	→	Ss_15_10	Groundworks and earthworks systems	from high level programme	Week 18-06	Week 18-10	Week 18-01	
			→			4 week look-ahead input	Week 18-05	Week 18-04	Week 18-04	
Ss_20_05_15_72	Reinforced concrete raft foundation systems	C+S	→	Ss_20_05	Substructure systems	from high level programme	Week 18-06	Week 18-10	Week 18-01	
Ss_20_05_65_24	Driven precast or prestressed concrete piling system	C+S	→			4 week look-ahead input	Week 18-07	Week 18-04	Week 18-04	
Superstructure Frame										
Ss_20_20_75_80	Steel beam systems	C+S	→							
Ss_25_10_32_90	Timber wall framing systems - Struct	C+S	→							
			→	Ss_25_10	Framed wall systems	from high level programme	Week 18-08	Week 18-13	Week 18-01	
Ss_30_20_10	Board floor systems	Arch	→			4 week look-ahead input	Week 18-07	Week 18-11	Week 18-04	
Ground Slab										
Pr_25_57_21_35	Gas-resistant damp-proof courses	Arch	→	Ss_32	Damp-proofing, waterproofing and	from high level programme	Week 18-07	Week 18-01	Week 18-01	

Uniclass is a structured classification system for organising and storing building information, based on a hierarchical description of building works.

The classification involves the task of breakdown into systems and components with a level of detailed appropriate to their function.

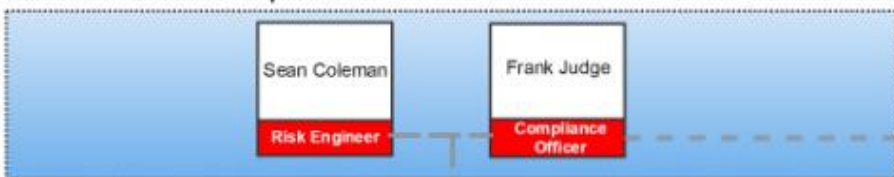
It is now the standard for Building information modelling and is also being used track all project information across multiple stakeholders for the lifecycle of a project. “

Uniclass numbering hierarchy

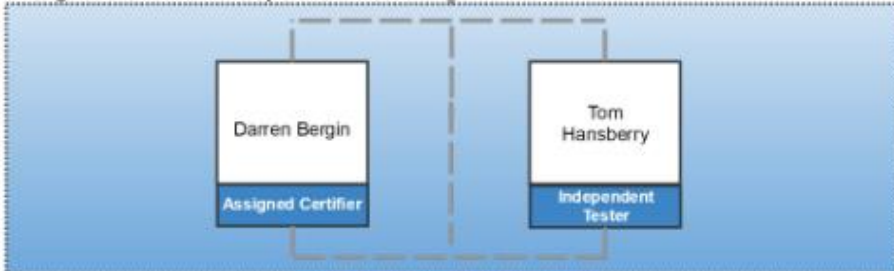
- Tier 1 Ss_25 Wall and barrier systems
- Tier 2 Ss_25_45 Wall covering and finish systems
- Tier 3 Ss_25_45_88 Tiling systems
- Tier 4 Ss_25_45_88_40 Internal wall tiling systems

EXTERNAL WALLS		
Ss-20-10-75-45	Light steel framing systems	Architectural
Ss-25-13-50	Masonry wall systems	Architectural
*Ss-25-13-50	Masonry wall systems - Structural	- Structural
Ss-25-05	Wall and barrier substructure systems	Architectural
Ss-25-10-20	Curtain walling systems	Specialist
*Ss-25-10-20	Curtain walling systems-Arch	- Architectural
Ss-25-30	Door and Window systems	Specialist
*Ss-25-30	Door and Window systems-Arch	- Architectural
Ss-25-40-70	Render and roughcast coating systems	Architectural
Ss-25-20-55	Natural stone cladding systems	Specialist
*Ss-25-40-70	Render and roughcast coating systems- Architect	- Architectural
Ss-25-20-55	Natural stone cladding systems	Architectural
Ss-25-30-20-39	Hinged doorset systems	Architectural
Ss-25-30-20-74	Roller shutter doorset systems	Architectural
Ss-25-30-20-70	Revolving (automatic) doorset systems	Specialist

