

Who is FDS?

FDS develops advance auto-design-build AI construction software for civil, mechanical, engineering, environmental, right-of-way, surveyor, and CAD-GIS projects.

FDS M construction and as-built products serve the largest pipeline, utility, railroad, highway, surveying, construction, as-built, ENR design firms, development, and compliance companies world-wide.

FDS M reduces project costs and timelines at all vertical levels so you can build more!



[SEE SOLUTIONS](#)

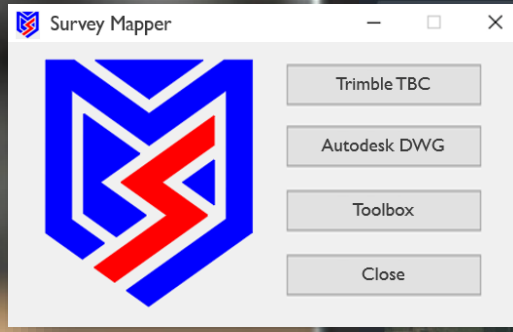
Supporting Autodesk C3D-Map to Infinity On with AI Technology

Autodesk Civil 3D 2023 C:\FDS\1.0 FDS DEMO DRAWINGS\Route Mapper\Comstock Prelim align master.dwg

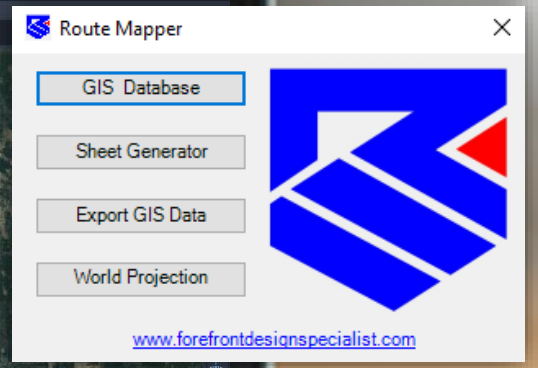
FDS M Products

Auto-Design-Build

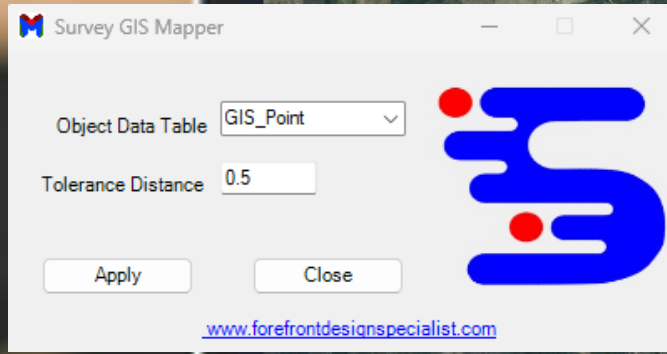
Products




Survey Mapper window with logo and buttons: Trimble TBC, Autodesk DWG, Toolbox, Close.



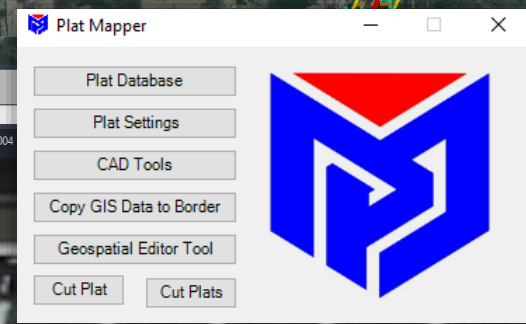
Route Mapper window with logo and buttons: GIS Database, Sheet Generator, Export GIS Data, World Projection. URL: www.forefrontdesignspecialist.com



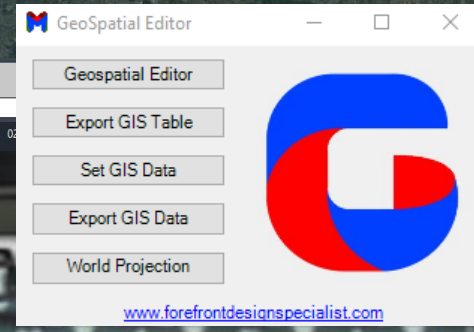
Survey GIS Mapper window with logo and fields: Object Data Table (GIS_Point), Tolerance Distance (0.5), Apply, Close. URL: www.forefrontdesignspecialist.com



Route Mapper DASHBOARD window with fields for KMZ, Reports Folder, Centerline Length, Material 1-4, Miles, Parcels, Parcels Closed, Wetlands, Crossings, Pipelines, Pipe Size, Directional Drills, Field Bends, Induction Bends, Valves, Welds. URL: www.forefrontdesignspecialist.com



Plat Mapper window with logo and buttons: Plat Database, Plat Settings, CAD Tools, Copy GIS Data to Border, Geospatial Editor Tool, Cut Plat, Cut Plats.



GeoSpatial Editor window with logo and buttons: Geospatial Editor, Export GIS Table, Set GIS Data, Export GIS Data, World Projection. URL: www.forefrontdesignspecialist.com





FDS M Products



Survey Mapper supports Trimble and Autodesk C3D software's. Great plug-n-play surveyor field to finish auto-draw tools. Includes Survey GIS Mapper software.



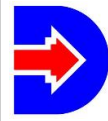
Survey GIS Mapper supports Autodesk C3D software. This tool supports Survey Mappers 22-point attribute system and auto-attaches AEC Cogo Points as GIS object data to your survey linework, blocks, and symbols.



Plat Mapper Ai supports Autodesk C3D-Map software. Automates one Plat at a time or hundreds of Plats at a time with a Legal Sheet for Preliminary and RPLS plats. Includes the Geospatial Editor tool.



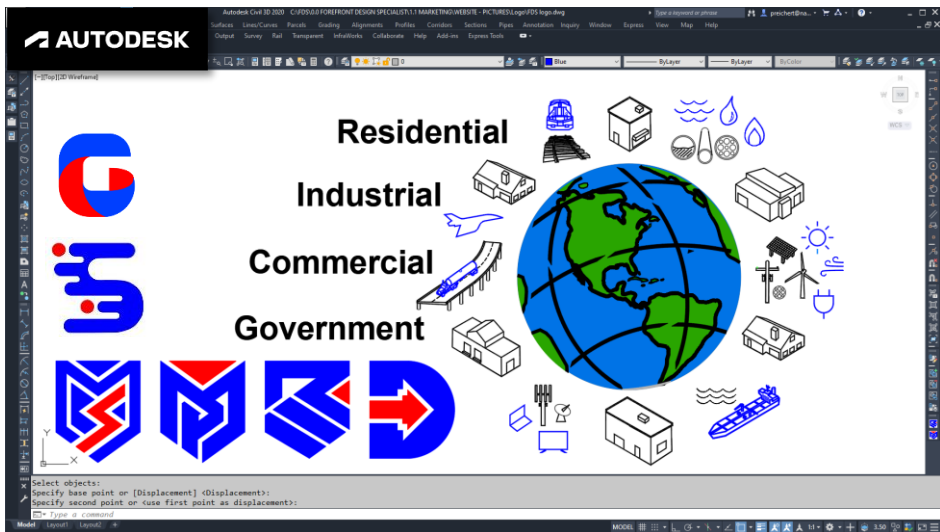
Route Mapper Ai 2D-3D supports Autodesk C3D-Map software. Auto-design-builds full EPCM packages. Provides the resources of an engineering firm in a box. Reads-writes-records GIS data! Fast and accurate Alignment Sheets, Permits, and more!



