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Jordan Schools Construction and Rehabilitation Program

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Implemented by:

CDM International Inc. / ATS&R Planners-Architects-Engineers / CC Consultants



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GOAL: Plan for the Future

- ✓ Think of the “Learning Place” and the delivery of education for the next 20 years
- ✓ Break away from preconceptions –
“Look outside the window instead of in the mirror”
- ✓ Envision a learning environment that embraces the learner, educator, culture, & the community



Construct learning environments that...

- Reduce overcrowding in classrooms
- Reduce double-shifting
- Reduce rented facilities in poor condition
- Provide capacity for increasing enrollment
- Provide educational environments that enhance learning for students, teachers and community
- Provide equity of facilities for boys and girls
- Provide opportunities for the application of technology in learning

Design concepts support ERfKE...

Designs that...

- Respond to innovations for student-centered learning
- Integrate technology into learning process
- Increase opportunities for lifelong learning
(students, non-school completers, adults, and community)
- Encourage equity and school participation
- Are safe, attractive, and comfortable
- Are sustainable with low operating & maintenance costs

Design concepts support ERfKE...

Paradigm shift (according to ERfKE)

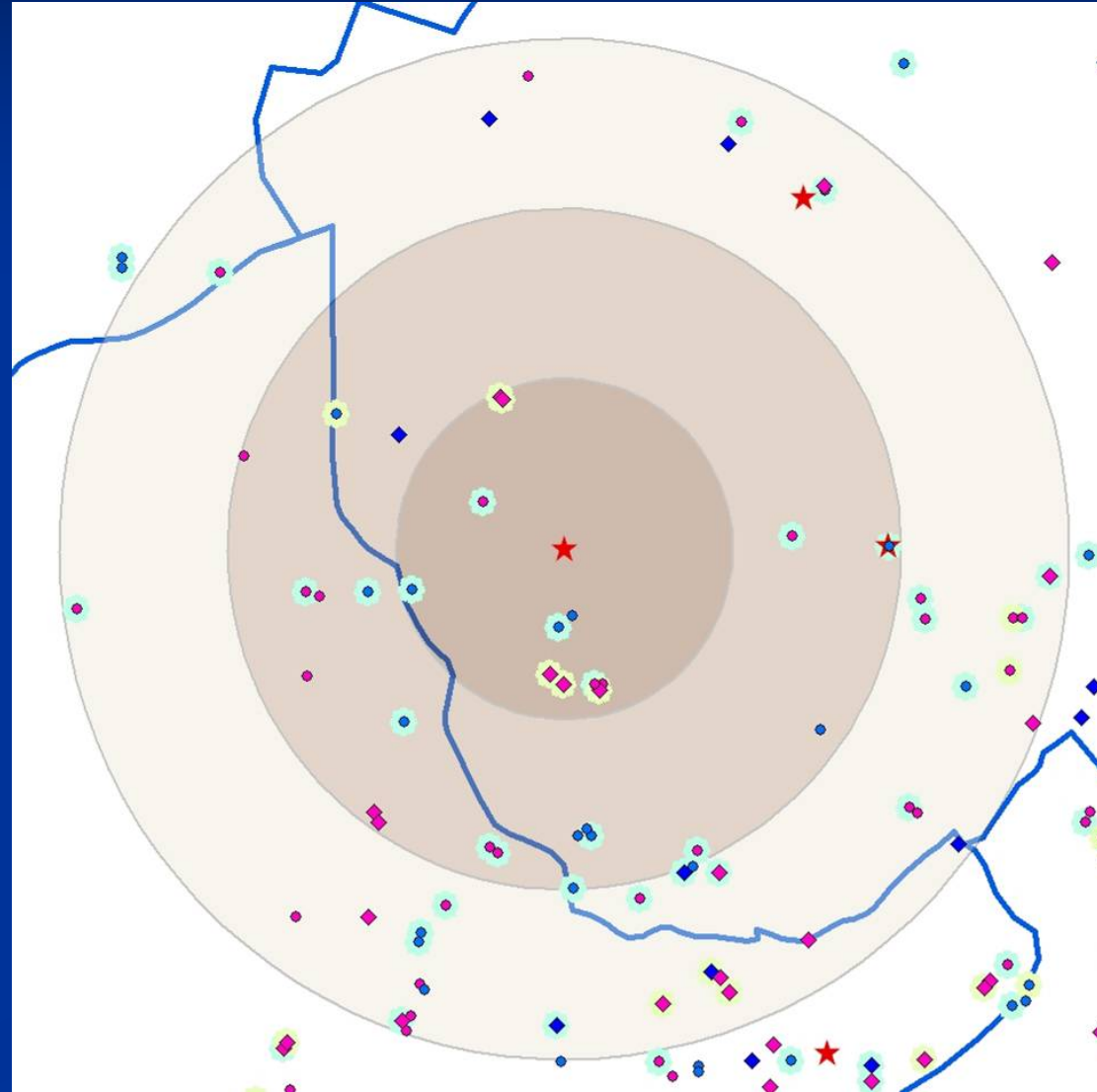
Instruction	Learning
Provide instruction, teacher controlled	Produce learning, student centered
Support the lecture	Support diverse teaching methods
Specified time, learning varies	Specified learning outcomes, time varies
Improve instruction	Improve learning
Transfer knowledge	Discovery and understanding
Prescribed approach	Choice, experiment, risk, assess
Classroom	Variety of learning environments

JSP school designs
support integrated learning
across subject areas.