Risk Evaluation and Compliance

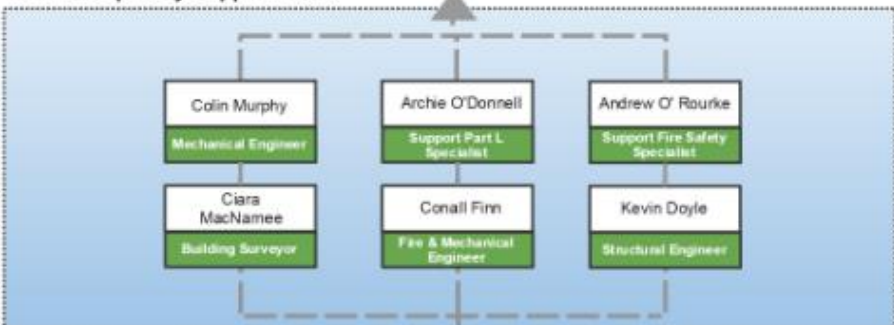


Assigned Certifier & Independent Tester

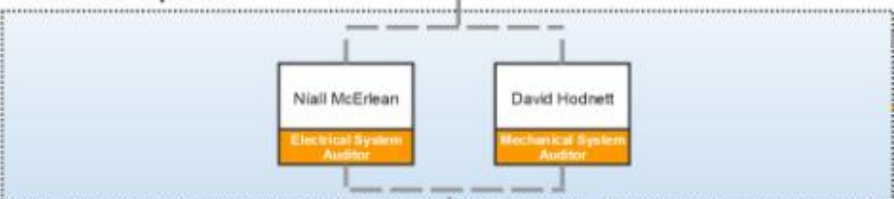


