Unit Overview of

ProjectStore Use

Click on any Name below to navigate, click "Home" button to return

Contract Services

Hydraulics

Location and Surveys

PDEA

Photogrammetry

Roadway

Traffic

Project TIP No.: _____

County: _____

Project Engineer: _____

Division Contact: _____

DIVISION DESIGN RALEIGH LET CHECKLIST

Project plans, prepared by Division personnel or private engineering firms, to be let to contract through the State Contract Officer shall perform functions as follows:

1. _____Make sure plans are prepared in accordance with the "Review List for Final Construction Plans". https://connect.ncdot.gov/resources/specifications/2012revisionsroadwaydrawings/2012%20review%20list%20for%20final%20construction%20plans.pdf

2. _____Any environmental concerns should be resolved through coordination with the Project Development and Environmental Analysis Branch **prior** to plan completion. Make sure all necessary permits have been applied for and approved.

3. _____All TIP projects will need to be set up on project store prior to submitting the plans to *Contract Standards and Development.* If there is not already a set of folders set up for the project on project store, send an email to the help desk *(dothelp@ncdot.gov)* and ask for a project store to be set up for this TIP.

4. _____Geotechnical recommendations, retaining wall designs, and any subsurface investigations should be coordinated through the regional office of the Geotechnical Engineering Unit prior to turning in the project plans to *Contract Standards and Development*. All geotechnical recommendations should be incorporated into the project design, and if applicable, subsurface plans should be submitted with the project plans.

5. _____Traffic management plans should be coordinated with the *Work Zone Traffic Control* Section and turned in with the project plans.

6. _____Utility plans should be coordinated with the *Utilities Unit* prior to turning in the project plans to *Contract Standards and Development*. Any utility construction (UC) and/or utility by others (UO) plans should be turned in with the project plans.

7. _____Coordinate with the *Roadside Environmental Unit,* prior to turning in the project plans to *Contract Standards and Development. A*ll erosion control information (plans, special provisions, estimates, etc.) should be submitted with the project plans.

8. _____Coordinate all pavement designs with *Pavement Management* prior to turning in the project plans to *Contract Standards and Development*. Final pavement designs prepared by *Pavement Management* will be sealed by the Pavement Design Engineer. Any pavement design not coordinated with *Pavement Management* will need to be sealed by Division personnel or the PEF firm.

9. _____Pavement Marking and Signing Plans should be coordinated with the *Signing and Delineation Section* and turned in with the project plans.

10. _____Signal plans should be coordinated with the *Signal Design Section* prior to turning in the project plans to *Contract Standards and Development.*

11. _____Structure plans should be coordinated with the *Structure Management Unit* early in the design process. All structure plans (bridges, culverts, walls, etc.) should be submitted to the *Structure Management Unit* at the same time the roadway plans are submitted to *Contract Standards and Development*.

12. _____Submit project files (bound file and loose file) in accordance with section 13-1 in part II, chapter 13 of the Roadway Design Manual.

13. _____Estimates should be in the proper format and include all pay items necessary to let the project. A .csv file or pay items entered into the resurfacing program (.est file) should be submitted for all projects prepared by Division personnel. A .csv file should be submitted if the plans are prepared by a private engineering firm.

14. _____Once the plans have been reviewed and approved by a Plan Review Engineer, electronically signed and sealed PDFs of the final plans will need to be placed in the applicable TIP folders on project store. Individual PDF files of each plan sheet are required. Please follow the "Final Plan Submittal Changes" policy from the Roadway Design Unit. See link below. https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Electronic%20Plan%20Submittal.pdf

Some problem areas on plans that may warrant a second look by the designer are:

1. _____Are thru lane tapers long enough to satisfy the design speed of the facility?

2. _____Is the proposed construction properly tied to the survey line?

3. _____Use the "calculation of quantities" sheets found on the *Contract Standards and Development* web page. Submit copies of all applicable calculation sheets with the project plans. Https://connect.ncdot.gov/resources/specifications/pages/contracts-resources.aspx

4. _____Are summaries included in the plans for drainage, earthwork, pavement removal and guardrail?

5. _____Are Geotechnical Summary tables needed? https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Geotech%20Summary%20Tables.pdf

6. _____If the project has a pay item for "Grading Lump Sum," does it fit within the guidelines specified in section 11-7 in part I of the Roadway Design Manual.

7. _____Has all special construction been covered by any needed special provisions, special details, and pay items? The provisions and details shall be sealed by a Professional Engineer. Special details prepared by the Plans and Standards Section of *Contract Standards and Development* shall be sealed by the Standards Squad Leader.

8. _____Please provide a list of contacts of all NCDOT unit personnel that have reviewed and approved individual project plans.

9. _____Are there any Design Exceptions? See Design Exception Preparation Guidelines. https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Design%20Exception%20Guidelines.pdf

10. _____Has a Pre-Let or Combined Field Inspection been scheduled? Please have the Division Construction Engineer fill out the Combined or Pre-Let Field Inspection questions (Combined for Bridge Replacement Projects and Pre-Let for all other TIP projects). The questions can be found in the Roadway Design Resources web site under "Forms, Guidelines, Manual" and "Resource Type: Forms". https://connect.ncdot.gov/projects/Roadway/Pages/Guidelines--Standards.aspx

11. _____Have you obtained Right of Way authorization and has all Right of Way been acquired?

If you have any questions regarding this checklist, please contact Roger Kluckman, P.E. at (919) 707-6954 (rkluckman@ncdot.gov)

GUIDANCE FOR DIVISIONS
CENTRALLY LET DIVISION DESIGNED TIP PROJECTS

PROPOSALS

GENERAL

This is guidance for Division Designed Projects that are let by the Central Office. These instructions address Project Special Provisions, ICTs, Notes to Contractors and SPIs used to assemble a project bid proposal. Guidance regarding plans is addressed separately by the Plan Checking Section. Divisions must act as the Roadway Design Unit and coordinate with the various units for the provisions needed.

Project proposal information should be submitted into Project Store. No hard copies are required. The final proposal for advertisement will be prepared from the information submitted by the Division office.

OVERVIEW

- If there are no electronic folders in "Project Store", submit request that one be setup
- Insure that all Units have been contacted regarding provisions needed
- Advise Traffic Management Unit to prepare a user cost package
- Prepare and place provisions in Project Store under Contract Standards
- Submit required permits

REQUESTING FOLDER SETUP IN PROJECT STORE

Check "Project Store" to see if folders have been set up for the TIP project. If not, the Division must request one by sending an email to the HELP DESK at:

To: dothelp@ncdot.gov
Subject: Request for Folders

{Text of Email} Please create a new TIP called: X-xxxx

These folders are where Divisions will place ICTs, Standard Special Provisions, Project Special Provisions, Notes to Contractors, or other SPIs. It is also where the various NCDOT Units will place their unit provisions. All NCDOT units (Traffic Control, Roadside Environmental, Geotechnical, etc.) and their consultants have previously been instructed on how their unit provisions should be formatted. The Unit Provision section below is an FYI for the Divisions regarding how to and when Unit Provisions are submitted.

COORDINATION WITH VARIOUS NCDOT UNITS

With the Divisions assuming more responsibility by acting in the lead role of the Roadway Design Unit, it is imperative that they have adequately considered whether the involvement of the other NCDOT Units is needed. The expertise provided by the Geotechnical, Utilities, Work Zone Traffic Control, Structures and Roadside Environmental units can greatly aid the Divisions. The units should be kept apprised throughout the development of the design. This is especially true for the review of the final plans and provisions.

UNIT PROVISIONS

Using the **Project Flow Chart Generator**, Unit Provision files should be placed in the *Special Provisions* folder, found on Project Store, 15-weeks prior to the letting date. Provisions may be placed there any time prior to 15-weeks but the Contract Standard's Office will not download the project provisions until the day following the turn-in due date.