Site selection methodology

Expected Number of Enrollment (GIS Based Approach)

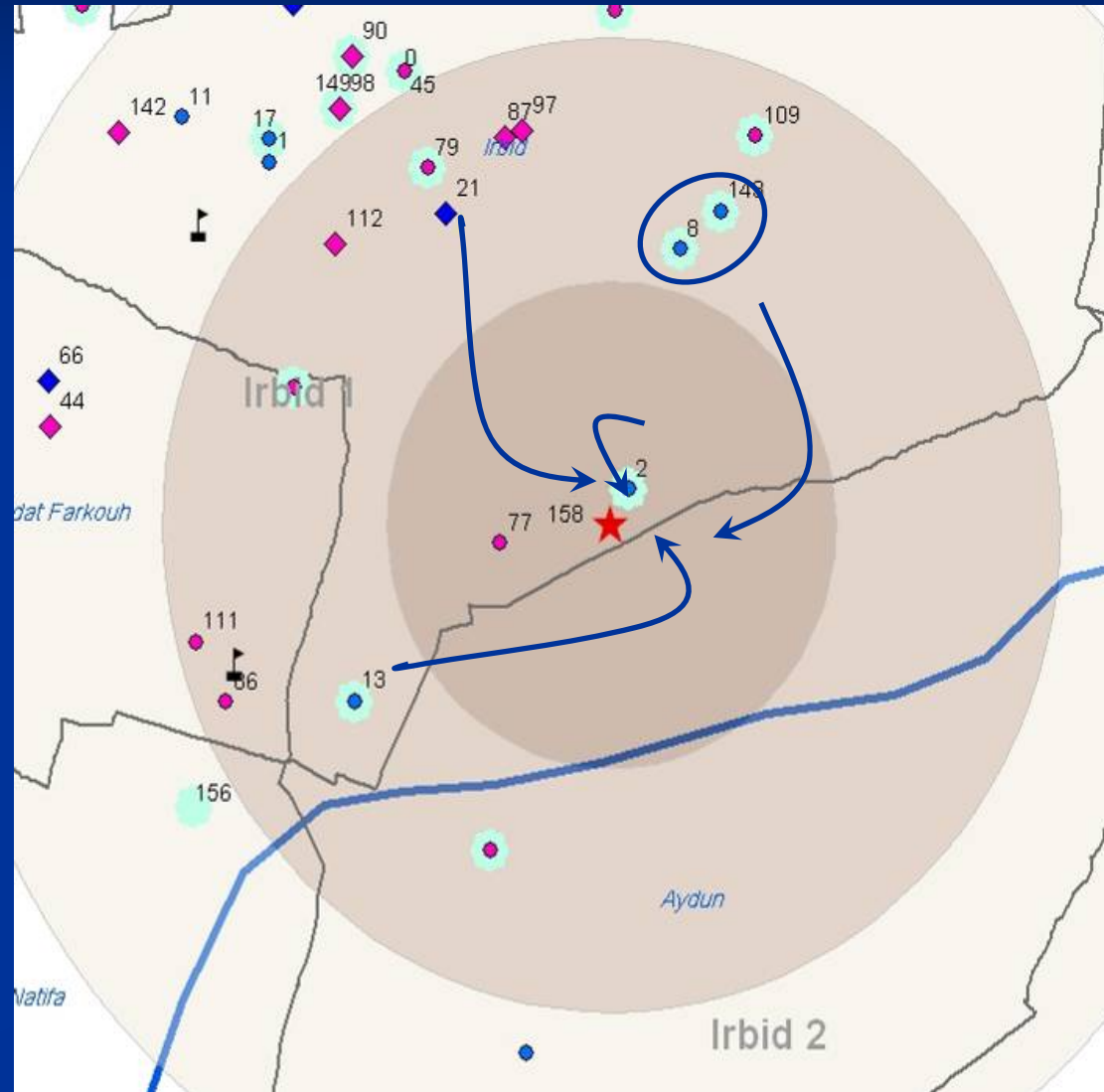
- Mapping the existing schools
- Determine overcrowding and the double shifted schools