Dashboard software is a standalone desktop tool for project lifecycle data management. Works with Route Mappers project reporting system.



Geospatial Editor supports Autodesk C3D-Map software. GE Tool globally automates GIS object data table management per your centerline selection.





CONSTRUCTION PROJECT PROCESSES

Commercial Originator Plan Stakeholders Investors Manage Project Set All Schedules Gets Vendor RFPs	PM Project Management Route Centerline Get Historical Data Optimization	GIS Pipeline Mapping Analyze Project Design-Build, Class Constructability	ENG Design-Build Materials Mitigate Risks Analyze Wetlands Buffers, Restore	ENV Mitigations Requirements DOT, DOE, FERC PHMSA, USACOE	IF YOU HAD THE DATA
WHEELHOUSE 20+ People & 36+ Activities Start-up Project, FEED Study Investigate Constructability, Risks Analyze All Design Variances Finalize Route Optimization Finalize Material Takeoffs Standards, Procedures, Processes Vendor RFI of FEED Study Reviews & Final Project Approvals GOV Permitting DOT-FERC-Others Vendors RFP for Prelim to IFC	ROW Acquisitions Analyze Land Data Costs to Acquire Plat, Buy Easement	Costs Procurement Schedules Plan, Investigate Vendor RFI, Close EPCM Breakdown	Volumes Measurements % Coverage, Flow Stage, Rate, Gains Tariff, Duration	GOV Permitting Compliance Survey, Mapping Inspections	
CA Construction As-Built Construct, As-Built Plan, Move, Align Dig, Weld, Build	IM Integrity Management Examine I/I Data Find Defects, Fix Reduce Damage	OPS Operations, Maintenance Controls Flow Facility Planning Ensures Safety	FDS M Software Route Optimization Design-Build Faster Constructability, Less Risks Faster Materials, Measurements Faster IFB Style Alignment Sheets Faster B.D. Project Reports Fast Takeoffs, Reviews, Approvals Faster GOV Permitting ✓ Faster Vendor RFP Estimates ✓ Faster Start-up, FEED study, Construction to As-Built Processes ✓ Faster Compliance, Operations ✓		

FDS M Products

FDS M products guarantee to reduce your project timelines. Our route optimization and advance constructability technology will save your construction projects time and money.

Look at the WHEELHOUSE, this is almost every owner company's processes. Now let's automate those "frontend processes" with advance route optimization technology that provides your people and contractors with all the material data they need today to approve and auto-design-build your projects tomorrow.

FDS M products support all facets of project development from start-up, management, permitting, surveying, preliminary, construction, as-built, operations, integrity, compliance, and maintenance.

You see, if you can give your company advance "Route Optimization" technology that eliminates many costs and risks for engineer mapping, all departments transparency, extra welds and bends, from move arounds, to full planmetrics. Then the FEED study is all the project drawings. Which means faster project development, faster FERC-DOT permitting, faster vendors RFI-RFP support, faster manufacturer purchase orders, faster construction, to as-built, to operations. Faster integrity and compliance! Faster GIS!