CertCentral

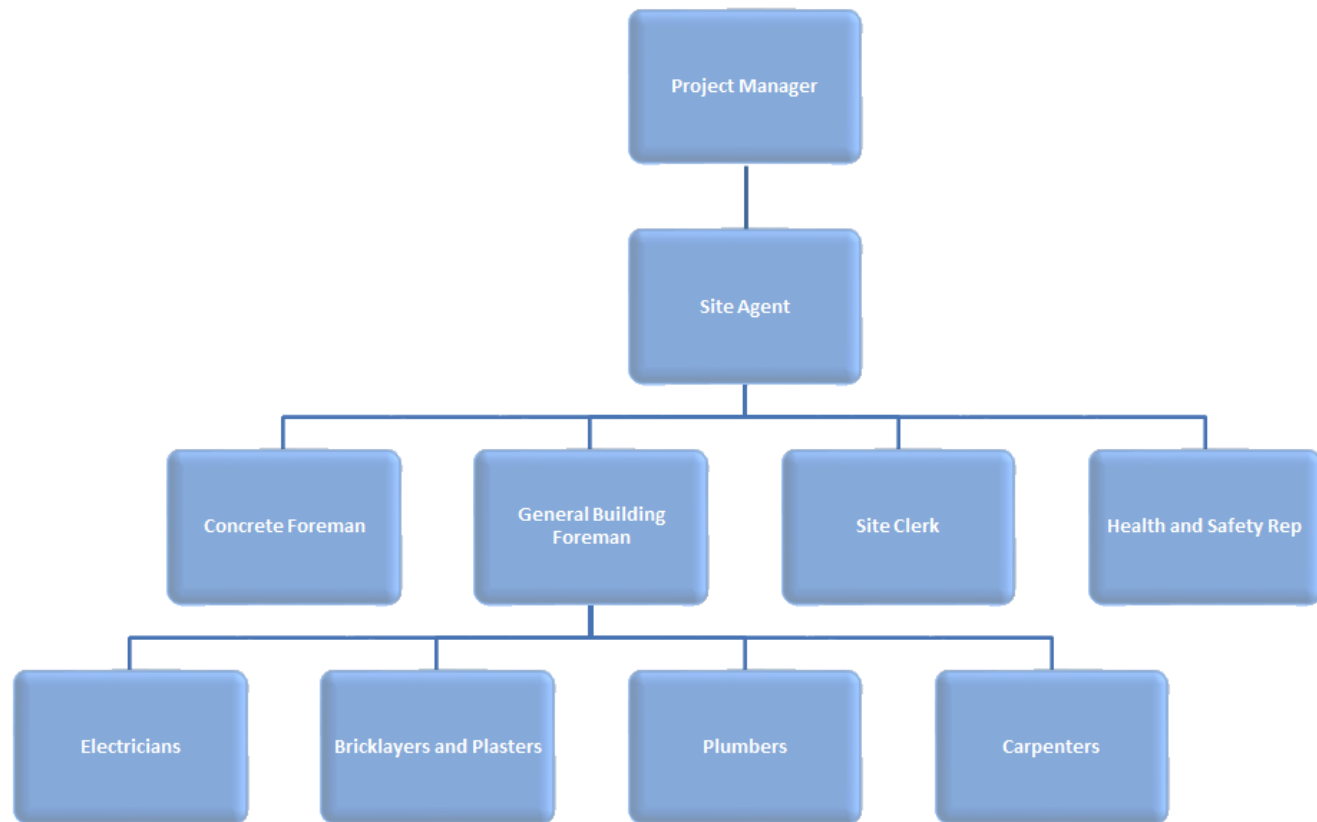
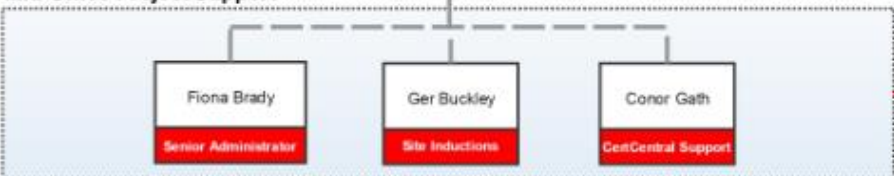
Multi-Disciplinary Support Team