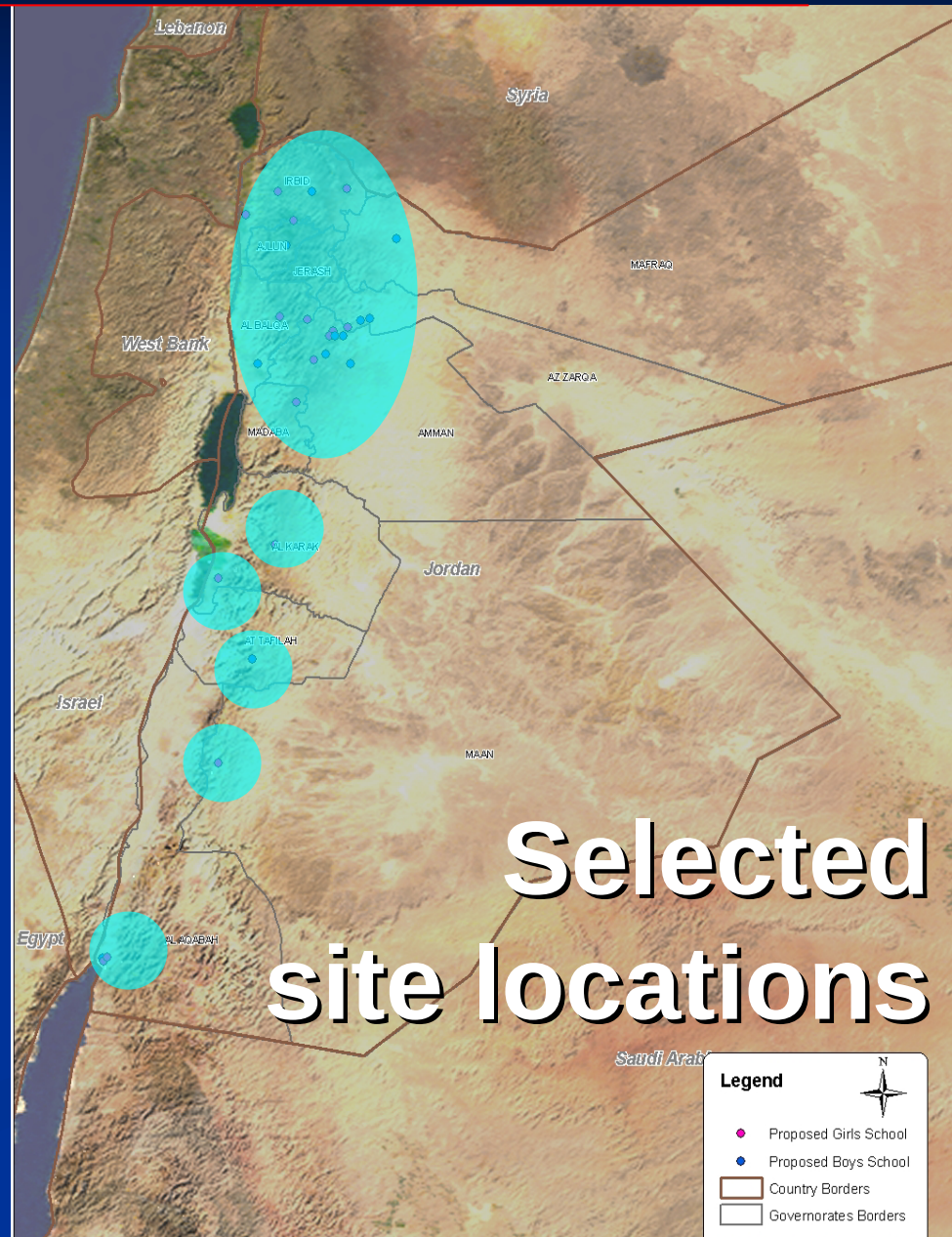
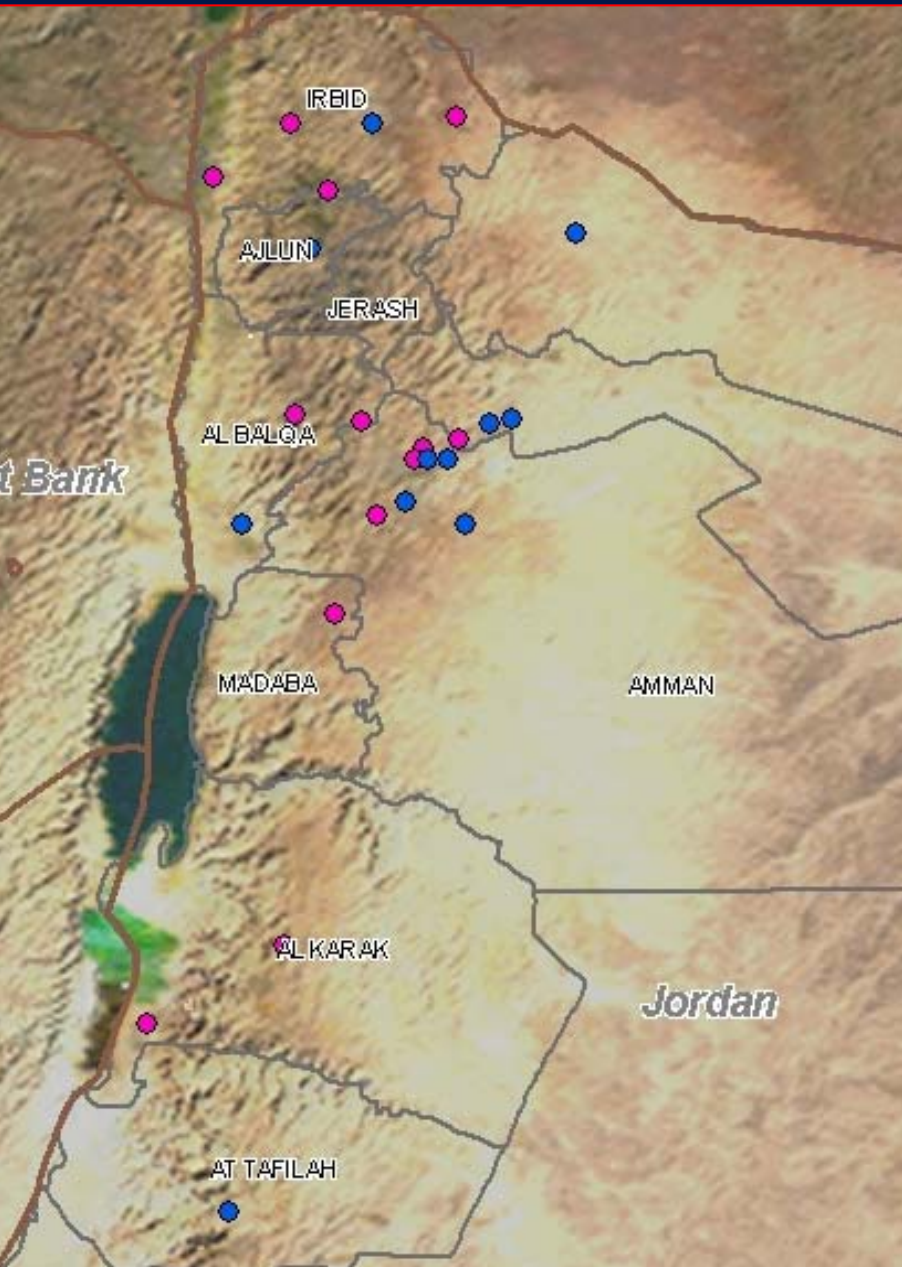
Site selection methodology