CONSTRUCTION PROJECT PROCESSES



WHEELHOUSE

20+ People & 36+ Activities

Start-up Project, FEED Study

Investigate Constructability, Risks

Analyze All Design Variances

Finalize Route Optimization

Finalize Material Takeoffs

Standards, Procedures, Processes

Vendor RFI of FEED Study

Reviews & Final Project Approvals

GOV Permitting DOT-FERC-Others

Vendors RFP for Prelim to IFC



- Manage Project
- Set All Schedules
- Gets Vendor RFPs



- Route Centerline
- Get Historical Data
- Optimization



- Analyze Project
- Design-Build, Class
- Constructability



- Mitigate Risks
- Analyze Wetlands
- Buffers, Restore



- Analyze Land Data
- Costs to Acquire
- Plat, Buy Easement



- Plan, Investigate
- Vendor RFI, Close
- EPCM Breakdown



- % Coverage, Flow
- Stage, Rate, Gains
- Tariff, Duration



- Requirements
- DOT, DOE, FERC
- PHMSA, USACOE



- Survey, Mark Data
- Examine, Doc, List
- Drafting, Mapping



- Construct, As-Built
- Plan, Move, Align
- Dig, Weld, Build



- Examine ILI Data
- Find Defects, Fix
- Reduce Damage



- Controls Flow
- Facility Planning
- Ensures Safety



FDS M Software

Route Optimization Design-Build

Faster Constructability, Less Risks

Faster Materials, Measurements

Faster IFB Style Alignment Sheets

Faster B.D. Project Reports

Fast Takeoffs, Reviews, Approvals

Faster GOV Permitting ✓

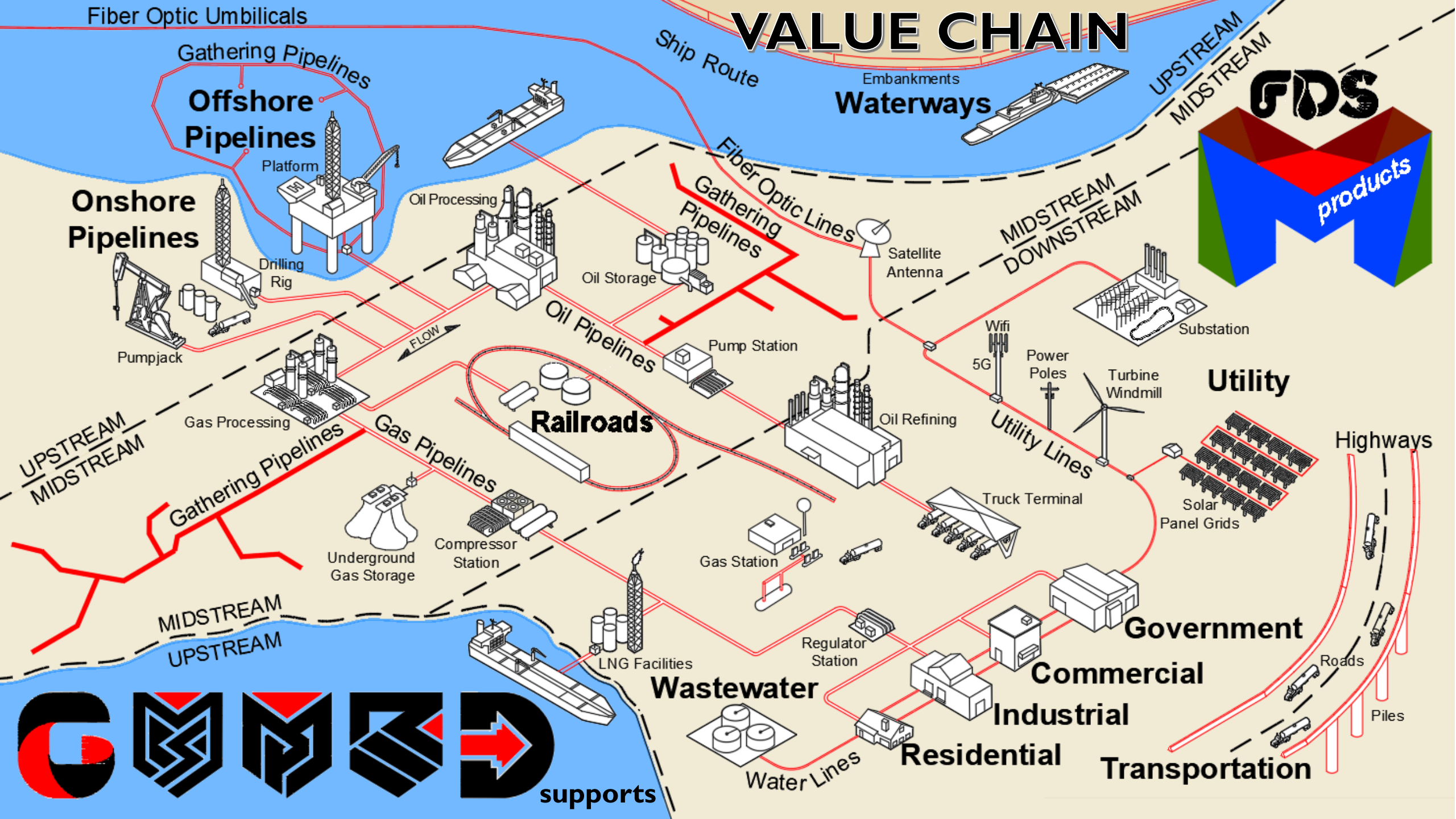
Faster Vendor RFP Estimates ✓

Faster Start-up, FEED study, Construction to As-Built Processes ✓

Faster Compliance, Operations ✓



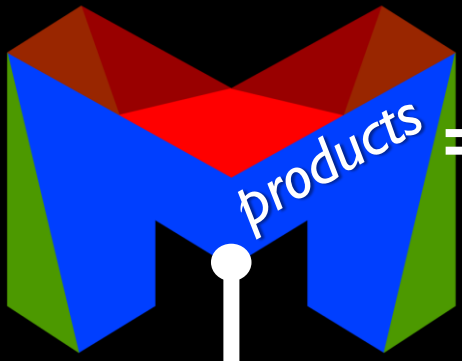
VALUE CHAIN





Trusted by 1000's of People



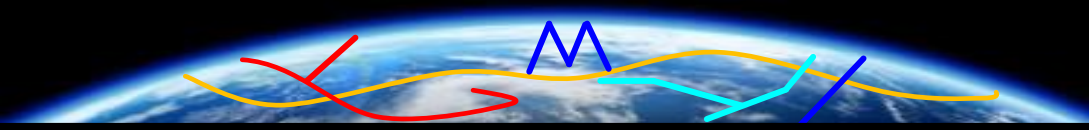


- Residential
- Industrial
- Commercial
- Government

FDS M Products
for Engineering Design
Construction Workflows

Supports All People















Supports All Processes

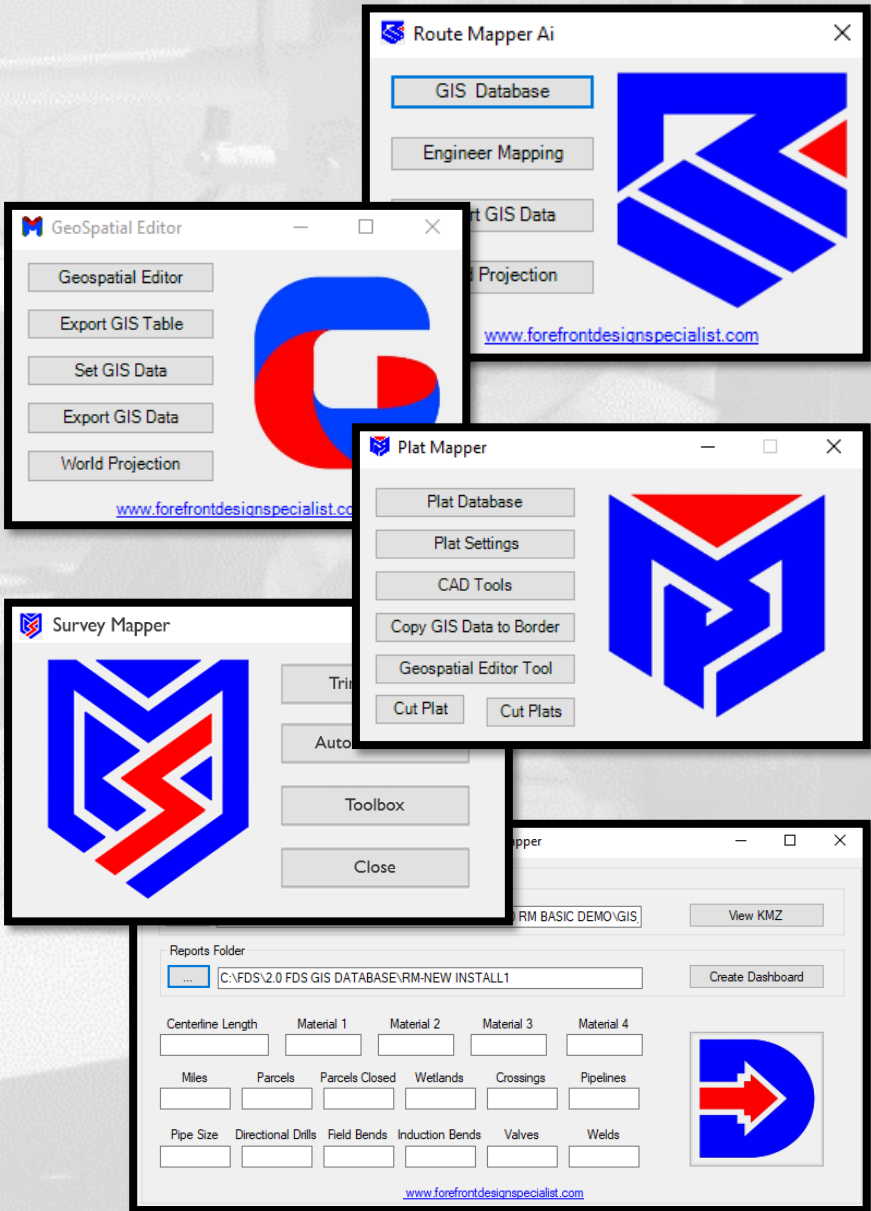


- Owners
- Commercial Development
- Business Development
- Project Managers
- Civil / Mechanical Engineers
- GIS Mapping
- Environmentalist
- Right-of-Way Agents
- Land Surveyors & Techs
- Chief Inspectors
- Constructors
- Integrity Managers
- IT & GIS Managers
- Operators
- Auditors

- Project Lifecycle Management
- Start-Up & Take-Off Planning
- Conceptual Engineering Design
- Procurement & Preliminary
- Federal Permitting Drawings
- Wetland Mitigation Analysis
- Right-of-Way Analysis
- Civil-Mech. Engineering Drawings
- Environmental Drawings
- Survey Mapping Drawings
- Construction Phase
- As-Built & Inspection Phases
- GIS Database Management
- GIS Compliance
- Operations & Commission
- Maintenance & Rehabilitation
- Federal Regulations