Units have been instructed not to place their files in the *Special Provisions* folder after the turn-in date as these will **NOT** be retrieved. After the turn-in date has passed, first time submittals or modifications are coordinated through the Contract Standard's Office as follows:

- *If the Unit initiates a change or if submitting the package late, they are emailed to Fred Adams and should copy the Division.*
- *If the change has been requested by a Contracts Office Proposal Engineer working the project, they should be emailed to the Proposal Engineer requesting the change and cc: Fred Adams.*

Unit Provisions should be Formatted, Page Numbered, and DocuSigned as per Contract Standard's instructions. Roadside Environmental (Erosion Control) and UbOs are the exception because they do not require DocuSigning.

When Unit Provisions are completed, they should be copied to the *SPECIAL PROVISIONS* folder on "Project Store" on the R drive. Here's an example:

(R:)\\dot\dfsroot01\Proj\TIPProjects-C\C5558\Contract Standards\Special Provisions

For all computers, the R drive may not be the Map drive for Project Store. Please note that this is not the Common folder, which is used only for plan submittals.

FORMATTING and PAGE NUMBERING – The header should include the TIP number in the upper left corner and county name in the upper right corner of the page. For uniformity, the fonts used for the header and body should be Times New Roman, 12 pt. Margins should be 1" all around. Page numbers can be added using Adobe Pro after the file is converted to a pdf. Install as a "New Header", Times New Roman **Bold**, 18 font and centered in the header. Page numbers should be sequential, beginning with the table of contents (if included), and designated as **EC-1**, **EC-2** etc. Contract Standards cannot add page numbering once provision is DocuSigned. Each unit has been assigned specific letters for page numbering (see below).

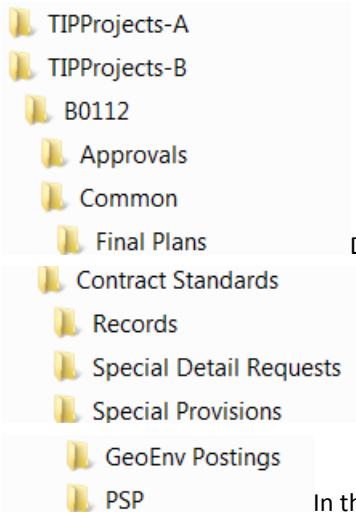
FILE NAMING – When placing the files in the SPECIAL PROVISIONS folder, use the following naming convention for your electronic files: Depending of the unit represented, begin the file using the letter followed by underscore below. For example, an Erosion Control file would always begin with" J_" and then followed by whatever the file was named before. The "J_" designates the file as being from Roadside Environmental and helps automate placement of electronic files into the correct order as they will appear in the proposal. The underscore helps to separate letter designation from other info.

	File Name*	Page Number**
ICT's	A_	none
GEOTECHNICAL	C_	GT
GEOENVIRONMENTAL	D_	GV
SIGNING	E_	SN
PAVEMENT MARKING	EM_	PM
TRAFFIC CONTROL	F_	TC
LIGHTING	G_	LT
UTILITY CONSTRUCTION	H_	UC
UTILITIES BY OTHERS	i_	UBO
EROSION CONTROL	J_	EC
PLANTING / REFORESTATION	K_	PL
REST AREA	L_	RA
TRAFFIC SIGNALS	M_	TS
INTELLIGENT TRANS. SYSTEMS	N_	ITS
RAILROAD INSURANCE (Roadway)	O_	RI
STR / CULVERTS / RR INS	P_	ST
LIGHTING ON STRUCTURES	P2_	ESL
PERMITS	R_	P

ELECTRONIC e-SIGNATURE – Provisions must be electronically signed and dated prior to placing file in the Contract Standards folder in "Project Store". If work is being done by a consultant, a small area at the top of the text body identifying the consultant doing the work is acceptable. Modifications cannot be made to the document once it's electronically signed.

DIVISION PROVISIONS

On projects where a Division includes an SPI, a Division PSP, notes to contractor, a job specific PSP or are revising an existing PSP, a sub-folder should be created labeled ***PSP***. The Division should create this folder under the *Special Provisions* folder in Project Store. This must be done for each project where non-standard provisions are desired.



Divisions should place TIP plan sheets here (see instructions from Plan Checking)

This is where Unit Provisions should be placed

In this folder, Divisions should place their SPIs, PSPs, ICTs, APLUS lineup printout, etc. All information required by **Plan Checking** should continue to be submitted as hardcopies.

Please do **not** include copies of standard SPs found on the APLUS lineup sheet unless they are changed. If the standard language has been revised, for any reason, note as such next to the provision number (ex. SP2 R80 **Rev.**) and highlight where the change was made.

Except for Unit Provisions, all Division provisions, must be submitted as Microsoft 2010 *WORD* files. Older provision files must be re-saved in the *Word Document* format and not as a *Word 97-2003* Document. There should not be any information in the headers. The provision *name* should be Times New Roman Bold, Capitalized, Underlined, left justified and, 12 Font. The body should be full justification.

Provision Writing – If a completely new provision is required, please consult the Provision Writers' Guide at:
https://connect.ncdot.gov/resources/Specifications/Specification%20Resources/Provision%20Writers%20Guide.pdf
or contact the Specifications Engineer for assistance at 919-707-6916.

CONTRACT TIMES AND ICTS

Divisions should put together the Contract Times with suggested dates and LDs. The dollar amounts should be taken from the LD chart (8-16-13) based on the most recent estimate.

Divisions should also assemble the Intermediate Contract Times (ICTs) that correspond with the current Traffic Control Plans. Suggested Liquidated Damages (LDs) may be included based on the User Cost Package supplied by Work Zone Traffic Control (WZTC). LDs for the ICTs should not be taken off the chart used for Contract Times. The Contract Time Engineer will review and coordinate with the WZTC and then present this information to the Contract Time Committee.

ICT CONTENT **–** Use the formatted ICT files found on the ccCommon drive, *02 Standard Provisions*. Only Word *docx* files will be acceptable as the Contract's Office needs to electronically insert the ICT's into the project proposal.

If the standard ICT language has been revised, for any reason, note as such next to the provision number (ex. SP1 G14A **Rev.**) and highlight where the change was made. Adding a road name, times, hours or dollars does not constitute a revision. Adding an event or modifying the standard language does.

Traffic Management Plans (TMP) - The language used on the "traffic control" plan sheets, must match the language in the ICT provision(s). The use of dates should be incorporated in the General Note section of the TMP; however, dates should **not** be used in the Phasing.

For example, it is appropriate to use dates when listing lane/road closure restrictions in the General Notes for Holidays and/or Special Events, per the ICT provision(s).

In the Phasing, when referencing the ICT provision(s), the following is **not** acceptable:

> "Complete Phase I, Steps #3 thru #6 by July 1st, 2016. See Intermediate Contract Times and Liquidated Damages."

The following examples are acceptable:

> "Complete Phase I, Steps #3 thru #6 in sixty (60) days. See Intermediate Contract Times and Liquidated Damages."
>
> or
>
> "Complete Phase I, Steps #3 thru #6 by the date shown in the ICT. See Intermediate Contract Times and Liquidated Damages."

All revisions from the Contracts Office will be coordinated through the Division office.

TURN-IN DATE – The same turn-in date as Unit provisions

ICT FORMATTING – The header should include the TIP number in the upper left corner and county name in the upper right corner of the page. For uniformity, font type, header and body, should be Times New Roman, 12 pt. All ICTs for a project should be submitted in a single *WORD* file.

PAGE NUMBERING – There should be **NO** page numbers for ICTs in either the header or footer.

DOCUSIGN –Electronic signatures are not required for ICTs. These are incorporated into the main proposal and fall under the State Contract Officer's seal.

FILE NAMING – When placing the digital file for the ICT in the SPECIAL PROVISIONS folder, the Division should use the following naming convention for their file: "A_*[TIP Number xxx].docx*".

CONSULTANTS – They are required to follow the same guidelines.

WHERE TO ADD THE FILE – Same place as Unit provisions

DELAYS OF ENTRY

An electronic file listing the current Delays of Entries will be sent from the Right-of-Way Unit and copied to the Contract Time Engineer. This file should be in Word 2010 format so it can be electronically incorporated into the project proposal.

WELLS, BUILDING DEMO AND BUILDING REMOVALS

All electronic files listing the 200 series for Wells, Building Demos and Building Removal should be sent from the Division ROW office to Fred Adams. These files should be in Word 2010 format so they can be electronically incorporated into the project proposal. There should be three separate listings; one for section 205 Sealing Abandon Wells; another for section 210 Demo of Buildings and the last, section 215 for Removal of Buildings. Include cost estimate breakdown for all the work.