Assumptions to Calculate the Expected Enrollment Number

- All students in rented facilities will go to the proposed new site
- The students causing overcrowding or double shifting will go to the proposed new site



Site selection methodology



Selected sites for new schools – Package 1

Need Based Rank	Directorate	School Name	Grades	Gender
13	AQABA	Alkarameh	1st - 12th	G
14	AQABA	10 Area	1st - 12th	G
16	AQABA	8th Area	1st - 12th	M

Selected sites for new schools – Package 2

Need Based Rank	Directorate	School Name	Grades	Gender
1	Ar-RSAIFA	Safeiah Basic Co. At-Tatweer 3rd	1st - 3rd	C
2	ZARQA 1	Jabal Tareq Basic Male Jabal Tareq	1st - 10th	M
3	AMMAN - 4	Dahiet Ameer Hassan	1st - 10th	C
4	AMMAN - 3	Sahab	1st - 10th	M
5	MADABA	Madaba Basic Co. Madaba	1st - 7th	C
6	AMMAN - 3	Um Qsir/Mgabalin Basic Male Al-Mgabalin	4th - 8th	M
7	AMMAN - 4	Saed Bin Abi Wakas	1st - 6th	M
8	IRBID - 1	Hay Aj-Janobi Basic Male Hay Aj-Janobi	1st - 10th	M
9	Ar-RSAIFA	Shajaret Al Dur Basic Female	1st - 10th	C
10	AMMAN - 4	Al-Qadesiah Sec. Female Tareq /Tabarbor	8th - 12th	F
11	EIN AL-BASHA	Al-Qadesiah sec. Co. Safoot	1st - 12th	C
12	Ar-RAMTHA	Ezz Ad-Dien Basic Co. Ar-Ramtha	1st - 10th	C
15	AMMAN - 4	A.Reyadh Basic Male Marka	1st - 10th	M

Selected sites for new schools – Package 3

Need Based Rank	Directorate	School Name	Grades	Gender
17	Al-PATRA'	Wadi Mousa Basic Co. Wadi Mousa	1st - 10th	C
18	Al-AGWAR / North	Al-Mashare' Basic Female Al-Mashare'	1st - 10th	F
19	Al-KARAK	Al-Marj Basic Co. Al-Marj	1st - 9th	C
20	AJLOUN	Hettien Basic Co. Ein Jannah	1st - 6th	C
21	As-SALT	Al-Qabesy Sec. Co. Al-Buhairah	1st - 12th	C
23	AMMAN - 2	um As-Somaq Sec. Female Na'our	1st - 12th	F
24	IRBID - 3	Al-Taibah Sec. Female Al-Taibah	11th-12th	F
25	SHOUNA JANOBIA	Aj-Jofah Sec. Male Aj-Jofah	1st - 12th	M
26	Al-AGWAR South	Al Safi	1st - 6th	C
27	AL-MAFRAQ	Hay Al-Hussein Sec. Male Hay Al-Hussein	3rd - 12th	M
28	IRBID - 2	Irhaba Basic Co. Irhaba	1st - 10th	C+R
29	AMMAN – 2	Al Bhayat	7th - 12th	M

Aqaba Area Renovation & Addition Schools

- Khawla Bint Al Azwar Basic Co. Girls
- Al Hashimeiah Basic Girls
- Fatima Az Zahraa Basic Girls
- Zain Ash Sharaf Secondary Girls
- That As Sawari Secondary Girls
- Al Amira Basma Basic Co. Girls
- Abdullah Bin Qais Basic Boys
- Khadija Bint Khuwailed Basic Co. Girls
- 8th Area Secondary Girls
- Ad Diseh Secondary Girls
- Rashidiyah Secondary Co. Girls
- Quaira Secondary Girls
- Quaira Secondary Basic Girls