Strategic Innovative EPCM Workflow Software

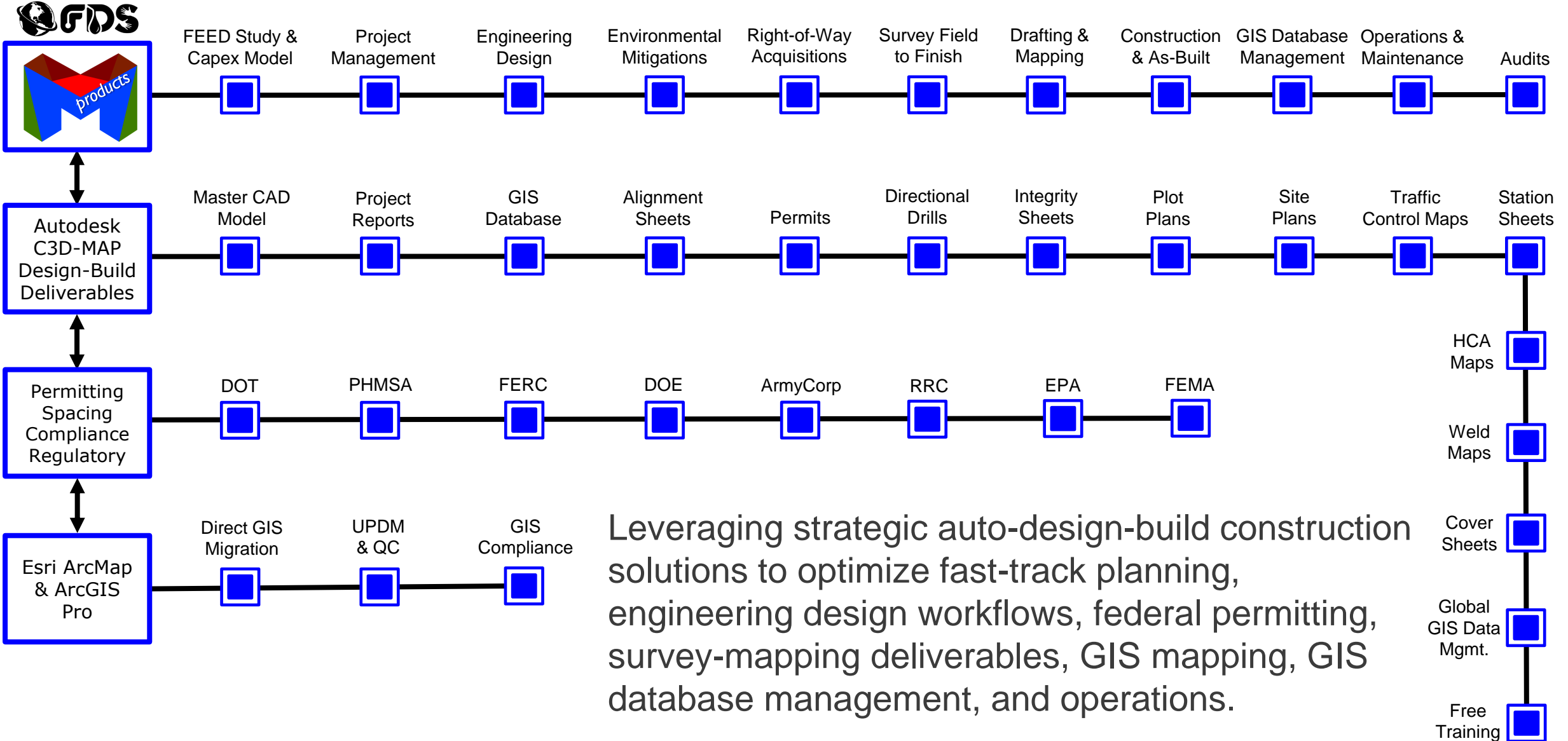
-  **BD** | Quicker FEED Study, EPC Project Reporting for All Financials and Volumes
-  **PM** | Quicker Planning, Procurement and Project Reporting for all Communications
-  **ENG** | Quicker Materials, Engineering Design Drawings and Project Lifecycle Support
-  **ENV** | Quicker Investigation, Analysis, Mitigations and FERC Drawing Deliverables
-  **ROW** | Quicker Plats Drawings for Survey Management and Right-of-Way Acquisitions
-  **SURVEY** | Quicker Land Survey Field to Finish Management Processes
-  **FEDERAL** | Quicker Permit Drawings and Project Management for Federal Submittals
-  **DESIGNER** | Quicker 2D-3D Construction Alignment Sheet, Permit, HDD Drawings
-  **CONSTRUCTION** | On-Time Construction Drawings with Complete Transparency
-  **GIS** | Quicker GIS Data Mgmt., Asset Database Management, and Data Exchange
-  **INTEGRITY** | Quicker Hydrology Drawings and ILI Inspections Drawings
-  **OPERATIONS & REHAB** | Quicker As-Built Deliverables and Project Lifecycle Support
-  **GOVERNMENT** | Quicker Compliance and Regulatory GOV Agency Deliverables
-  **AUDITS & PROJECT SALES** | Simply Quicker Project Lifecycle Data Management



The collage displays several software interfaces:

- Route Mapper Ai**: Features buttons for GIS Database, Engineer Mapping, Start GIS Data, and Projection. Includes a logo and the website www.forefrontdesignspecialist.com.
- GeoSpatial Editor**: Features buttons for Geospatial Editor, Export GIS Table, Set GIS Data, Export GIS Data, and World Projection. Includes a logo and the website www.forefrontdesignspecialist.com.
- Plat Mapper**: Features buttons for Plat Database, Plat Settings, CAD Tools, Copy GIS Data to Border, Geospatial Editor Tool, Cut Plat, and Cut Plats. Includes a logo.
- Survey Mapper**: Features a logo and a Close button.
- Reports Folder**: Shows a file path `C:\FDS\2.0 FDS GIS DATABASE\RM-NEW INSTALL1` and a Create Dashboard button. Below are input fields for Centerline Length, Material 1-4, Miles, Parcels, Parcels Closed, Wetlands, Crossings, Pipelines, Pipe Size, Directional Drills, Field Bends, Induction Bends, Valves, and Welds. Includes a logo and the website www.forefrontdesignspecialist.com.

EPCM Cloud AI Design-Build Construction Solutions



Strategic Team Collaboration Software



PROCESS CHART



Traditional Surveying

survey data (vector)

Survey Mapper

Trimble TBC

.CSV

Survey Database

All Points

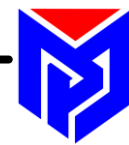
Survey Mapper

AutoCAD C3D

survey master model

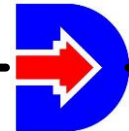
Plat Mapper Ai

plat-mapping generator



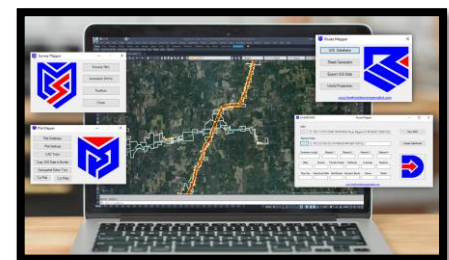
Dashboard

project management



Route Mapper Ai

engineer mapping generator



- Survey Field to Finish Tool**
1. Turnkey Plug-n-Go Tool
 2. Auto-Draw Technology
 3. Trimble TBC FXL Ready
 4. Autodesk C3D DWG Ready
 5. Simple To Utilize & Learn
 6. Matching Survey Codes
 7. Construction Standards
 8. Survey Management Plan
 9. Survey Quality Checking