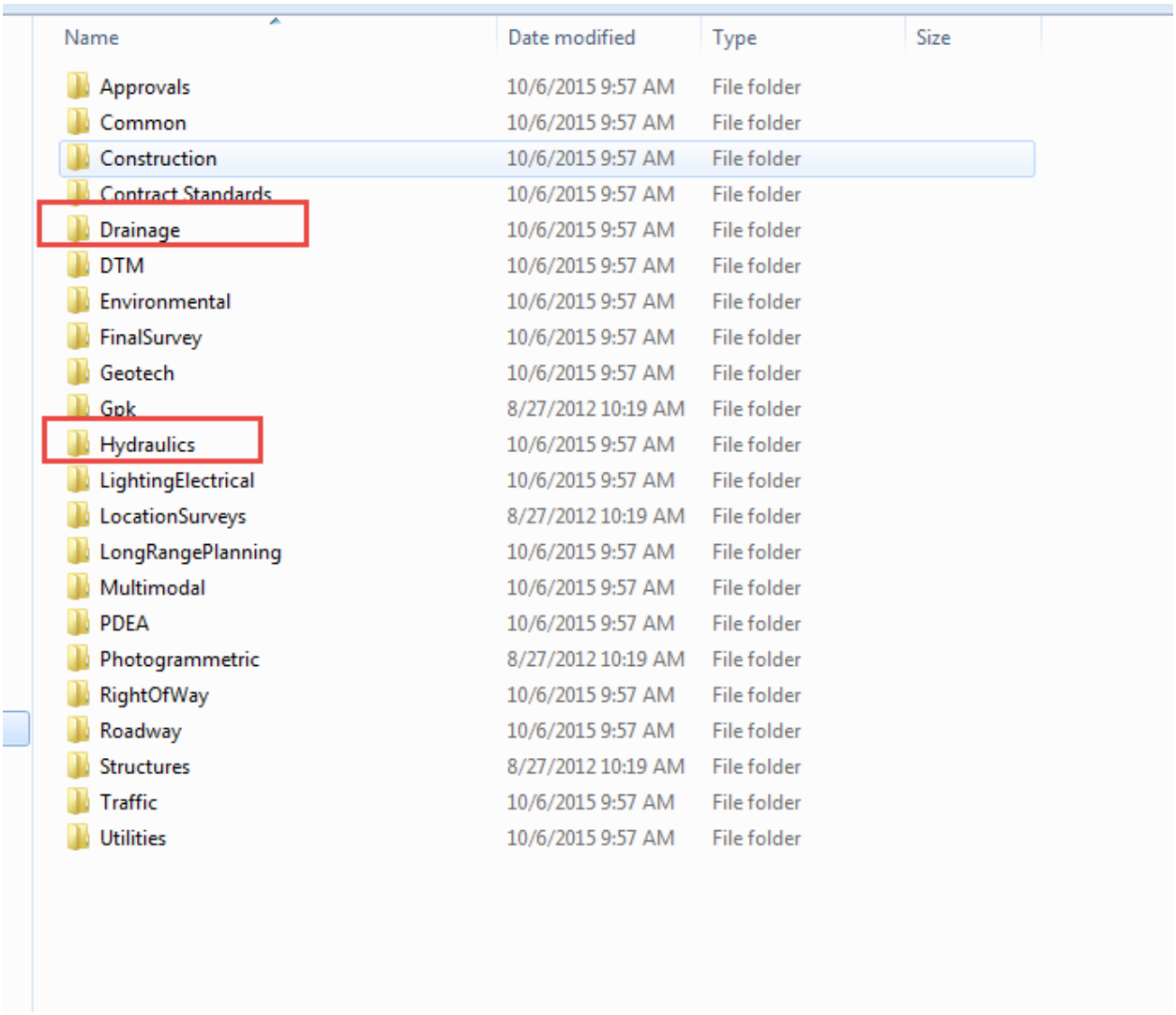
PERMITS

After agency approvals, DEOs should submit permits electronically directly to Fred Adams. A complete permit package may include a 404, 401, WQC, TVA, Fish and Wildlife commitment letter, Special Use Permit, Wetland Impact Summary, Trout Buffer Zone Variance and plan sheets showing permit sites. No hardcopies are required.

If you have any questions regarding this proposal guidance document, please contact Fred Adams at 919-707-6913.

Hydraulics Unit ProjectStore Overview 11/05/2015

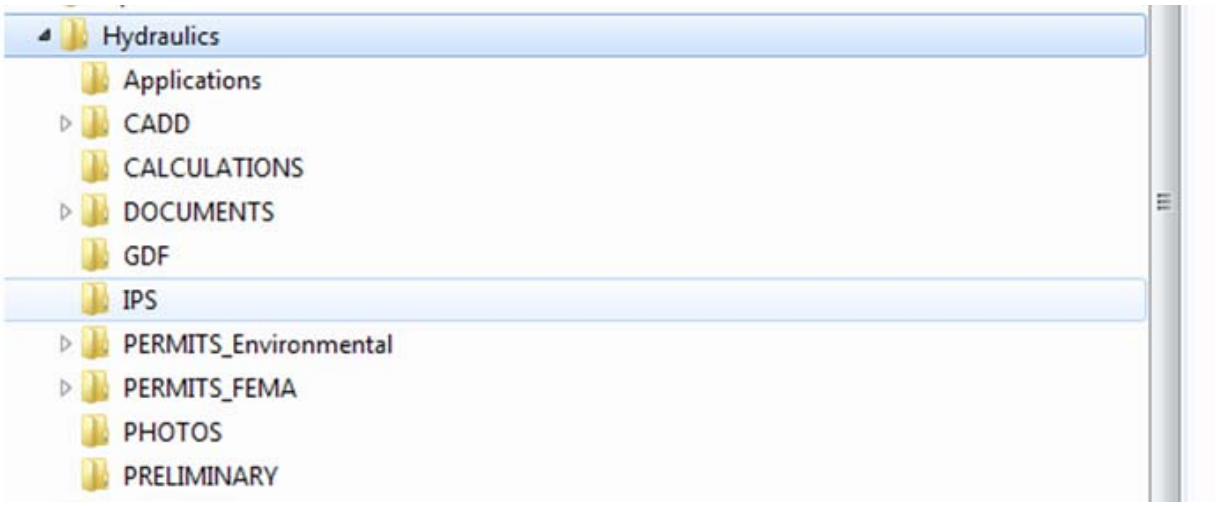
Introduction:
The Hydraulics Unit has two folders under the root directory of each project found on ProjectStore, Drainage and Hydraulics.



Drainage:
The Drainage folder has permissions that allow both the Hydraulics Unit and Roadway Unit to "write" to files in this folder. The GPK folder offers the same setup. The Hydraulics folder contains sub folders to logically store documents, cadd files, etc.

The drainage folder should only contain the TIPNo_hyd_drn.dgn file and the TIPNo_hyd_DSS.xls file. The drn file is the main drainage cadd file. A Hydraulics User will place the file here after completing the design so that the Roadway staff can shift text and draw the ditches to scale in this file. The DSS file is the Drainage Summary Sheet spreadsheet that can be created using Geopak Drainage and the VBA's developed by the Hydraulics Unit, CADD IT, and IT.

Hydraulics:
The Hydraulics folder has numerous sub folders. These are explained below.



Applications: This folder is used to store any computer models like HY-8 HEC RAS models, HEC2 models, and other files used in modeling ditches, ponds, etc. Typically, we use sub folders here to separate HEC RAS from HEC2 and the original data from the design data. Sub folders should also be used to distinguish separate design elements, such as different culvert or bridge sites.

CADD: Has several sub folders

BRG_CUL REPORTS: This folder stores the CADD and PDF files of the bridge and culvert reports for the project. The files typically have a standard naming convention. TIPNo_HYD_CSR.DGN. If there are multiple structures, the user will add a clarifier after the CSR or BSR.