Amman Area Renovations & Extensions

- Omar Bin Al Khattab Secondary Boys
- Marj Al Hamam Basic Co. Girls
- Um Al Harith Secondary Girls
- Um Salamah Basic Girls
- Al Jubaiha Secondary Girls
- Fatima Az Zahra' Secondary Girls
- Qutaiba Bin Muslim Secondary Boys
- Safana Bint Hatem Basic Girls
- Bilal Bin Rabah Basic Boys
- Abu Obaida Basic Boys
- Akef Al Fayez Basic Boys
- Iben Hisham Basic Boys
- Shmaisani Al Gharbi Basic Girls
- Al Jubaiha Secondary Boys
- Al Tatbiqat Basic Boys
- Al Moutasem Basic Boys
- Al Israa' Secondary Girls
- Bint Adi Secondary Girls
- Firas Al Ajlouni Secondary Boys
- Um Habibah Basic Co. Girls
- Al Amira Alia Secondary Girls
- Ain Jalout Secondary Girls

Selected sites

■ Project status

- 3 New Aqaba schools



Design approach

■ Design concepts

■ Learning clusters

*Resource areas / Classrooms / Small group spaces /
Special needs areas / Labs*

■ Community zoning

Library / Computer labs / Multipurpose rooms & support

■ Support areas

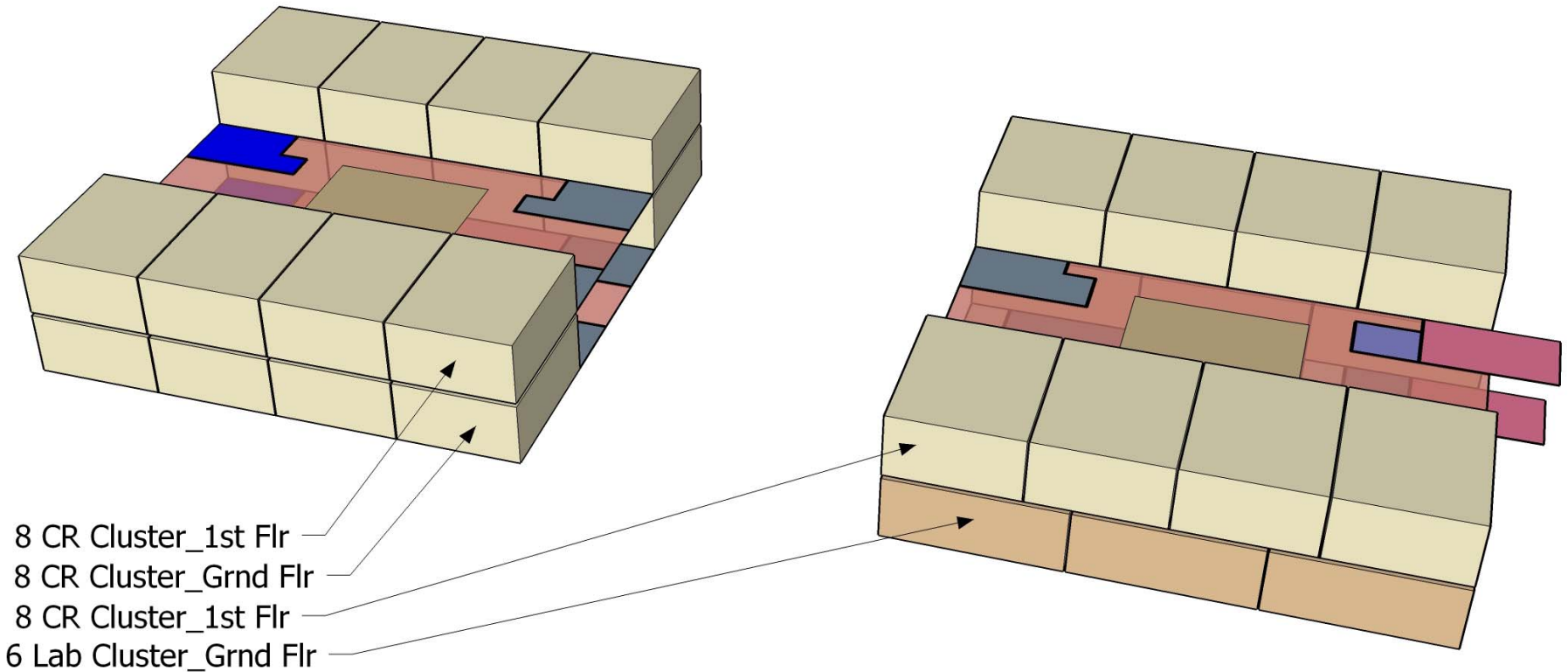
Toilets / Vertical circulation / storage & custodial / guard station