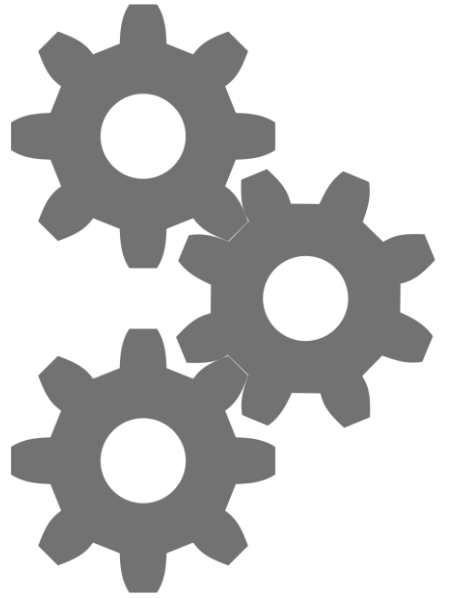


Site Trades Inspectors



Mid-Office Project Support





PARTS

Key components of a Quality Assurance system

1

Responsibility and
Competence


2

Design appraisal and
risk prioritisation

3


Site supervision and
independent oversight

Project 1											
ISSUE	IFCO Name	Raised By	Assigned Certifier	Builder	Person Responsible	Primary Reviewer	Secondary Reviewer	Associated Work Package	IFssue Classification	Date Created	Close-out Due Date
29	Damaged manhole ring	Noel Earley - i3PT	Noel Earley - i3PT	Dave Tiernan - M.B Mc	Ian O Mahony - CC	Paraic Hickey - ROD		Foul waste water below - ground drainage pipeline systems	Remedial Action Issue	10/11/2017	17/11/2017
57	No slot drain	Noel Earley - i3PT	Noel Earley - i3PT	Dave Tiernan - M.B Mc	Ian O Mahony - CC	Paraic Hickey - ROD		Surface water below - ground drainage pipeline systems	Remedial Action Issue	30/11/2017	04/12/2017
75	Drainage inspection points outside houses 5A to 7B. Gravel is getting into main drainage lines	David Hodnett - i3PT	Noel Earley - i3PT	Dave Tiernan - M.B Mc	Ian O Mahony - CC	Andrew Thomson - ROD		Foul waste water below - ground drainage pipeline systems	Work in Progress Issue	16/01/2018	24/01/2018
Project 2											
2	Pipework uncovered	David Hodnett - i3PT	Shane Hurley - i3PT		Michael Woods - OFC	David Hodnett - i3PT		Foul waste water below - ground drainage pipeline systems	Remedial Action Issue	08/03/2017	16/03/2017
3	Pipe inspection point needs to be covered	David Hodnett - i3PT	Shane Hurley - i3PT		Michael Woods - OFC	David Hodnett - i3PT		Surface water below - ground drainage pipeline systems	Snag	30/06/2017	28/07/2017
Project 3 Houses											
7	Drainage penetrations through perimeter walls	Luke McNamee - CSC	Cormac Meaney - i3PT	Sean Fitzgerald - Cairn	Gareth O'Neill - Cairn	Luke McNamee - CSC	Brian Cashin - OMP	Foul waste water below - ground drainage pipeline systems	Work in Progress Issue	30/09/2016	20/10/2016
8	Drainage penetrations through perimeter walls	Luke McNamee - CSC	Cormac Meaney - i3PT	Sean Fitzgerald - Cairn	Gareth O'Neill - Cairn	Luke McNamee - CSC		Foul waste water below - ground drainage pipeline systems	Work in Progress Issue	30/09/2016	14/04/2017
Project 3 Apartments											
46	Basement water storage tanks. 6 inch copper pipework needs a clip and a rubber cover where it is touching the uni strut bracket to avoid corrosion	David Hodnett - i3PT	Cormac Meaney - i3PT	Sean Fitzgerald - Cairn				Below-ground drainage modular plastics attenuation or storage tank systems	Snag	27/07/2017	
47	PC Circular Manholes	Luke McNamee - CSC	Cormac Meaney - i3PT	Sean Fitzgerald - Cairn	Gareth O'Neill - Cairn	Luke McNamee - CSC		Foul waste water below - ground drainage pipeline systems	Work in Progress Issue	21/12/2016	09/02/2017
162	Manholes	Luke McNamee - CSC	Cormac Meaney - i3PT	Sean Fitzgerald - Cairn	Gareth O'Neill - Cairn	Luke McNamee - CSC		Foul waste water below - ground drainage pipeline systems	Work in Progress Issue	05/04/2017	14/04/2017
Mixed use - Basement											
48	Sisk Drainage ITP's	Eoghan Loughrey - WME	Conall Finn - i3PT	Adam Craig - SISK	Brendan Walsh - SISK	Eoghan Loughrey - WME		SW - Foul Drainage below ground	Work in Progress Issue	24/11/2017	30/03/2018
56	#1847 drainage pipe too low	Alex Schoenmakers - OMP	Conall Finn - i3PT	Adam Craig - SISK	Ian McCann - LL	Daryl Bent - OMP	Stephen Walsh - WME	SW - Foul Drainage below ground	Remedial Action Issue	09/02/2018	28/02/2018

ISSUE	IFCO Name	Raised By	Assigned Certifier
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Project 2			
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Project 3 Houses			
7	Drainage penetrations through perimeter walls	Luke McNamee - CSC	Cormac Meaney - i3PT

Issues identified on a housing project inform all future projects

Tracking issues and learning

IFCO Record			
IFCO PIN NUMBER	10	IFCO Title	Damaged manhole ring
Description of the Issue	Concrete manhole is cracked and external drop pipework cracked with gravel inside pipe. Ring to be repaired and pipe to be cleaned		
Associated Work Package	Foul waste water below-ground drains		
			