LIDAR: This is typically where the user will store the combined LIDAR and DOT tin file that is used during HEC RAS modeling and drainage area delineation.

PSH: Folder is used to store copies of Roadways plan sheets to be used for "Redlines" with contours. The plan sheets are also used when creating permits.

Survey: Folder is used to store additional survey data taken by the Hydraulics team to supplement data acquired by Locations and Surveys.

XSC: The Hydraulics Unit will typically copy the cross section files from Roadway folder to this sub folder. The hydraulics user cannot "write" in a Roadway folder, so the engineer will use this folder to "sketch" ditches to see what the impacts to R/W will be.

CALCULATIONS: This folder stores pipe data sheets, storm drain computational sheets, and other pertinent calculations.

DOCUMENTS: This folder is used to store documents that are related to the project but does not include permit information for FEMA or Environmental.

GDF: Geopak Drainage file.

IPS: IPLOT files

PERMITS_Environmental: This folder stores the permits that Hydraulics prepares for NEU. The folder has two subfolders: Drawings and Forms.

PERMITS_FEMA: When the MOA or CLOMR package is created, the package is stored in the appropriate subfolder. Additional subfolders may be created for each site. Through the review process, additional folders may be created as appropriate for responses.
PHOTOS: Photos taken during field visits are stored here. Photos should include a description.
PRELIMINARY: This folder is used during the preliminary investigation of the project. Preliminary sketches and any other data used to help in the preliminary planning phase is stored here. The data to create the "Pre Design Report" are stored here. The Preliminary Hydraulics Recommendations Report is also stored here.
Submitted By PEF: This folder has been recently created but is not added automatically. This folder is used to store the original submittal by the PEF to prevent accidently changing the data submitted during the review process. There is usually a folder naming convention that follows a date, description format so that folders are ordered chronologically.

Location & Surveys Use of Project Store

- DTM-TNL/DTM-Tin files are all placed under the DTM folder.
- FS files (Full Survey) files are placed under the Final Surveys Folder.

****for the above two folders, there is a history .xls file that allows the file to be checked out and any revisions to be documented. When files are revised, the older files moved into a directory called old. This allows only the most current file to be in the root of the directory.

- Control file (sheet 1C, etc.) are placed in the Location and Surveys Folder.
- SUE files are placed under the Location and Surveys Folder.
- Any other file data not covered above also goes into the Location and Surveys Folder.

See naming convention list for possible files that may be produced on a project by Location & Surveys.

NCDOT LOCATION AND SURVEYS UNIT NAMING CONVENTION LIST

This list is provided so that all files coming from the field will be consistent and contents will be recognizable by the name of the file.

For most files, the filename will no longer include the date. Due to the numerous pan files related to Construction Paneling, the pan filename will continue to include the date. The date should read yymmdd (090512). The date in the file name should reflect the same date as the transmittal.

When a revision is required to the original survey, the changes will be incorporated into the original file received from the requesting unit. Each subsequent file will have original information plus changes.

A question has arisen about the time delay between when the Field puts the history xls file on the server and Central Office puts the TIP files on the server. Other Units should not use the files until they get a transmittal. There is no need to transmit this history xls file to Raleigh.

Data Files:	**Name**	**Example**	**File Type**
Panel Control	TIP#_ls_pan_DATE.txt	u2005ab_ls_pan_090512.txt	Text
Construction Panels	TIP#_ls_pan_DATE.txt	U2005ab_ls_pan_090512.txt	Text
*Baseline Text	TIP#_ls_baseline.txt	u2005ab_ls_baseline.txt	Text
Pole Data	TIP#_ls_pdf.txt	u2005ab_ls_pdf.txt	Text
Survey Report	TIP#_ls_sr.doc	u2005ab_ls_sr.doc	Word Document
PropCon Database	TIP#_ls_poc.mdb	u2005ab_ls_poc.mdb	Access Database
GPS Calibration	TIP#_ls_gpscalib.html	u2005_ls_gpscalib.html	html or Text or PDF
*Control Coordinates	TIP#_ls_control.txt	u2005_ls_control.txt	Text
WGS84 Coordinates	TIP#_ls_wgs84.txt	u2005_ls_wgs84.txt	Text
Local Coordinates	TIP#_ls_local.txt	u2005_ls_local.txt	Text
Vertical Clearance	TIP ls_verticalclearance.txt	u2005 _ls_verticalclearance.txt	Text

*Previously Baseline Text was “Control Text” due to implementation of Survey Control Sheets, this was changed for clarity

CADD Related Files:	**Name**	**Example**	**File Type**
L&S Central will place the following file under the FinalSurvey folder on the TIP Server (R: drive).			
Final Survey	TIP#_NCDOT_FS.dgn	u2005ab_NCDOT_FS.dgn	2d design file
Includes: PRL, UTL, SUE, HYL, BLN, ELN, ALN, PML, PS, WLL, etc.			
L&S field users update the “*TIP#_FS_history.xls*” file directly on the R: drive.			
L&S Central will continue to place the following files under the DTM folder on the TIP Server (R: drive).			
DTM (Photog & L&S)	TIP#_ls_dtm.dgn	u2005ab_ls_dtm.dgn	3d design file
TIN (Photog & L&S)	TIP#_ls_tin.tin	u2005ab_ls_tin.tin	Binary (data base)
L&S field users update the “*TIP#_DTM_history.xls*” file directly on the R: drive.			
L&S Central will continue to place the following files under the LocationSurveys folder on the TIP Server (R: drive).			
LS Data	TIP#_LS.dgn	u2005ab_NCDOT_FS.dgn	2d design file
Any planimetrics/property files being transmitted to Photogrammetry should have all data merged.			
Includes: PRL, UTL, SUE, HYL, BLN, ELN, ALN, PML, PS, WLL, etc.			
GPK	TIP#_ls_gpk.gpk	u2005ab_ls_gpk.gpk	Binary (data base)
DTL (L&S data only)	TIP#_ls_dtl.dgn	u2005ab_ls_dtl.dgn	3d design file
TNL (L&S data only)	TIP#_ls_tnl.tin	u2005ab_ls_tnl.tin	Binary (data base)
Wetland Mitigation Sites (all data in 1 file)	TIP#_ls_WM#.dgn	u2005ab_ls_wm7010.dgn	2d design file
Environmental (All data in 1 file)	LS#_ls_env_SITE.dgn	0507001_ls_env_GIBBS.dgn	2d design file
Bridge Sketch	TIP#_ls_bridgesketch.dgn	u2005_ls_bridgesketch.dgn	2d design file
Control Sheets	TIP#_ls_1c.dgn	u2005_ls_1c.dgn	2d design file
		u2005_ls_1d.dgn	2d design file
		u2005_ls_1e.dgn	2d design file
Utility (sue)	TIP#_ls_sue.dgn	u2005ab_ls_sue.dgn	2d design file (PEF ONLY)
Continue to send a separate SUE file. L&S PEF will run the Counter Program. It will NOT be placed on the TIP server.			

File ID	Explanation:	File ID	Explanation:
pan	Photo Control Text File for Aerial Panels	eln	Existing Road Alignment
baseline	Baseline Control Text File	aln	Align proposed by Design Engineer
pdf	Pole Data File	gpk	GeoPak (Points, Lines, Curves, Chains, etc.)
sr	Survey Report	dtl	3D DTM containing only L&S data
poc	Property Owner Contact Info	tnl	Binary Triangles's for DTM's containing only L&S data
gpscalib	GPS Site Calibration Report	dtm	3D DTM containing Photogrammetry & L&S data
control	Baseline Control Referenced to Design Alignment	tin	Binary Triangles's for DTM's (Photog. & L&S data)
wgs84	Site Calibration – Latitude / Longitude	hyl	3D Hydraulics Data by L&S
local	Site Calibration – Localized Coordinates	brl	Bridge Survey by L&S
prl	Property Line Information by L&S	wll	Wetland file by L&S
utl	Utilities by L&S	pln	Planimetrics by Photogrammetry (old naming convention)
sue	Utilities by Subsurface U/G Engr (includes Test Holes)	ps	Plan Sheet Planimetrics by Photogrammetry
pml	Planimetrics by L&S		
bln	Baseline Graphics	psd	Property Survey / Condemnation

L&S PSD Naming Convention (Field)

Property Survey(Legal)	PSD#Lf_ls_psd_DATE.dgn	55506Lf_ls_psd_DATE.dgn	2d design file
PSD GPK(Legal)	PSD#Lf_ls_gpk_DATE.gpk	55506Lf_ls_gpk_DATE.gpk	Binary(database)
Property Survey(RW)	PSD#rwf_ls_psd_DATE.dgn	55506rwf_ls_psd_DATE.dgn	2d design file
PSD GPK(RW)	PSD#rwf_ls_gpk_DATE.gpk	55506rwf_ls_gpk_DATE.gpk	Binary(database)
Revised PSD(Legal)	PSD#Lf_ls_psd_DATE.dgn	55506Lf_ls_psd_DATE.dgn	2d design file
Revised PSD(RW)	PSD#rwf_ls_psd_DATE.dgn	55506rwf_ls_psd_DATE.dgn	2d design file

*Capital L shown for clarity, since lowercase L looks like the number one.