Plat-Mapping Generator Autodesk C3D Product

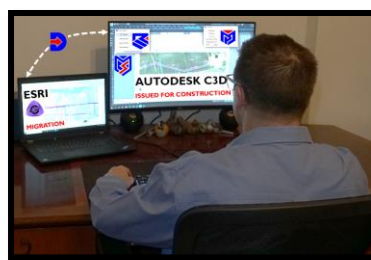
1. Automate and Manages Plat Drawings
2. Cut Separate Plat Drawings
3. Automates Survey and GIS Data Management
4. Automates Right-of-Way Parcel Line List
5. Automates Attribute Borders and Calculations
6. Includes Templates and Plug-n-Go Support

Dashboard Product

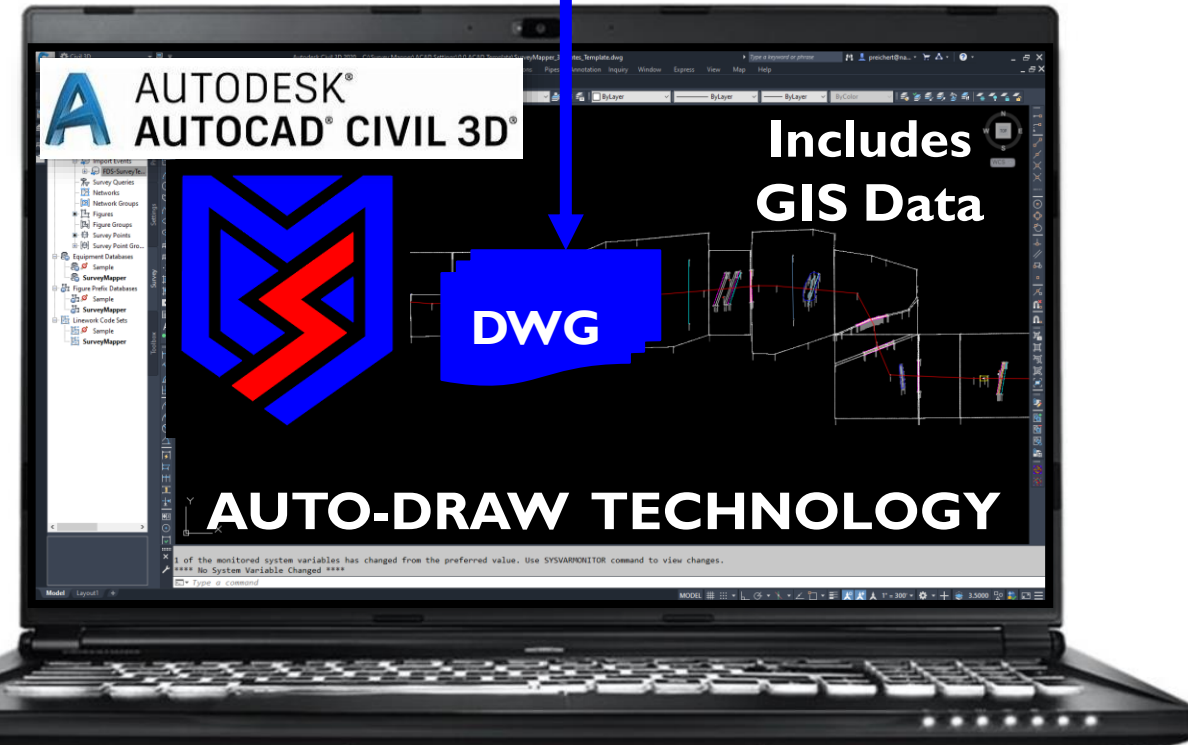
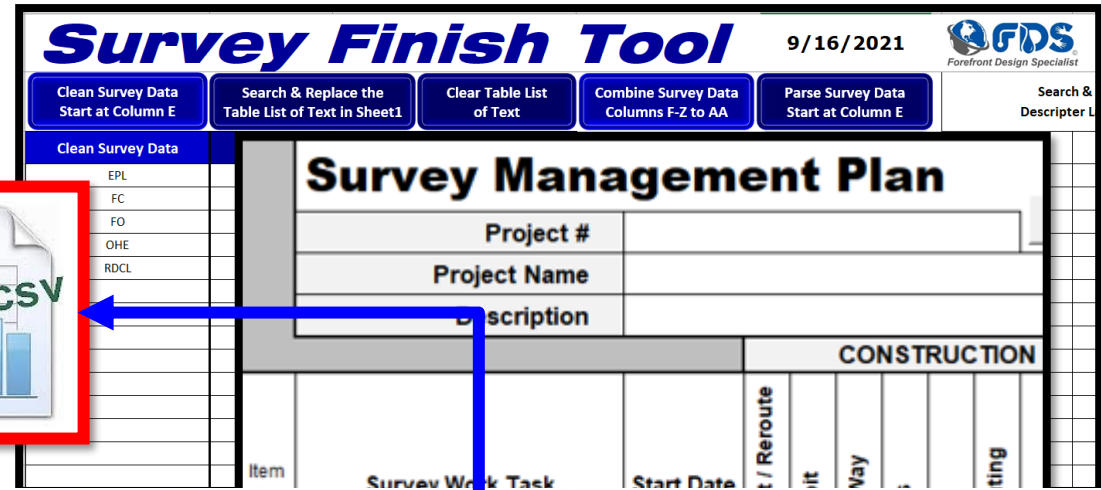
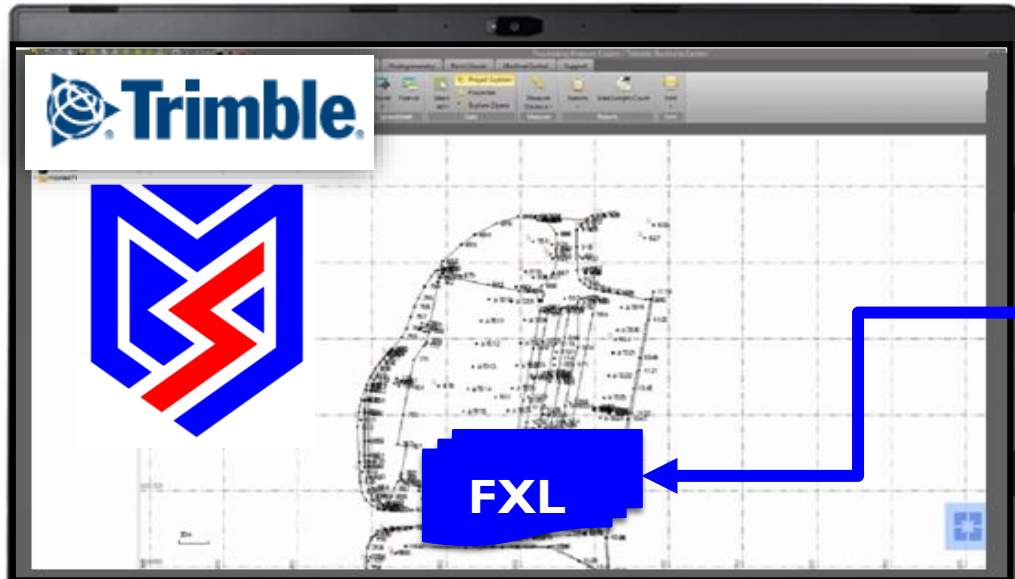
1. Live Project Lifecycle Data Management
2. Google KMZ Viewer
3. Editable Project Reporting with All Totals
4. Full Capex Model with Volumes Report
5. Right-of-Way Management support
6. Controlled Legend