Location/Zone:	House 17 type B1	Floor Plan:	Site Layout Plan



Issues tracked and closed out by Team



Tracking issues and learning

Meet CertCentral

CertCentral® keeps your projects moving – without defects, delays and disputes. Our cloud-based system allows each stakeholder to stay on top of:

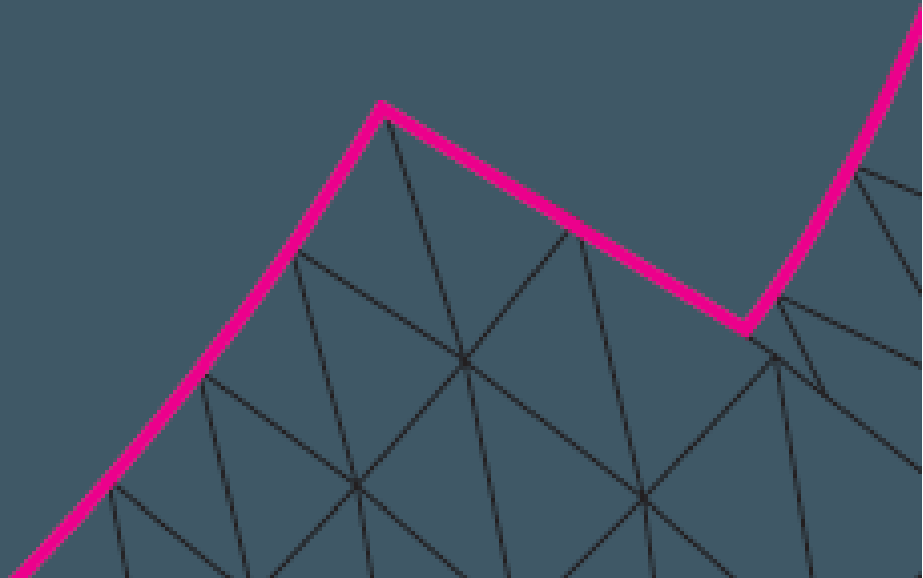
- inspection plans
- design information
- queries
- design reviews
- quality control
- benchmarks and other key project information

Instant updates.

Your stakeholders get regular notifications and updates – with only the information they need. This saves time and gives clarity. It's simple to use and integrates seamlessly with BIM. CertCentral®, which includes a sophisticated Common Data Environment, has been designed with a focus on speed, efficiency and accessibility. Simply put, everyone is clear on what needs to be done and it's easy to find what you need.

Status reporting - What gets measured gets done.

Get regular project compliance reports which include the current status of:

- Project Executive Summary
 - Inspection Plan 4-week look-ahead
 - Benchmark Log
 - IFCO Log
 - Project Experience Log
 - Key Performance Indicators
 - Open Queries Raised
- 

**business knows that projects
can often be derailed by
what we call the 3Ds - defects,
disputes and delays.**



CertCentral - File Manager

Common Data Environments are now essential on construction projects. Our File Manager allows the project team to access documentation in an efficient manner using an intuitive interface and it's fully BIM and PAS 1192 ready.

- Build flat-folder structures for project drawings, specs and models with a simple, clear interface.
- Upload files manually using the existing file naming structure - or choose rapid bulk upload with the PAS1192 file-naming structure.
- Add revisions when you need to.
- Check document status, whatever the project stage.
- Get to documents with the quick search function or instant filters.
- Set access rights by folder and by user.
- Select manual or daily batch notifications for folders.

Uploading records to Common Data Environment (CDE.)

PAS 1192 Conventions

Container	1	2	3	4	5	6	7
	Project	Originator	Volume	Level	Type	Role	Number
Pas1192	CSD2	CSC	B6	ZZ	M3	S	0001

Record Set

Container	1	2	3	4	5	6	7	8	9
	Project	Originator	Volume	Level	Type	Role	Number	Description	Status
I3PT record	CSD2	CSC	B6	ZZ	M3	S	0001	<u>-Document Name</u>	-A, -D3



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