■ Core spaces

Administration / Career center / Specialists

Design concepts

■ Learning clusters – Original concept idea



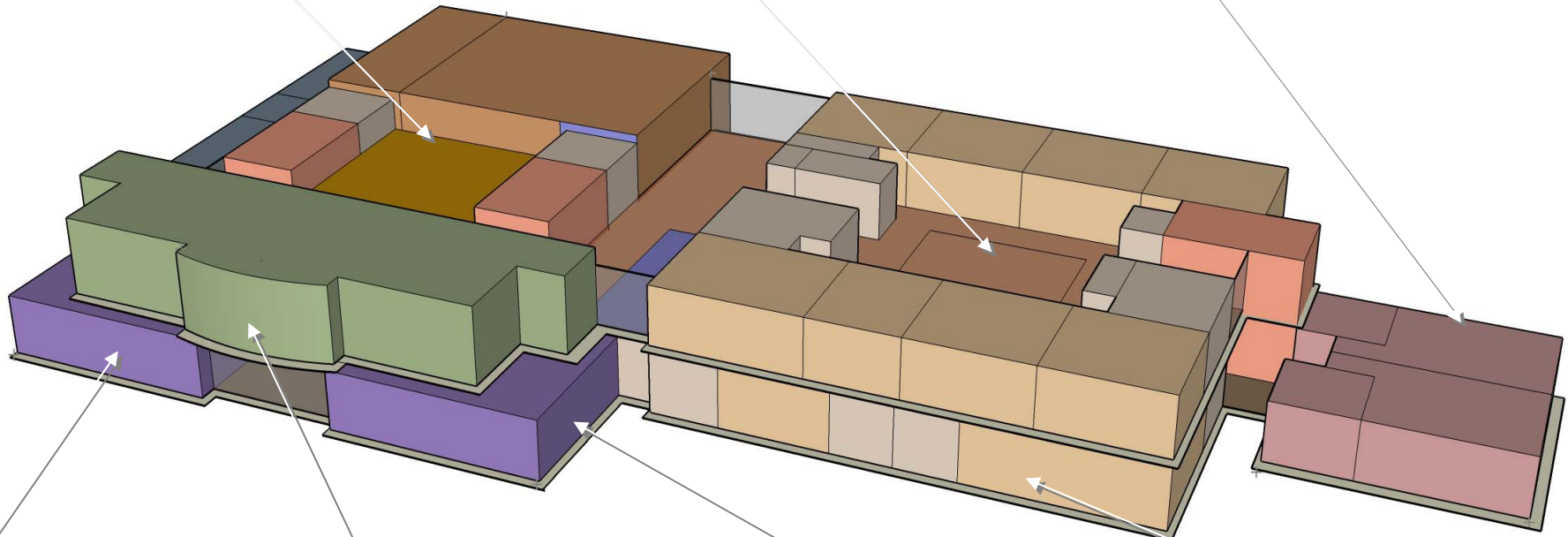
24 Classroom School with 6 Labs

Design concepts

Multi-Purpose Room
Component

Classroom Cluster
Component

Kindergarten Cluster
Component



First Aid/Child Care
Component

Knowledge Center
Component

Administration
Component

Lab Cluster
Component

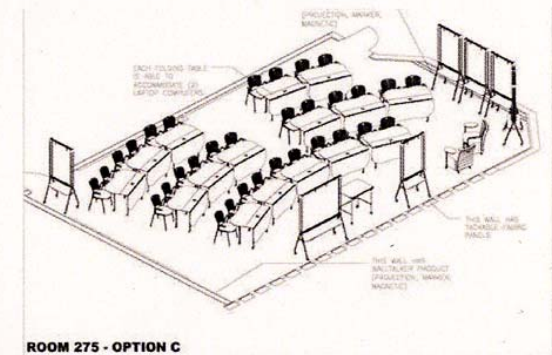
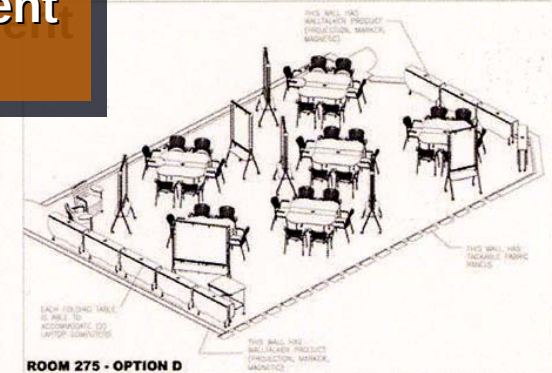
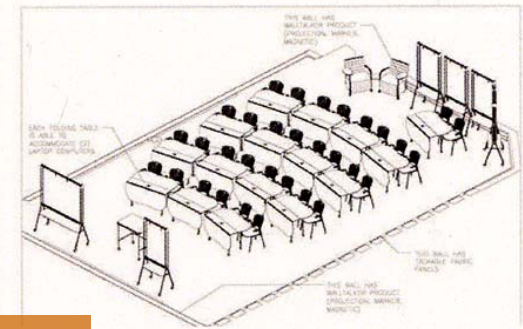
“A” – ‘Compact’ School Concept

Design concepts

The classroom as a studio



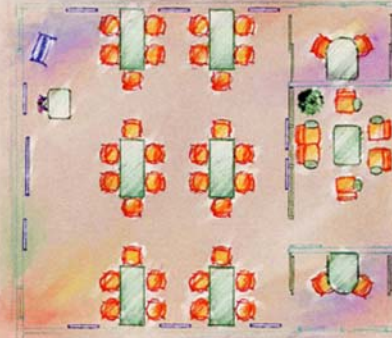
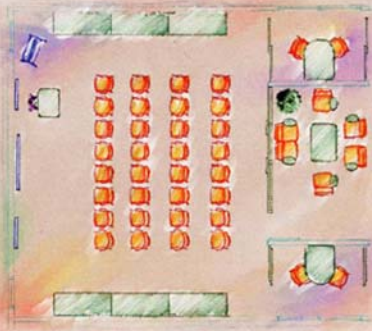
Classroom area / student
= 1.55 sm/student