* The DATE in a revised file indicates the revision.

* The _LS_PSD located to the left of the "**.**" allows the correct version of NCMAP to be loaded. That version is titled NCMAP (PSD) and has additional features specific to a PSD drawing.

PDC Group Internal Naming Convention (PSD's)

Property Survey(Legal)	PSD#L_ls_psd.dgn	55506L_ls_psd.dgn	2d design file
PSD GPK(Legal)	PSD#L_ls_gpk.gpk	55506L_ls_ gpk.gpk	Binary (data base)
PSD Text Description	PSD#L_ls_psd_descr.txt	55506L_ls_psd_descr.txt	Text
Property Survey(RW)	PSD#rw_ls_psd.dgn	55506rw_ls_psd.dgn	2d design file
PSD GPK(RW)	PSD#rw_ls_gpk.gpk	55506rw_ls_ gpk.gpk	Binary (data base)
PSD (RW)Text Description	PSD#rw_ls_psd_descr.txt	55506rw_ls_psd_descr.txt	Text
Revised PSD(Legal)	PSD#Lr_ls_psd.dgn	55506Lr_ls_psd.dgn	2d design file
Revised PSD(RW)	PSD#rwr_ls_psd.dgn	55506rwr_ls_psd.dgn	2d design file
2nd Revision PSD(Legal)	PSD#Lr2_ls_psd.dgn	55506Lr2_ls_psd.dgn	2d design file
2nd Revision PSD(RW)	PSD#rwr2_ls_psd.dgn	55506rwr2_ls_psd.dgn	2d design file
Preliminary PSD (Legal)	PSD#Lp_ls_psd.dgn	55506Lp_ls_psd.dgn	2d design file
Preliminary PSD (RW)	PSD#rwp_ls_psd.dgn	55506rwp_ls_psd.dgn	2d design file

*Capital L shown for clarity, since lowercase L looks like the number one.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

January 16, 2009

To: Location & Surveys Staff
Private Engineering Firms

From: Charles W. Brown, PE, PLS
State Location & Surveys Engineer

Subject: Proc 2009-1
Final Survey Folder/Files (File Management Structure for TIP Server)

Attached you will find a memo from Jay Bennett, State Roadway Design Engineer, dated January 9, 2009. This memo describes our new procedure for delivery of design files. In short, beginning February 2, 2009, several new procedures will go into effect.

Location & Surveys and Photogrammetry will now deliver one combined planimetric/property file to the user (Roadway, Rails, etc.). All information will be in that one file, as identified in Mr. Bennett's memo of January 9, 2009. The individual files that we have used in the past will no longer be applicable. This one file will be placed in the FINALSURVEY folder that will reside in the TIP Directory. The dtm files will continue to be placed in the DTM Directory.

Any DTM files transmitted to Photogrammetry for merging may still carry the .dtl designation. Photogrammetry DTMs may still carry the .dtp designation. Merged data from either Unit will carry the .dtm designation. Any planimetric/property files being transmitted to Photogrammetry should have all data merged, and labeled TIP#_LS.dgn. When either Unit has completed the deliverable product, the file name will be changed to TIP#_NCDOT_FS.dgn to indicate completeness and placed on the Roadway server.

Any additional work will be added to the existing files on the server, retaining the original title (TIP#_NCDOT_FS.dgn). This same procedure applies to dtm files as well. Any changes to files will need to be noted in the history files (TIP#_FS_history.xls).

A transition period will be required to combine files from older projects. However, all new projects delivered after February 2, 2009 should comply with this procedure.

Thank you for your cooperation in this matter. Please do not hesitate to contact me with any questions or comments.

CWB

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NC DEPARTMENT OF TRANSPORTATION
LOCATION & SURVEYS UNIT
1588 MAIL SERVICE CENTER
RALEIGH NC 27699-1588

TELEPHONE: 919-250-4109
FAX: 919-250-4223

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
CENTURY CENTER COMPLEX
BUILDING B -ENTRANCE B4
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

RECEIV
JAN 14 2009
DEPARTMENT OF TRANS
DIVISION OF
HEAD OF LOCATION AND

MEMO TO: Roadway Design Project Engineers and Division Operations Engineer

FROM: Jay A. Bennett, PE
State Roadway Design Engineer

DATE: January 9, 2009

SUBJECT: Final Survey Folder/Files (File Management Structure for Tip Server)

On December 11, 2008, a meeting was held with the Roadway Design Unit, Location and Surveys Unit, Photogrammetry Unit and the Hydraulics Unit to discuss procedures for project file management of base mapping and plan sheets for highway projects.

Effective **February 2, 2009** a new file folder named **FINALSURVEY** will be created and added to the TIP Directory. This folder will have shared Read/Write access by Location & Survey, Photogrammetry, Roadway Design & Hydraulics. This folder will contain two (2) files ***TIP#*_NCDOT_FS.dgn** and ***TIP#*_FS_history.xls.**

The ***TIP#*_NCDOT_FS.dgn** file will have the following files merged into one on their unique levels and will no longer be delivered as separate files.

HYL - Hydro file containing primarily storm drainage structures and miscellanous streams and ditches that were field surveyed.
PRL - Property data, including drawn property lines, labeled with bearings and distances, owner names, deed book and page.
UTL - Utility data surveyed by L&S. It contains all gravity utility lines and structures (i.e. sanitary sewer, maybe some poles, etc.)
SUE - Utility data that has been picked up by a PEF SUE Consultant. The file should contain all non-gravity utility data (i.e. water, telephone, telephone duct lines, power, forced sanitary sewer, T cable, fiber optic, gas, etc.) It can also contain appurtenant structures (i.e. water valves, MH, wate meters, tel. pedestals, etc.).
BLN - This is the baseline control alignment that is set in the field.
ELN - This is L&S's calculation for the best-fit alignment of the centerline of the existing road.
ALN - This is the localization of the proposed alignment (cross country projects). We take the proposed alignment from Roadway's preliminary design (grid) and localize the alignment to fit the localized coordinate system that we have established for this project.
PLM - Any planimetric data that L&S may have picked up in the field that did not show up on the photography. (New features or areas that were under construction at the time of flight).

Photogrammetry's **PS file** - plan sheet planimetric data.
Note: The DTM and TIN files will continue to be separate files and stored in the DTM folder.

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CENTURY CENTER COMF
ENTRANCI
1020 BIRCH RIDGE DI
RALEIGH

A ***TIP#*_FS_history.xls** file will be located in the **FinalSurvey** directory. This documentation file will contain information on **all** file revisions and updates to the ***TIP#*_NCDOT_FS.dgn file.** With all four units working in this same design file, it is critical that this history file is kept accurate and up to date. Even a minor text movement and/or editing should be noted.

Existing project conversion to this format and file structure will be on a project by project basis as approved by Jay Bennett. Project Engineers may request files be merged into the ***TIP#*_NCDOT_FS.dgn** format on those projects that would greatly benefit from this structure. The request for conversion by Location & Survey and Photogrammetry may be specified in the Request for Surveys letter. The turn around time for conversion will be dictated by L&S and Photogrammetry's work load.

If you have any additional question, please call Dewayne Sykes or Ted Walls at (919) 250-4016.