EPCM Sheet-Mapping Autodesk C3D Product

1. Works with 2D & 3D Centerline / Polyline
2. Automate Revisions and Works with Reroutes
3. Automate SEED file building & GIS Database
4. Automate GIS Database Recording & Reads Xrefs
5. Automate GIS Data Attaching / Editing / Checking
6. Automate Engineering Design Materials
7. Automate EPC Project Reporting with All Totals
8. Automate Alignment Sheet Drawings
9. Automate Cut Sheets/Drawings with Xclipping
10. Automate Permit Drawings
11. Automate Integrity Sheet Drawings
12. Automate Directional Drill Drawings
13. Automate Site Plan and Plot Plan Drawings
14. Automate Station Sheet Drawings
15. Automate Weld Map Drawings
16. Automate Quality Checking with AI Technology
17. Compliance Ready and Loadable into Esri & PODS



Survey Mapper for Survey Field to Finish Construction Projects



**ROADS-UTILITIES-PIPELINES
RAILROADS-WATERWAYS
Works Right-Out-Of-The-Box
Matching Codes: FXL = DWG
Just Load and Go to Work**

Survey GIS Mapper automates GIS data mgmt. for Survey Projects

AutoSet Your Projects Autodesk C3D AEC Cogo Points as GIS Data Attached to the Linework-Blocks.

70348
 70988
 2617.339
 70988
 70338
 2615.383
 70338
 2615.383
 LOCAL EXISTING PIPELINE
 TYPE: OWNER: ENERGY
 NAME: DIA: 12"
 SURF: MATERIAL: STEEL
 COM: PRODUCT: GAS
 FN: ABOVE OR BELOW GROUND: UNDER GROUND
 COVER: 3'
 DEPTH METHOD: EXPOSED
 CLEARANCE: 2'
 CROSSING ANGLE: 30
 COMMENTS:
 FN: 20230728RLPH

Survey GIS Mapper

Object Data Table:

Tolerance Distance:




Table: Nested Data

Object Data Field:	Value:
Description	EXISTING PIPELINE
1	ENERGY TRANSFER
2	12
3	STEEL
4	GAS
5	UNDER GROUND
6	UNKNOWN
7	3
8	POTHOLE

Name: Description
Value:

Table: Nested Data

Object Data Field:	Value:
Description	ROAD CENTERLINE
1	PRIVATE
2	UNKNOWN
3	DIRT
4	6
5	10
6	90
7	
8	

Name: Description
Value:

71951
 2618.210
 WELD DATA
 TYPE: TIE IN
 XRAY: 2TIB0062
 JOINT AH: 15489956
 JOINT BK: 15490061
 HEAT AH: SDX-A304228
 HEAT BACK: SDX-A304228
 COVER: 4.7'
 LENGTH: 46.9
 PIPE DIA: 8.625"
 WALL THICKNESS: 0.322
 MANUFACTURER: MANNESMA
 COATING: FBE
 GRADE: X52M
 STATION: 29+15.7
 COMMENTS:

Table: Nested Data

Xray No	WELD DATA
Joint No	TIE IN
Heat No	2TIB0062
Type	15489956
Cover	15490061
In Ditch	SDX-A304228
Comments	SDX-A304228
Source_GCL	4.7
Code	46.9

Name: Xray_No
Value:

71965
 2613.318
 ROAD CENTERLINE
 LOCATION: PRIVATE
 TYPE: UNKNOWN
 NAME: DIRT
 SURFACE: 6
 COMMENTS: 10
 FN: 90

70417
 2614.450
 CL ROAD
 LOCATION: DIRT

Plat Mapper auto-design-builds Plats for Preliminary, & ROW Acquisitions Projects

Geospatial Editor Tool

Geospatial Editor Tool for GIS

Layer: [] GIS Data

Close

Plat Mapper Ai

- Plat Database
- Plat Settings
- CAD Tools
- Copy GIS Data to Border
- Geospatial Editor Tool
- Cut Plat
- Cut Plats



GIS to Title Block

Parcel Line

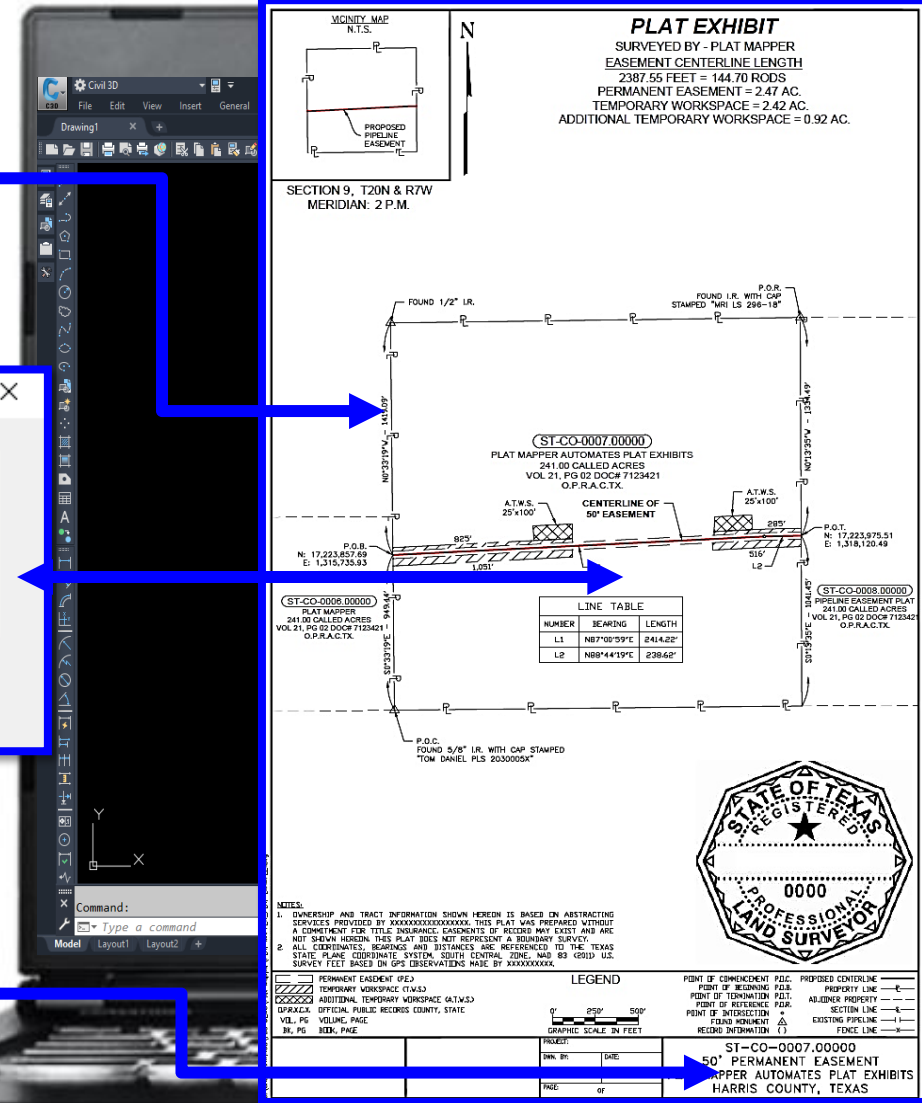
Field: []