Adaptable Layouts

Teaching and learning

The classroom as a studio



Teaching and learning

Areas for instruction, discussion, debate



Teaching and learning

Areas for instruction, discussion, debate



Teaching and learning

Resource areas / small group areas



Flexibility

Teaching and learning

Areas for cooperative learning and individual work



Design concepts

■ Community zoning (Daheiat Al Ameer Hasan – Amman 4)

Playgrounds

Gym /
multipurpose

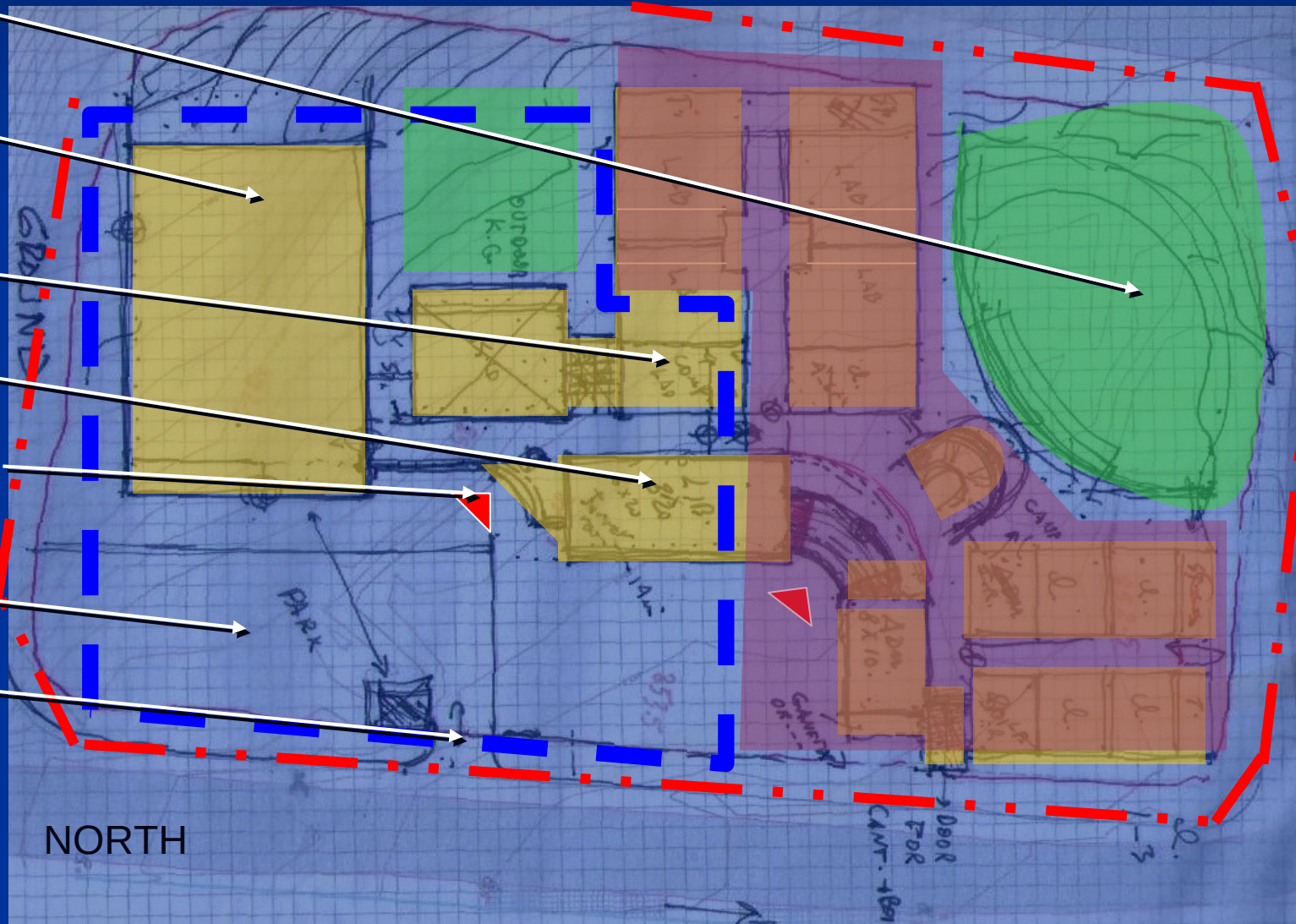
Computer

Library

Separate entry

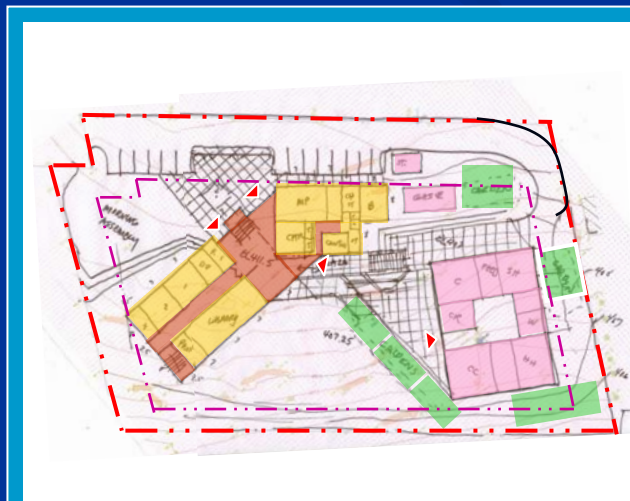
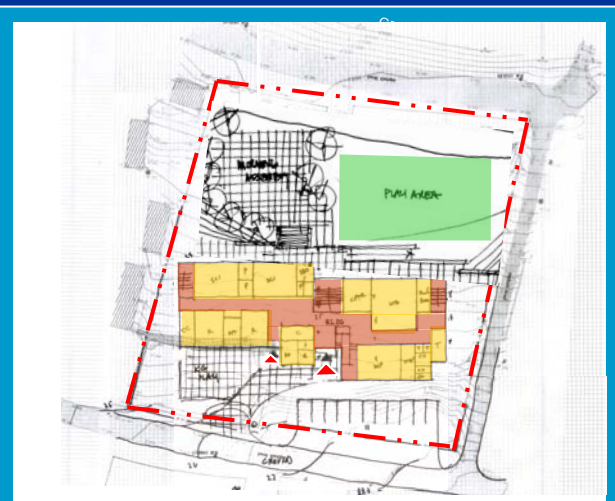
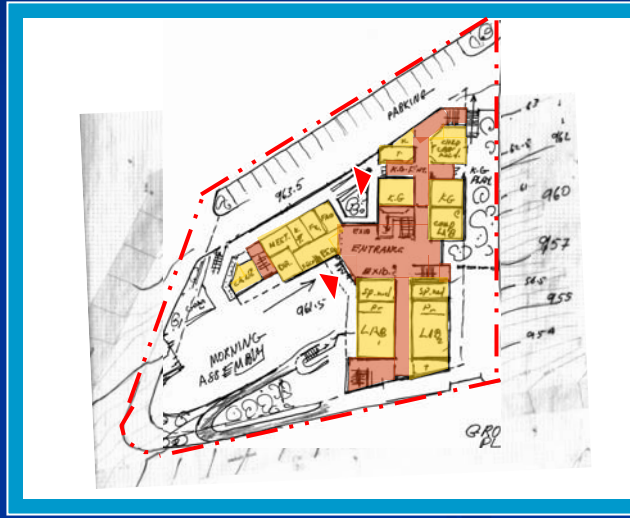
Parking

Site entry



Design concepts

■ Site specific designs



Design approach

■ High performance

- Local construction materials
- High quality / low maintenance

Floors

Porcelain tile throughout
Granite at stairs

Carpet in multi-use & library
Anti-static tiles in computer labs

Walls

Plaster w/ washable paint

Porcelain at toilets

Ceilings

Plaster w/ paint

Exterior walls

Plaster w/ weather-shield

Sport & open courts

Concrete screed at play courts

Concrete at morning area

Precast/concrete tiles at pathways/pavements

Fine gravel for KG area

Design approach

■ High performance

■ Fixtures

Granite wash basins – push button controls

Toilets – mechanical flush valves

Steel door frames – wood laminated doors

Windows – double-glazed

■ Insulation

Exterior envelope

Continuous thermal insulated cavity block walls

Thermo-break double-glazed windows – Low-E

Roofing thermal insulation / waterproofing / gravel

■ Day-lighting

Windows as much as possible

Secondary day-lighting to interior spaces

■ Under consideration

Rainwater collection for irrigation

Solar energy / under-floor heating

Energy management systems

Design approach

■ Indoor Air Quality

- Natural ventilation throughout
- Air conditioning for Aqaba & Jordan Valley schools
- Heating systems (except Aqaba & Jordan Valley)