Attachment

JAB/hc

cc: Ellis Powell, PE
Art McMillan, PE
Charlie Brown, PE, PLS
Keith Johnston, PE, PLS
Dave Henderson, PE
Ron Allen, PE, PLS
Scott Blevins, PE
Dale Burton, PE, PLS
Marc Clifford, PE
Bryan Edwards, PE
Bill Elam, PE
Jim McMellon, PE
Carl Storch, PLS
Dewayne Sykes, PE

Natural Environment Section

In terms of storage, NES' use of the project store is limited primarily to a few documents or correspondences that affect planning and design [e.g. Documents such as Natural Resource Technical Reports (NRTR), Biological Assessments/Opinions, USFWS Concurrence Letters, etc.], and CADD files with wetland/stream or protected species boundaries. The latter are stored under …\PDEA\Mapping\CADD and the former under …\PDEA\ and the appropriate group folder. Other files that may be of importance across units or divisions may also be stored, but not necessarily routinely, so the recipient would be notified to the location. Additionally, NES uses CADD files and documents from others, such as roadway and hydraulic files, NEPA documents, merger files, etc. routinely in our workflow.

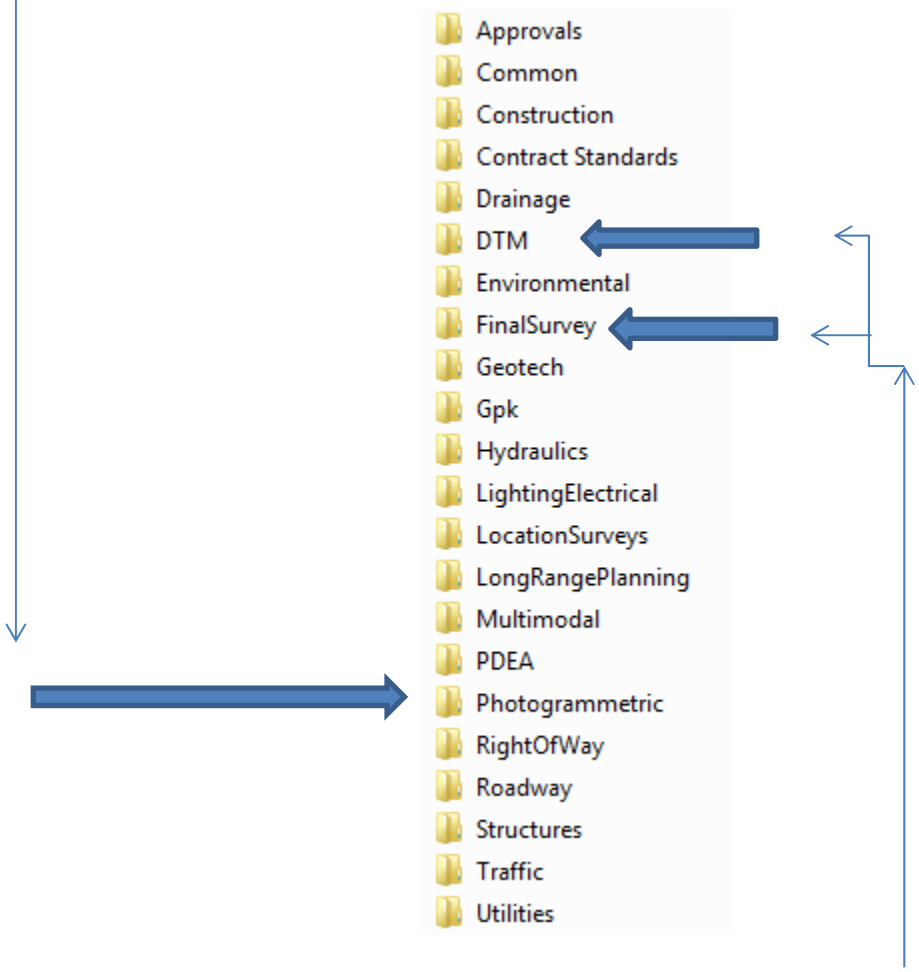
Something of interest to you may be IT Content Management's Preconstruction Collaboration project that will ultimately replace project store. It will implement both Microsoft SharePoint and Bentley's ProjectWise for sharing, managing, and reviewing documents and design files across divisions, units, and PEFs. I believe they have been working to improve broadband services at Division offices to facilitate this. For more information you can contact Larry Bauder in Content Management at ldbauder@ncdot.gov or 919-707-2103.

Philip S. Harris III, PE, CPM
Natural Environment Section Head
NCDOT – Project Development and Environmental Analysis
Direct: 919-707-6123
Main: 919-707-6000
Cell: 919-673-8784

Photogrammetry Unit's Use of ProjectStore

The Photogrammetry Unit uses ProjectStore as a means of delivering requested mapping products. Typically, all mapping products for TIP projects, except Final Survey Mapping and Final Survey Digital Terrain Models (DTM), are placed in the '***Photogrammetric***' folder. These mapping products are: Digital Mosaics; Digital Orthophotography with a Digital Elevation Model (DEM); Topographic Mapping with a DTM; Shell Plan Sheets with a DTM; and Preliminary Plan Sheets with a DTM.

The Photogrammetry Unit will also place the best readily available geospatial data at this location when requested. This data is typically the best available statewide orthophotography and/or the best available statewide LiDAR data set.



The Photogrammetry Unit will place Final Survey mapping into the '***FinalSurvey***' folder when the Photogrammetry Unit is responsible for this delivery. The DTM data associated with the Final Survey mapping is placed in the '***DTM***' folder.

The Photogrammetry Unit also utilizes ProjectStore to access data, primarily from the '***LocationSurveys***' and '***FinalSurvey***' folders.

Roadway Design

The “Roadway” folder for the “standard” TIP project on ProjStore consist of the following folders and their recommended use. Please note that on any given project, there can be instances where some variation to this structure could be warranted.

AutoTurn

- DGN file of Intersection examined
- Autoturn Analysis Reports

Capacity – No longer used

CorridorModeling

- Corridor Modeling generated files
- Cross section (XSC) files (please note XSC folder)

Doc

- Project Correspondence
- Project Transmittals
- Design Exception Check List
- Approved Project Design Criteria Check List
- CADD Project Log Sheets (DOC)
- COGO Chains and Profiles Text Log Ouput Files (LOG)

Estimate

- Earthwork Balance Card
- Estimates XLS spreadsheets
- Estimates DGN Shape Files
- Estimates Reports (Curb & Gutter and Seeding and Mulching)
- Quantity Manager PDF files
- SAPW Estimates (Consultant Only)

Preliminary, Hydraulic, ROW, and Final Estimate sub-folders are permitted to be created by Roadway.

Func

- All Relevant File in Functional Phase of Plans Composition

All relevant sub-folders are permitted to be created by Roadway.

HCS - No longer used

HearingMaps

- PHM Files

- PDF Hearing Map Files
- All Reference PHM Shape Files

iFiles

- Full Size and Half Size iPlot Organizer IPS Files
- i Files
- PHM iPlot Organizer IPS Files

Inp

- Geopak COGO Input Files **ONLY**

See **XSC** folder for recommended location for earthwork and criteria input files.