Value: []

GIS to Attribute Tool for Border

Tag	Field	Value
TRACT ID:	EASMENT	
OWNER:	CNTY-ST	
PROJECT:	DWN BY	
DATE1:		

www.frenfordesignspecialist.com



Automates:

1. Sketch Plats
2. Plat Exhibits
3. Certified Plats

Supports:

1. AUTODESK® AUTOCAD® CIVIL 3D®
2. Excel
- 3.

automate 1 plat or 100's of plats at a time cut into drawings

Route Mapper Ai auto-design-builds Engineering, Construction and As-Built Projects

Route Mapper Ai **2D-3D** ×

- GIS Database
- Engineer Mapping
- Export GIS Data
- World Projection

www.forefrontdesignspecialist.com

Reads / Writes GIS Data

Works With Reroutes

Works With 90° Bends

Alignment Sheet Drawings

AUTODESK

esri

Automated Microsoft Access

XML

Site Plans

Integrity Sheets

DOT Permits

ISSUED FOR AS-BUILT

STATE HIGHWAY 80
KARNES COUNTY, TEXAS

Directional Drills

DASHBOARD for Project Management and All Communications

DASHBOARD Route Mapper

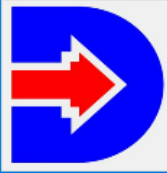
KMZ

Reports Folder

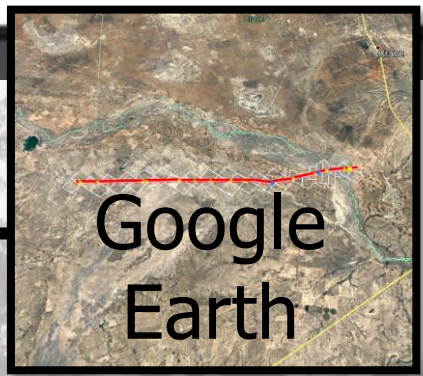
Centerline Length Material 1 Material 2 Material 3 Material 4

Miles Parcels Parcels Closed Wetlands Crossings Pipelines

Pipe Size Directional Drills Field Bends Induction Bends Valves Welds



www.forefrontdesignspecialist.com



PROJECT: DASHBOARD PROGRAM PHASE: FEED DASHBOARD

Line Number	Project Owner	Pipe Yard	Pipe Dia. (In)	Miles	Start Station	End Station	Total (ft)	Pipe Length	Dirt %	Rock %
1	XXX to XXX	CITY, ST	20	8.5	0+00	448+61	44,861	SRL	95%	5%
9										

PIPE TOTALS

Line Number	Open Cut Bore Pipe 0.275" (ft)	Open Cut Bore Pipe 0.322" (ft)	Open Cut Bore Pipe Qty	Conv. Bore Pipe 0.322" (ft)	Conv. Bore Pipe Qty	HDD Bore Pipe 0.322" (ft)	HDD Bore Pipe Qty	Bore Pipe Totals (ft)	Transition Pipe 0.375" (ft)	Transition Pipe 0.5" (ft)
1	38,244	814	4	1,830	13	2,820	4	5,464	265	908
2	38,244	814	4	1,830	13	2,820	4	5,464	265	908

CROSSING TOTALS

Line Number	Roads Qty	Railroads Qty	Foreign Pipelines Qty	Waterways Qty	Wetlands Qty	Pig Traps Qty	Valves Qty	AC Mitigations Qty	Parcel Owners Qty	Crossings Total Qty
1	27	1	21	5	8	1	8	12	26	109
2	27	1	21	5	8	1	8	12	26	109

BEND TOTALS

Line Number	Field Bend Pis < 12' Qty	Induction Bend Pis > 12' Qty	HDD Induction Bends 8' Qty	Move Arounds Total Qty	Welds Qty	CAD Welds Qty	Rectifier Sites Qty	Test Leads Qty	Anodes Qty	Pipeline Markers Qty
1	11	25	4	0	781	0	0	1	6	20
2	11	25	4	0	781	0	0	1	6	20

AS-BUILT TOTALS

Line Number	Field Bend Pis < 12' Qty	Induction Bend Pis > 12' Qty	HDD Induction Bends 8' Qty	Move Arounds Total Qty	Welds Qty	CAD Welds Qty	Rectifier Sites Qty	Test Leads Qty	Anodes Qty	Pipeline Markers Qty
1	11	25	4	0	781	0	0	1	6	20
2	11	25	4	0	781	0	0	1	6	20

VOLUME TOTALS

Total Volumes	Miles	Length (ft)	Volume (ft³)	Volume (gall)	Volume (oil barrel)	Volume (water barrel)
20"	8.5	44,861	92,468	691,681	16,468	21,957
20" / 0.275" WT	7.2	38,244	78,904	590,202	14,052	18,737
20" / 0.322" WT	1.3	6,640	13,564	101,459	2,416	3,221

PARCEL TOTALS

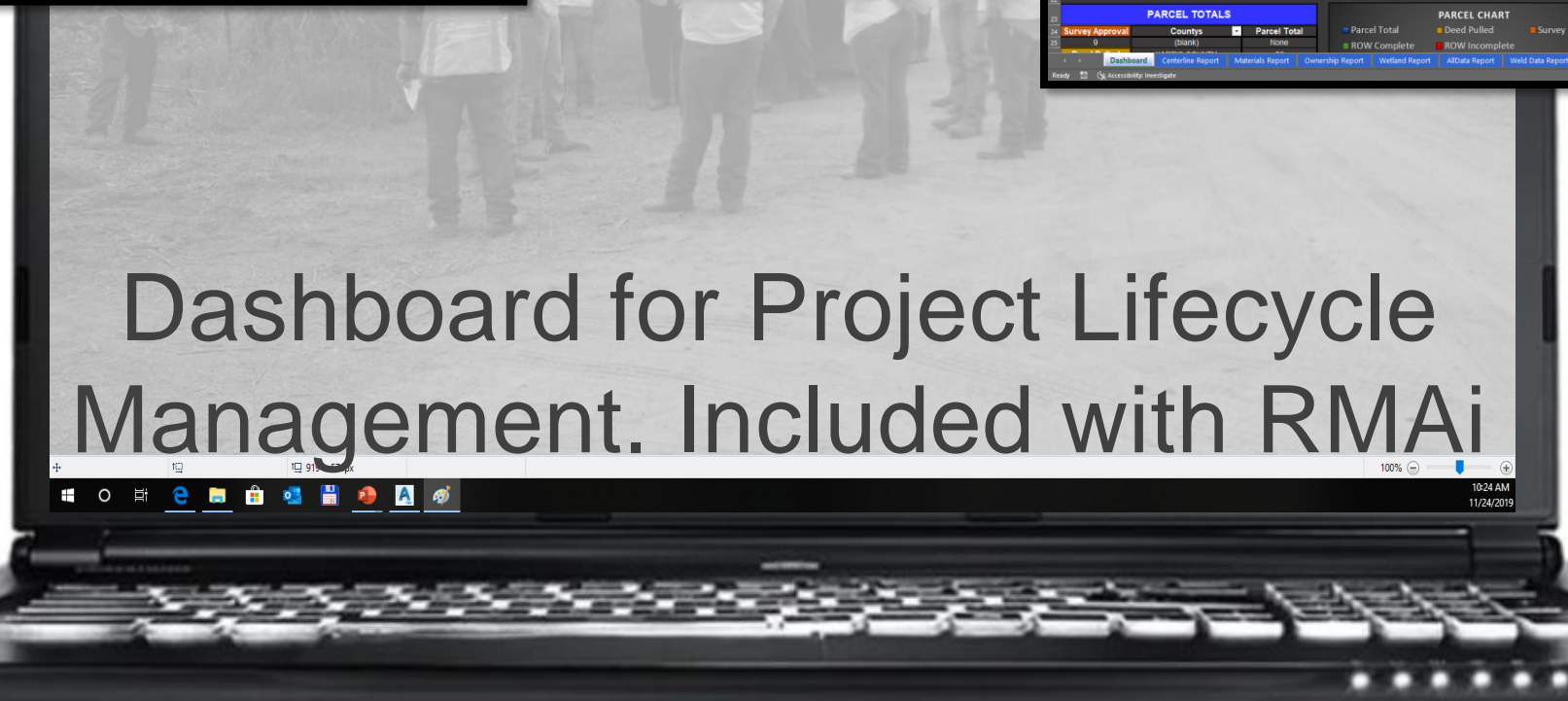
Survey Approval	Counts	Parcel Total (Basis)	Parcel Total (None)	Parcel Total	Deed Puled	Survey Approval
ROW Complete						
ROW Incomplete						