■ High performance

- Infrastructure throughout
- Technology

Data drops

Classrooms & labs – 6

Resource area – 4

Multi-purpose – 2

Computer labs – 19

Library – 12 (students) 3 (staff)

Staff – 1 per staff

Wireless technology

Internet access – backbone based on fiber optics w/ tech hubs

Ceiling projectors – provision in classrooms / labs / multipurpose / library

Public Address system throughout

Security system – cameras at entries interior & exterior

Design approach

■ Sustainable Design

- Building placement to maximize the environmental conditions on the site;
- Design for community use to ensure good value for the environmental investment and to support stable communities;
- Encouragement for the use of local materials where feasible;
- An energy efficient building envelope including a high r-value wall section and insulated glazing;
- Options for system selection for high efficiency mechanical equipment;
- Window placement, window size and overhang configuration for appropriate daylighting and controlled heat gain;

Design approach

■ Sustainable Design

- Consideration for non-traditional mechanical systems, taking into account energy consumption, first cost, operational costs, and other factors;
- Capturing of solar radiation for heat and/or electricity generation;
- The school as an environmental teaching tool;
- Enhanced indoor/outdoor relationships; and
- Retention of storm water for irrigation.

The difference

Design schools that...

- Respond to current educational processes while allowing and encouraging innovation in teaching for student-centered learning.
- Contribute to increased opportunities for lifelong learning for students, non-school completers and adults and for community interaction.
- Encourage equity, and school participation and completion.
- Are safe, attractive and comfortable.
- Will be sustainable with low operating and maintenance costs, and with utility for many years.