PDF_Distribution

- PDF file sets created at all milestones including sealed PDF's ready for electronic signature

Pictures

- Project JPG Files
- Project HMR Files
- Project Mr. SID Files

Proj

ROADWAY ORIGNAL FILES

- DSN DGN Files
- PFL DGN Files
- PSH DGN Files
- ROW DGN Files
- ROW Parcel Index DGN File
- ROW Parcel Index XLS File
- SPD (SHEAR POINT DIAGRAM) DGN Files
- Structure Recommendation DGN Files
- SUM DGN Files
- SUMMARY XSL Files
- Survey Request DGN Files
- TSH DGN Files
- TYP DGN Files

COPIED FILES FROM OTHER UNITS

- BLN DGN Files
- BRL DGN Files
- ELN DGN Files
- PLN DGN Files
- SUE DGN Files

- TOP DGN Files

Shp

- Wedging Back-up (*.b0*) Wedging Files (Maybe deleted)
- PAR Wedging Files (Project Station Files)
- PRF Wedging Files (NCWedge Preference Files)
- GRD Wedging Files (NCWedge Grade Files)
- WQF Wedging Files (Wedging Quantity Files)

XSC (Note, this folder is no longer used when using Corridor Modeling)

- Criteria Input Files
- Cross Section Sheet 1A XSL File
- EOP DGN Files (ORIGINAL)
- Earthwork Input Files
- Earthwork Report
- SHP DGN Files (ORIGINAL)
- Superelevation Input Files
- XPL DGN Files
- XSC DGN Files (ORIGINAL)

Jim McMellon, PE
Transportation Design Engineer
Roadway Design

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Transportation

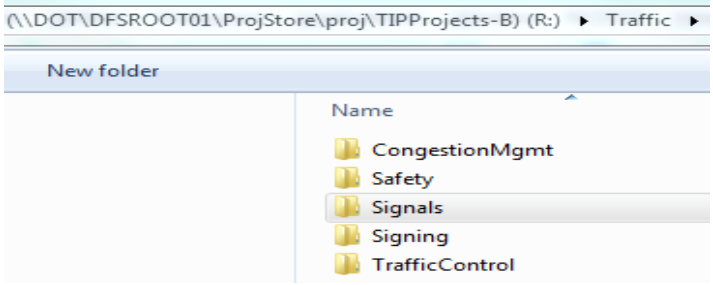
PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

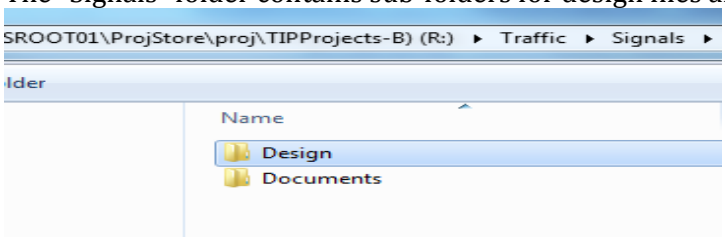
ProjectStore Guide for ITS & Signals Unit

File Storage During Design

Project files for our Unit are stored in the "Signals" folder located at **R:*B####*\Traffic\Signals** (B#### is used an example to represent any TIP project number)



The "Signals" folder contains sub-folders for design files and other project related documents



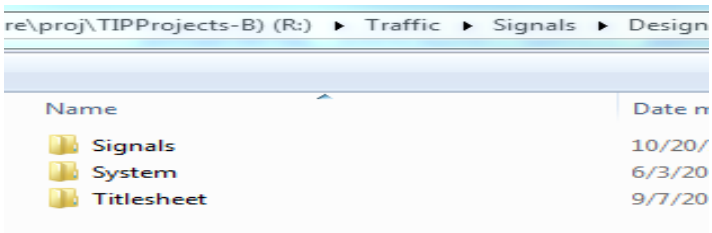
Design files are stored in the "Design" folder in one of the following sub-folders:

-Signals-CADD files such as signal plans, electrical details, signal communication plans, proposed pole locations, temporary and final stopbar locations etc are stored in this folder. Sub-folders can be created within this folder as needed.

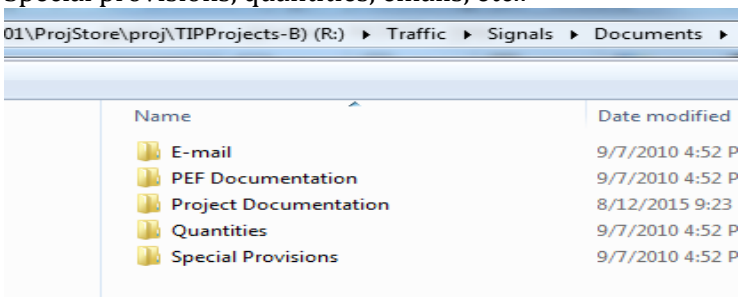
-System-We do not use this folder. This folder is used by the Central Office Signal Timing section.

-Titlesheet-CADD files for project title sheets are stored here.

-ITS- There is currently no folder in the template for ITS plans (CCTV cameras, DMS signs, and ITS communications plans) We will be adding a folder in the future. In the mean time an "ITS" folder can be created here if the project contains those elements.



The "Documents" folder has corresponding sub-folders for other project documentation such as Special provisions, quantities, emails, etc.:



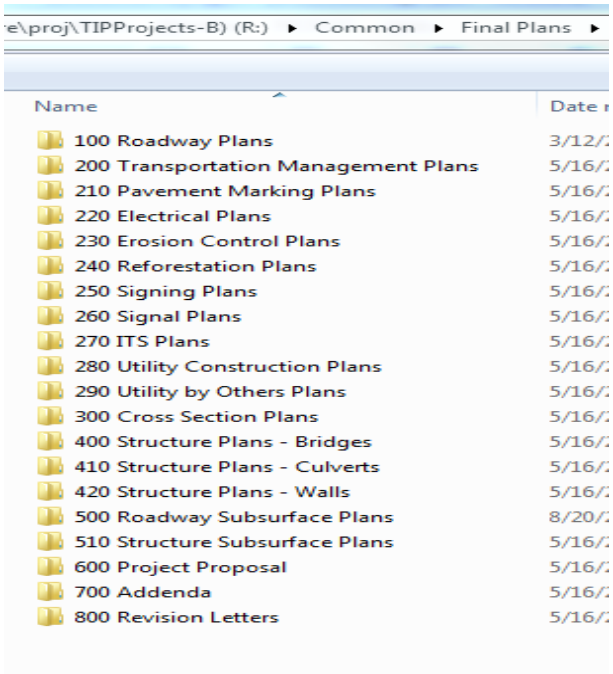
*Note-In order to complete our plans we commonly need to access design files from other units such as Roadway Design, Traffic Control, and Signing and Delineation

Final Plans for Turn-in

PDF files of final plans to be turned in are stored at **R:*B####*\Common\Final Plans**

-260 Signal Plans: Signal Plans, Electrical Details, Signal Communication Plans, and Loading Diagrams