PIPELINE CHART

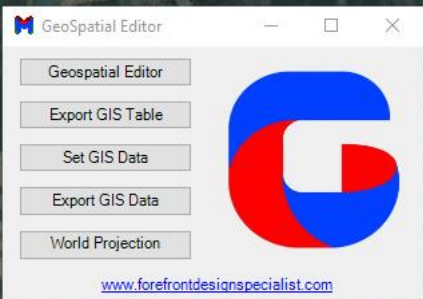
PARCEL CHART

- Management
- Capex
- Procurement
- Materials
- Construction
- As-Built
- Rehabilitation

- Project Reports
- Budgeting
- Scheduling
- Tracking
- Validating
- Volumes
- Deliverables



Geospatial Editor



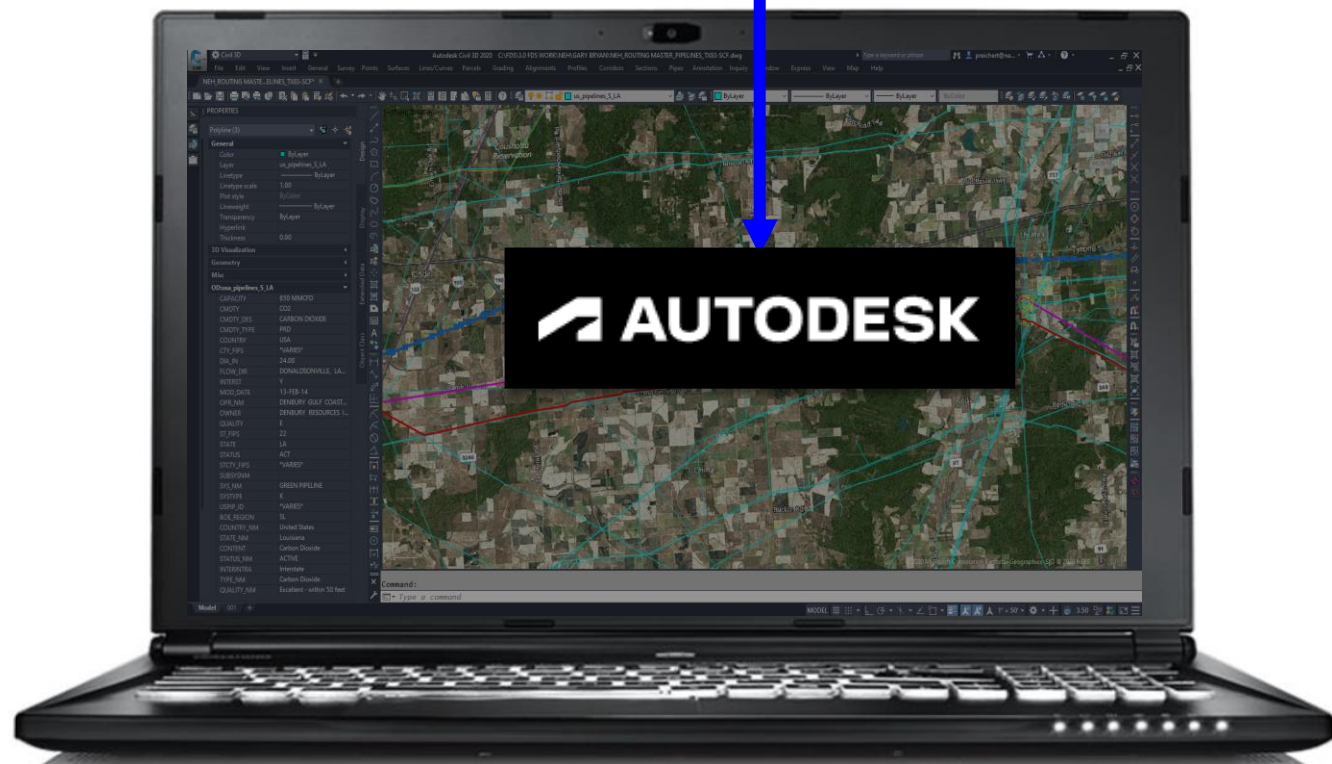
GIS data management
for Centerline projects.

Command: RMGE
Command: Specify opposite corner or [Fence/MPolygon/CPolygon]:
Type a command

Model 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023 024 025 026 027 028 029 030 031 032 +

GeoFinish automates Data Model Loaders for GIS & CAD

Built to Standards



**Government Regulations
Compliance Ready Tools
Quick GIS Migration
(built in all formats)**

Testimonials



West Hickham, President of Osprey Midstream, Founder of both NAmerico Partners and Lone Star WVSP writes, "Mapper Suite reduced the effort and cost of developing thousands of miles of my gas, liquid and water pipelines across the U.S. and Mexico by more than 60% compared to other accepted practices and tools."



William Case, Lead Designer at Atwell Group writes, "I've witnessed first-hand this software optimizes automation for project constructability and user sustainability. I'm simply amazed by the quicker deliverables and minimum risks at the automation of processing data. No need for converters, translators, seed files and additional software's to get things operational for production. RMAi saves time and money."



Mike McCroskey, Founder, President of Tablerock Energy writes, "Mapper Suite provides the best competitive edge pipeline lifecycle asset data management tools that really has proven to be a great investment. I definitely recommend these tools. Real efficiency!"



Alan Atkins, VP of USM-Universal Survey & Mapping writes, "Mapper Suite was critical for getting all my projects full engineering design construction packages completed quicker. I would recommend the mapper suite to save your projects time and money."

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