-270 ITS Plans: CCTV Camera, DMS Signs, and ITS Communication Plans

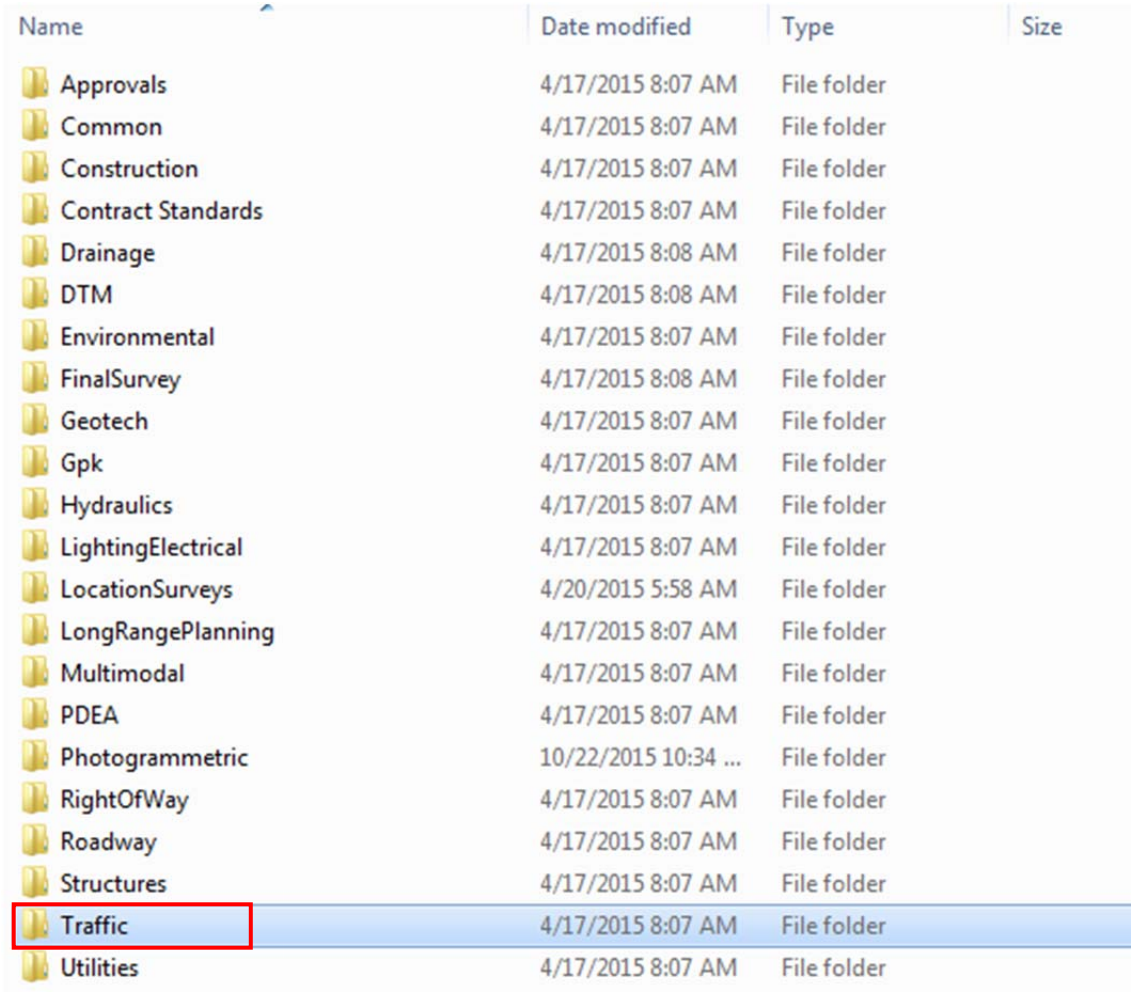


Final project special provisions are stored at **R:*B####*\Contract Standards\Special Provisions**

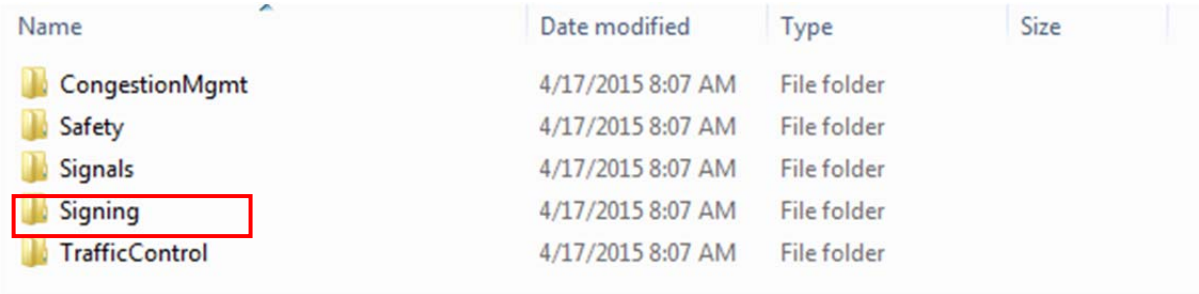
Signing and Delineation Unit ProjectStore Overview 11/05/2015

Introduction:

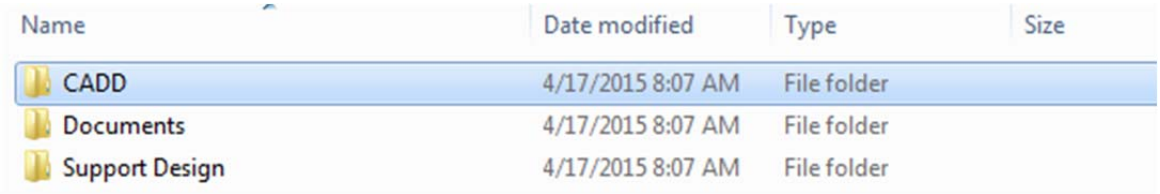
The Signing and Delineation Unit has one folder named Signing, located under Traffic, which is under the root directory of each project found on ProjectStore.



Click on the Traffic Folder, and then click on the Signing folder:



The Signing folder has three sub folders. These are explained below.



CADD: Has several sub folders for Cadd files.

Lighting Design: We no longer install sign lighting on overhead structures. We need to delete this folder.

Overheads: Place overhead structure line drawings using existing and proposed cross sections.

Quantities & GM Signs: Store summary of quantity sheet, Ground Mounted Support sheet, Type "E", "F" and mile marker sheets, sign panel design sheets, any applicable typical sheets needed.

Sign Designs: Store sign design file within this folder utilizing the GuideSign program within a MicroStation Cadd file.

Signing Layout Plans: Store signing concept map as well as individual plan view sheets.

PMP Layout Plans: Need to be added as a current folder. Use to store pavement marking concept map as well as individual plan view sheets.

DOCUMENTS: Has two sub folders

PEF Documents: Store correspondents such as emails, letters, evaluation forms to the PEF firm.

Project Documents: Store documents such as project scoping letters, cost estimates manday estimates, transmittal letters, revision letters, guardrail request, Docu-Sign documents, Pavement marking recommendation letters force accounts letters, transport documents and memos.

Support Design: No sub folders

Stores ground mounted supports chart (excel).

Traffic Management Unit - Work Zone Traffic Control Section Utilization of the ProjectStore (Central Server project data repository)

R. Garrett – 11/02/2015

NOTE: TipProjects- B Projects used as example directory tree:
\\dot\dfsroot01\TipProjects-B**Traffic****..**

TrafficControl

Estimate_PMSchedule

This folder houses any and all pay item estimate worksheets or input files for the Transport program 'PES' (Proposals and Estimate System) generated by our estimate program.

Letters_Docs

This folder is used for any and all project related correspondence. Sub-folders are created as the end user sees fit. Example: Notes to file

E_Mails

This folder houses all project related electronic correspondence.

Phasing_Notes

This folder houses any and all text / word files established for project construction phasing to be incorporated into the TMP plans.

Post_Let

This folder and subsequent sub-folders were established to separate documentation during construction phases from the intitial design phase documents.

Emails

Letters_Docs

Roadway

This folder provides the ability to draw in a separate copy of specific roadway design files allowing us to determine shoring needs and other possible 'what-if' scenarios being considered during construction phasing. Normal use of another unit's files are provided as read only through the project store naturally requiring a copy occasionally.

TCP

This folder contains all working copies of the TMP CADD files.

Tcp_ifiles

This folder and subsequent sub-folders are utilized by the department's plotting routines. The term ifiles emulates from the IPLOT add on program utilized by several units here in the DOT. Our Unit as well as others have dropped the use of the IPLOT program and now utilize the built in equivalent (more robust) that comes automatically with each MicroStation license. Rather than change the folder's name we simply use it for the same purpose.

Full_Size

Half_Size

Turn_In_Docs

This folder houses all final drawings / documents submitted for project letting.

PDF

Self explanatory

User_Cost_Data
This folder houses all user cost estimates / worksheets as well as the final user cost package in pdf format utilized by the contract time committee.

Additional Notes:
Although discussed numerous times in committee I.T. has yet to define a standardized method of handling non-TIP project related data. Our section provides work zone related drawings / documents for all types of work on behalf of both Division and other DOT offices on a regular basis outside of the TIP. We (committee) considered using the WBS number as an identifier for these type of projects as everyone would utilize this for time keeping and charges within the system however, this method works best with a more user friendly interface versus a folder on a server with the numerous numbers to scroll through. Off time the end user has housed the project data in the department's S: drive which is limited in space and not protected as well with regards to a backup / archiving system. I feel an approach listing those projects first by the Division followed by the county and finally the type of work prior to the WBS number would be more intuitive for the end users.
At the present time any requests sent to the helpdesk has resulted in folders being created in the nsproj (non-standard) project folder on our server with whatever makes sense at the time (again not standardized to date).

Summation:
The project store has proven invaluable when working and sharing data / drawings on any given TIP project. Unfortunately, Division projects together with outside consultant work's lack of utilizing the project store in like manner has forced us to work with copies versus referencing the original plans. Working with copies off time proves to be costly in time and accuracy. A system such as the project store providing a central place for all design files without the need of copying to the various entities should be first and foremost if the Divisional offices are to take a leading role in this process. Collaboration tools such as SharePoint and/or ProjectWise are a must and should be a priority from this point forward.